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ANNIVERSARY

JUNE 2009

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35 Smart
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Understanding your
ISPs plans

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Cellphone

How mobile
WiMAX works

How does
push mail
work?



THE TECHNOLOGY BEHIND SUPERBIKES, CARS OF THE FUTURE

Join the celebrations

It's been eight years since we started publishing this magazine under the name *Digit*. Over these eight years, India, technology, you, and *Digit*, have all changed drastically.

India went from a being an Asian power to a global economic superpower. Technology saw its share of ups and downs – the return of Apple with their iPod, the netbook phenomenon, computers interfacing with the human brain, and, sadly, people tweeting about their bowel movements...

Digit magazine has taken a step forward in this change, and has done so because of you. Over the past eight years, you have evolved, and we've kept up. It wasn't easy, but we've managed to cram in so much more knowledge and software tools into our package, because it's what you needed, and sometimes, demanded.

So what is *Digit*? What started as a niche computer magazine, has been transformed into a community – or as I prefer, a *family* – of technology enthusiasts. From those of us who are privileged enough to work here, to all of you who read this magazine or have made the *Digit Forum* your online home, all of us have two basic things in common – a love for technology, and a love for *Digit*. Somehow this rather large family of geeks, from the land of elephants, snake charmers and pathetic net speeds, have taken the technology world by storm. Today, *Digit*, quite simply, aims to fulfill a simple and basic need – letting all of us interact and learn from one another.

This month, our family turns eight. And in celebration, we're hosting a carnival of events – so that we can all learn, interact and celebrate together.

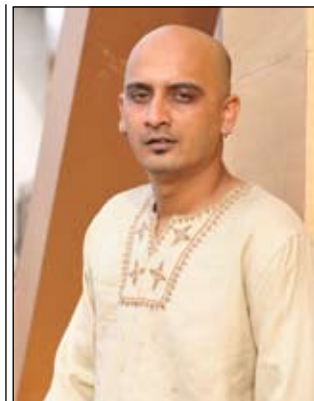
Here's a peek at some of the activities we have planned: webinars on how to choose your laptop, mobile phone, music player, HDTV, and more; workshops on photography, security and gaming; seminars on building

yourself the perfect PC, animation and game development, careers in technology; and of course, reader meets where we will get to spend some quality time with each other – to talk to you and more importantly, listen to what you have to say about *Digit*. For more information, head to www.thinkdigit.com/calendar, or turn to page 36 of this issue.

While the carnival is the main course, the issue that you hold in your hand could be considered an appetiser. This issue is about technology on the go – that wonderful phenomenon that finds our computers following us wherever we may roam, whether we want them or not. From mobile phones to netbooks, and Bluetooth watches to bikes and cars – tech is omnipresent. Apart from a celebration of the passion that we share for technology, this issue also aims to secure your future in these trying economic times. Our *Jumbo Fast Track* will help you chart your tech career, by identifying careers that are off the beaten path and hold promise in the future. For those of you who already have a secure job, we help you supplement your income by giving you some ideas on how to make money from home over the internet via our Interactive Magazine. Pop that into your drive and start earning.

After going through each and every one of the hundreds of thousands of mails that we've received from you, we've realised that *Digit* isn't your everyday run-of-the-mill magazine. In fact, it's not even a magazine or a site any more. Thanks to your continued support, *Digit* has become a technology revolution.

Team Digit looks forward to meeting you personally, or virtually, over the course of the month. Come join the revolution, and be a part of *Digit 3.0*.



Robert Sovereign-Smith, Editor

“All through June, we're hosting a carnival of events – so that we can all learn, interact and celebrate together”

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APC	33	KG Hosting	173
Benq	25	LIC	93
Cooler Master	167	Microsoft	17
Corona	55	Microworld	87
Dell	113,115,120,137	MSI	Inside Front Cover
D-Link	27	NIIT	34
Ebay	134,135	One Network	175
ECS	176	Rx - Tech	169
Fortune	171	Sagarmatha	177
Garmin Corporation	1	Sandisk	21
Gigabyte	15	Seagate	19
i-Ball	13, 63	Sun Microsystems	8,9
		Topgun	45

Products reviewed this month

Cell phone test..... 126

Apple iPhone 3G
ASUS P552w
ASUS P565
ASUS P835
Blackberry Bold 9000
Blackberry Curve 8900
Blackberry Pearl Flip
Blackberry Storm 9500
HTC Touch Diamond
HTC Touch HD
HTC Touch Pro
HTC Touch Viva
LG Arena KM900
LG KM335
LG KM710
LG KP500 Cookie
LG KS360 (Neon)
LG KT610
Motorola Moto RAZR2 V8
Motorola Moto ROKR E6
Motorola Moto ROKR E8
Motorola Motomig A1600
Motorola Motoyuva A810
Nokia 8800 Sapphire Arte
Nokia E71
Nokia E75
Nokia N78
Nokia N79
Nokia N85

Nokia N95 8 GB
Nokia N96
Nokia Xpress Music 5800
Samsung M8800 Pixon
Samsung S8300 UltraTOUCH
Sony Ericsson Xperia X1
DVD Player Test.....151
Intex R-145
Intex R-175
Mitashi DHD 911
Mitashi DVB 317
Moserbaer MBI 6988B
Samsung DVD-P490
Samsung DVD-H1080

Bazaar..... 156

ASUS Bamboo U6V
ATI Radeon HD 4770
Canon PowerShot SX10 IS
Cooler Master UCP 1100
Dell Studio XPS 16
G DATA InternetSecurity 2009
Genelec 6010A and 5040A
Gigabyte EG45M-UD2H
Intel Dot Station
lomega Prestige Portable Hard Drive 250 GB
Norton Utilities 2009
Palit GeForce GTX 275
Samsung R610
ZOTAC GeForce GTS 250 AMP!



Tell us what you feel about Digit

Each month, *Digit* walks through the technology maze to bring you the most relevant, and the most researched stories. If you have an opinion about anything published in *Digit*, or about technology in general, please write to editor@thinkdigit.com



Product testing

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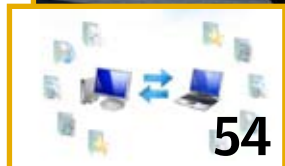
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CONTENTS 8TH ANNIVERSARY



43

68



54



28



10



20



74



50



64



112

10 ENTER

10 Buzz

16 Inbox

20 Industry Connect

Digit speaks to Prasad Ram, head of R&D, Google India, about Google's innovations and future plans for India

22 CONNECTIONS

22 Web Watch

28 Mobile Watch

35 Why Twitter?

We dig up Web 2.0 to find out the other moblogging services out there

40 Mojopac

Discover ways of taking your computer wherever you go on portable memory

43 Always on

How to post images, book tickets, tweet, blog, social network and more from your mobile phone.

47 Cybercafe security

Find out how to stay safe while surfing on public computers

50 Laptop Accessories

54 Data syncing

The ins and outs of making sure your data is always accessible

57 How stuff works

A look at WiMax technology and how we stand to benefit

60 ISP plans

What is hidden away in the fine print

64 DIGITAL LIFE

64 Drool Maal

68 Geek Life

A highly detailed exploration of the technology behind superbikes

72 Week without Google

Agent 001 spends a week away from all Google services finding alternatives you never knew existed

74 SCI-TECH

74 Cars 2.0

The technologies and the concepts that will make the cars of tomorrow

80 Tomorrow's Tech

What it takes to make Digit's dream portable multipurpose device

84 String Theory

A noob's guide to an alternative view of the cosmos

88 TOOLBOX

88 FOSS for web development

A wide variety of Open source resources for web developers

91 Workshop

A detailed guide on how to set up and run your own chat server for your community

97 Tips & Tricks

105 Q&A

108 TECH@WORK

108 Smart SoHo

We look into how businesses can use the cloud for improving productivity

110 How To

Brand building using Twitter

112 Developer's corner

A look at BlueJ, a visual interface for the object oriented

114 STREET SMART

114 Agent 001

Choose the right accessory for your Windows Mobile or Smartphone

117 Best Buys

118 Price Watch

120 Consumer Protection

122 TRIED AND TESTED

122 Feature AMD

A close look at the AMD Phenom 2

126 Mobile Phones

151 DVD Players

156 Bazaar

164 ESCAPE

164 Twitter Overkill

Some people just take 140 characters to the extreme limits

166 Game Review: Demigod

168 Game Review: GTA - Chinatown Wars

170 Game Review: Tom Clancy's HAWX

172 Game Review: Assault on Dark Athena

176 Community

An casual chat with Kieth Arem of COD4 fame

178 Unwind

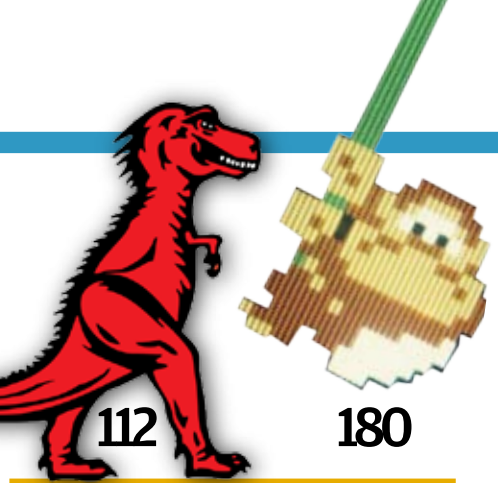
180 Geek Review: Nintendo DSI

An old console in a spanking new incarnation

184 Last Word



126



112

180



164



152



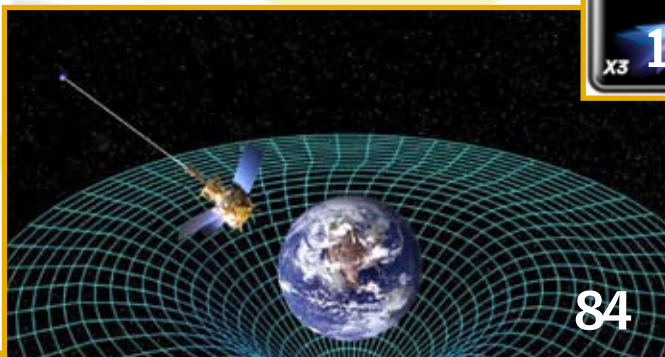
118



122



172



84



168



180



170



166



176



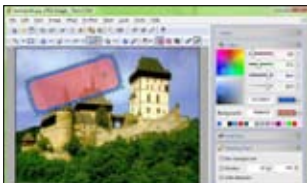
178

Tips and Tricks

Get a headstart with all the features tucked away inside Windows 7 RC1

Developer's Corner

The lowdown on a visual approach to object oriented programming using BlueJ

**Tools****Multimedia****Paint.COM 2009.1**

Paint.COM is an easy to use image editor, supporting image masks and layers with effects

Flickr Streamr 1.0

Flickr Streamr is a Windows



desktop application that can help you synchronise your photo and video files from digital cameras to storage drives and upload files to the Flickr web site.

- 36-Image Express 1.0.1.100b
- 3DVIA Shape 3.0
- AcsSoft Photo Movie Album 8.3
- ActiveSolid 2.6.9
- Batch Image Converter
- BDSizer 3.2.1
- BurnAware Free 2.3.4
- CDBurnerXP 4.2.4.1351
- CineGobs Keyer 2.2.4.113
- Contenta-Converter Basic 4.3.1

- Daemon Tools Lite 4.30.4
- DEGMA Audio Handler 0.6.0.0
- DoubleTwist 2.0.4 beta
- Easy Image Modifier 1.2
- Elisa Media Center 0.5.36
- Express Burn 4.26
- Express Rip 1.60
- FastPictureViewer 1.0.89
- FastStone Image Viewer 3.8
- Foobar2000 0.9.6.5 beta 2
- JetAudio Basic 7.5.1
- LightScribe Template Labeler
- MediaMonkey Standard
- Picasa 3.1 build 71.43
- RZ MP3 Converter 1.0
- Simplify Media 2.0
- SpiffCast 1.0.24910
- TwistedBrush Open Studio
- VideoInspector 2.2.1.120
- Visions 1.2.1.1667
- Winamp 5.552
- XBMC 9.04 beta 1
- X-Scribus 1.3.3.13
- Zortam Mp3 Media Studio 9.20

Internet**Billeo 2.0.0.19**

Billeo is the essential toolbar for anyone who makes transactions online.

- Clip2Net 0.7.5b
- Copernic Desktop Search 3.2
- Core FTP Server 1.0 build 296
- De-FFNet-Izser 2454939.5
- FileDrama 1.1.58
- FileZilla 3.2.4.1
- Full Speed 3.4
- Gladinet Cloud Desktop

- Global Chat and Games 8.5
- Google Desktop 5.8.811.4345
- RapidShare Downloader 4.5.1
- Sucubus 1.10
- Threeter 1.1.1
- Twin Searching 2.5
- Weather Watcher Live 6.0.18
- WhelanLabs Search Engine
- Manager 2.0
- Zultrax P2P 4.32

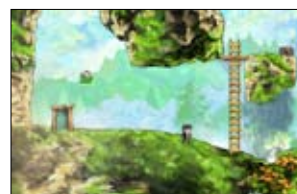
System**Moo0 SystemMonitor 1.40**

Moo0 SystemMonitor lets you watch over system resource usages of your PC.

- Advanced SystemCare Free
- Allway Sync 9.2.15
- Click-N-Type 3.03.0385
- FCleaner Portable 1.1.8.427
- FileTypesMan 1.21
- FlexTk Express 3.2.30
- PeaZip 2.6
- PixFix 3.5 build 8078

Entertainment**Games****Braid**

Braid is an ingenious and startlingly creative puzzle game.



- Soldier of Fortune II: Double Helix
- X-Blades

Game Trailers**BattleForge**

Experience real-time strategy in a whole new dimension! Every battle is different, every army unique.

Red Steel 2

Ubisoft unveils the first look



at Red Steel 2 exclusive to the Nintendo Wii and Wii MotionPlus.

- Bionic Commando
- Dark Sector

- Terminator: Salvation
- Velvet Assassin

HD Trailers**Harry Potter and the Half-Blood Prince**

Young wizards Harry Potter, Ron Weasley and Hermione Granger



must fast new challenges and dangers in the wake of Lord Voldemort's return.

- Armored
- District 9
- G-Force
- Green Lantern: First Flight
- Moon
- Oceans
- Paper Heart
- Shorts
- The Boat That Rocked
- They Came From Upstairs

Operating Systems**BSD Anywhere 4.516**

A bootable Live-CD image based on OpenBSD 4.5. It consists



of the entire OpenBSD base system (without compiler) plus graphical desktop

Windows 7 RC1

The latest version of the codec-empowered, simple and problem free distro with lots of eye candy. Linux Mint 7, based on Ubuntu 9.04 "Jaunty Jackalope" is codenamed "Gloria".

Linux Mint 7 Gloria

Less waiting, fewer clicks, and less complexity. With less of what you don't need, Windows 7 helps you do more. More work, more play, and more of everything in between. Making every task simpler and every day easier. See for yourself

Shield yourself from malicious programs and people when surfing in cybercafes

We have a look at the variety of open source resources available for web developers

Setting up a chat server to connect to your friends and community

Digit

Videos

ASUS Bamboo U6 Unboxing

We unbox a brand new ASUS Bamboo U6, the environmentally friendly



notebook

- Dell XPS Studio 16
- Samsung R610 Unboxing
- Zotac GTX 260

Cybercafe Security

- 7-Zip Portable
- ClamWin Portable 0.95.1
- Eraser 5.82
- Firefox Portable 3.0.1.0
- Free Commander 2009.02
- KeePass Portable
- On-Screen Keyboard Portable
- Opera@USB
- Process Explorer 11.33

Chat Server

Openfire

Openfire is a real time collaboration (RTC) server licensed under the Open Source GPL.

- BewareIRCD
- Hybrid IRC 7
- Hydra IRC
- Inspire IRCd
- mIRC
- Teamspeak 2
- UnrealIRCd
- Ventrilo
- X-Chat
- XAMPP

Smart Phone

- QuickOffice
- Adobe PDF Reader Mobile
- emTube
- KD Player
- Microfi-nitrogen
- MobiReader
- NetQin Antivirus
- Nimbuzz
- Opera Mini
- PHM Registry Editor v0.70
- PIM Backup
- SpyBot Search & Destroy for Mobile
- Synble
- SyncMate
- TCPMP 0.72RC1

- TinyTwitter
- XnView Mobile

Tools Licensed

- Aartform Curvy3D
- Almeza Multiset
- Ashampoo Burning Studio 09
- Ashampoo Presentations 2008
- Ashampoo WinOptimizer 5
- Backup4All 4.1
- Extra DVD Ripper Express
- Extra Video Creator
- History Explorer 1.1.0
- Internet Radio Fan 1.3.0
- Jitbit System Purifier
- NovaPDF 6
- PDFZilla
- Total Network Inventory 1.6.7
- WiseCleaner Pro

Essentials

Updates And Add-ons

Videos

Things

Things - Learn to Count in Binary



Have you ever wondered how to count in binary? Now you can learn count binary on your fingers!

- Resizing Objects in Blender
- Robot Battle!
- Sudo Make Me A Sandwich
- Zoetrope

Mobile Computer

- Asus Eee PC T91 tablet netbook
- Dell Inspiron Mini 12
- Lenovo IdeaPad S10e



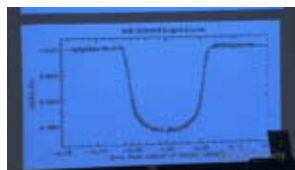
- netbook
- Mac OS X on the MSI Wind
- U100 netbook
- Nokia 5800 XpressMusic
- Nokia E63 smartphone



- Palm Pre keynote
- Sony VAIO P Series part 2
- Toshiba TG01 smartphone

Linux Journals

- A GUI for ffmpeg



- Avoid screensaver activation
- Configuring printers
- CronTab
- Getting domain names on dynamic addresses
- Google Gears
- Mount ISO Files
- StickyWindows

Introduction to Robotics

- Manipulator Kinematics
- Frame Attachment
- Instantaneous Kinematics
- Jacobian - Explicit Form
- Scheinman Arm - Demo
- Guest Lecturer: Hager
- Guest Lecturer: Kolarov

Astronomy 160

Introduction to Black Holes

A historical overview is offered of our understanding and discovery of black holes in the context of stellar evolution.

Web Development

WAMP

Apache2Triad
EasyPHP
WAMPServer
XAMPP

Frameworks

PHP

Cake PHP
DojoX
ES
FLEX 3
jQuery
Mootools
Prototype
Ruby on Rails
Scriptaculous
Spry
Yahoo! User Interface
ZEND Server

Coding

Amaya
Aptana
Notepad++
NVU
Quanta Plus
Scintilla

Design

Blender
Gimp

Inkscape

Paint.NET

File Transfer

FileZilla
WinSCP



OpenSolaris 2009.06

Soon to see light from SUN

OpenSolaris is an open source operating system based on Solaris from Sun Microsystems. This is a huge community-driven operating system that is governed by Sun. The latest version of OpenSolaris titled 2009.06 should be out by the



opensolaris

time you read this, and is aimed at users, developers, as well as deployers.

Firefox 3.1 beta comes preinstalled with this OS. Along with that users can quickly backup directories using Time Slider – a new application that allows users to view graphs of what they have been up to on the PC, and where they have spent most of their time. The OS also adds support for network virtualisation and Sun has also provided the OS for laptops. The final build is due around the time you read this, stay tuned for our impressions of it.

Take the next bwarrk@#\$sstt

Global Positioning System (GPS) has recently picked up in India, but the bad news is that it might not last that long, worldwide. The satellite system that forms the basis of its operation has been maintained by the US Air Force since early 1990, but with the current lack of funding and some internal mismanagement, the service might not survive till next year.

These satellites were supposed to be replaced as early as 1997, but no such steps were taken to see this through.

So whose really going to suffer from this? Men who refuse to ask for directions,

for starters. However, most application developers who have made GPS-based applications for mobile phones and sundry GPS devices will also be tearing their hair out.

US Government officials foresee failing GPS devices that will give millions of users incorrect directions. But people are certain that the US Government will wake up and

do something to prevent this from happening, or at least do something before things get so serious that people need to carry maps on, gasp, paper...

The good thing here is that India, Russia, and China already have the ball rolling on expanding satellite navigation technologies and resources.

Meanwhile, if you get lost with your failing GPS device in tow, just roll down your window and ask somebody.

The drama unfolds: always bet on Duke

3D Realms (3DR) has been working on *Duke Nukem Forever* (DNF) for, well, forever – over a decade and then some. May 6th saw a halt to their development

activities though, as they had to lay off the entire development team. This meant no DNF, and thus upset the would-be game's publisher – Take-Two. So much so that the publisher slapped a lawsuit on 3DR.

The facts here are that Take-Two never paid 3DR any money in relation to DNF – no advance, nor signing bonus. Take-Two has actually paid 3DR US \$2.5 million for another game that is still under wraps. So why exactly is Take-Two making so much fuss over 3DR and *Duke Nukem* then? Well the reason is that they paid GT Interactive US \$12 million to obtain the rights to publish DNF, but now since the development has stopped, they have been left with no other option. Of course Take-Two did try to buy the game and the development team from 3DR, but the terms of this contract were unacceptable to the developers.

The fans, meanwhile, are in a tizzy – some gamers are happy that the game won't completely die, but others feel that it might take another decade to launch! Some people think 3DR should just give up the development rights to Take-Two, but others want the original developers to keep that *Duke Nukem* magic alive.

For all you know, this drama might unfold into a new game. But right now, who do you think is really at loss here? We, the gamers who want to get our hands on *Duke Nukem Forever*, of course!



Intel shrinks

Not the company, but the chips that they make. Intel is working on a top secret project called Medfield. The name was leaked by one of the engineers working in their Austin office. Intel is also working on 'Moorestown' which is an Atom-like processor that has two chips and is supposed to consume even less power than the Atom chips do.

Intel is changing its direction and is looking towards the consumer electronics and mobile phone market. With Intel's stock down by 31 per cent in the last 12 months, they are trying hard to break into this sector and excel.

Now the Moorestown processors aren't small enough to fit into mobile phones; that's where 'Medfield' comes in.

The thought behind this new shift is that with evolving technologies, mobile phones are now able to do what computers can. Intel already makes around US \$2 billion a year from embedded chips present in medical devices, cars and other such devices. But now they plan to spread Medfield to all consumer electronics ranging from mobile phones to MP3 players even to household appliances.

However, don't expect this any time soon, as Medfield is scheduled sometime in 2011. It's a long wait, but we're already imagining the possibilities – mobile phones that perform as well as a laptop anyone?

Buy a new keyboard, get a computer

Don't let the name fool you, we aren't really holding any contests here. What we are talking about is the ASUS Eee Keyboard. Imagine having your entire computer inside your keyboard. That's what ASUS has accomplished with this product.

The Eee Keyboard is a PC with a QWERTY, minus the number pad. In place of the numpad, lies a 5-inch 800 x 480 resolution touch screen. This keyboard comes equipped with an Intel Atom

30 days without

Agent 001 spends a month away from Google, hunting down all the alternatives to Google

Insight

A look at AMD's Phenom 2, how it differs from its predecessor and how it compares to Intel's counterparts

Killer rigs

The right computer and components for your budget

N270, 16-GB SSD, 1 GB memory, VGA and HDMI outs, a few USB 2.0 ports, and support for Wi-Fi and Bluetooth. All this packed into a slick looking keyboard with the bonus of segregated keys, similar to something you would find on a Mac.

ASUS has seen success with its Eee PC series and now they hope to duplicate the same with their Eee Keyboards. But we feel that this might not be that great an idea. Sure the concept is good, but looking down at the keyboard while typing is bound to strain one's

paid a major retailer to delay the launch of their competitors' products.

The manufacturers that have been identified are Acer, Dell, HP, Lenovo, and NEC.

Microsoft just did a Wii

Most of the Wii enthusiasts out there love their console and love being able to physically take part in the games. The only drawback, some might feel here is holding that remote in their hands. Rumours abound that there is something



neck. This is pure speculation, of course, we won't know what to expect until we get our hands on the unit, which should be soon.

Intel gets slapped with a huge fine

Intel has been hitting the news lately, some good and some bad. The European Commission just hit Intel with a fine of US \$1.45 billion for violating the EC Treaty and "abusing their power unethically between October 2002 and December 2007". AMD had already filed complaints along these lines with the EC in 2000, 2003 and 2006, which urged a further investigation into this issue.

A summary of the claims are as follows: Intel allegedly gave hidden rebates to computer manufacturers and encouraged them to only stock up on their x86 CPUs. They also allegedly

brewing inside Microsoft that aims to address this very issue. Microsoft is said to be developing an answer to the Wii for their Xbox 360 console. So what exactly are they developing? It's a new system that will allow you to control the game through whole body movements.

This step forward has definitely been undertaken to get the edge on the game console market as about 600,000 Nintendo Wii consoles were sold in the US during the month of March 2009; these numbers were higher than Microsoft and Sony sales for their consoles put together.

What Microsoft has cooking is different because they are working on a way to

completely eliminate the use of the extra 'plastic wand' in the hand. The way they are going about it is through the use of a 3D camera which is supposed to give more accurate control of the games.

This new 3D camera will be revealed at E3 this year, it is rumoured. It is believed to work using a camera in tandem with IR sensors which will need to be placed around your TV set. Interestingly, even Sony is rumoured to be working on a motion controller. E3 2009 should be very interesting indeed.

Firefox to emulate multi process systems

When it comes to browsers, there is a lot of contention among users. Some give more importance to look and feel, while others prefer the ability to install extensions, and yet others go for simplicity and browsers light on resources. To each his own we say. But there is one factor that no discerning user will overlook – speed. Firefox already has a sizeable chunk of the world's browser market, but Chrome is steadily catching on. If we are to

go by reports that Chrome 2 is about 20 per cent faster than its earlier version, Firefox better do something to stay on in the race. Well, it did. Process

separation, which basically means dissociating interface from content processes was first introduced by Chrome and later adopted by IE8 is now being incorporated by Firefox. This makes the browser more stable and faster too. Still, version 3.5 of the browser which is in the pipeline for imminent release will not have this feature.

Apparently, a team within Mozilla is working on an

unnamed project which trying viable methods to split the main interface process from web content processes. This ensures that if a page crashes only the tab will go down, not the entire browser. Meanwhile v3.5 has speed improvements through the TraceMonkey Javascript engine and some other improvements such as bookmarks and history features as well as searches through the "Awesomebar".

Software piracy comes down in India

As unbelievable as the above headline looks, a report by BSA-IDC Global says that software piracy in India has dropped to 68 per cent. Still, the drop is only one percentage point from 69 per cent in the previous year. The monetary damage caused to companies such as Adobe, Microsoft and Autodesk comes up to a whopping \$2.7 billion. So how does this compare to the world numbers? We're among the 57 countries



where piracy has declined, however little the drop may be. About 16 countries of the 110 studied showed a rise in piracy numbers. The rise in these few countries accounted for the global piracy to go up to 41 per cent and worldwide losses to go up to \$53 billion.

Piracy not only has an effect on the companies that sell software, but also on the health of the economy at large. For instance, a report by IDC last year shows that reducing software piracy by ten percentage points over a four year period could generate an additional 43,000 new jobs, lead to \$3.1 billion in economic growth, and \$200 million in tax revenues for the country. The decline in piracy in the



Wolfram|Alpha

A new service that hopes to make "all systematic knowledge immediately computable by anyone". Check it out!

No Windows 7 says US Army

Plans to upgrade all computers to Vista by December

Open source defeats Microsoft

Court fines Microsoft \$200 million for violating open source patent

country may not necessarily be due to change in consumer attitude or regulatory crackdown since these numbers are only relating to personal computer software piracy. A possible reason could be the availability of SaaS cloud services. And because OEMs are increasingly giving bundled software with PCs for which costs are recovered from the consumer at source. Whatever may be the reason, software companies still need to come up with an innovative way to battle the problem.

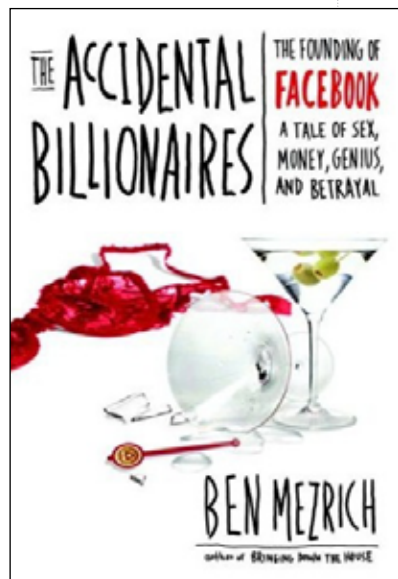
Perhaps taking a page from the music industry could be a possible solution. The music industry is now becoming more and more open to giving away free content, but is setting up viable and alternate revenue models at the same time.

called Think, which released HouseSystem, a web-based student portal that included a section called "The Universal Face Book" or "The Face Book." Zuckerberg then went on to form Facebook which is alleged to have been based on this concept. Besides, Greenspan also wrote a book called "Authoritas: One Student's Harvard Admissions and the Founding of the Facebook Era" which he was not able to market properly on Google because of trademark issues caused by the word Facebook being present in the title. So he went about trying to get the words un-trademarked so that he could use them. His argument was that he used the words first and in a similar concept at that.

That was until a settlement was reached. Now both parties have exchanged courtesies and Greenspan is sure to have got a hefty sum too. Exact figure that has changed hands is not known, but going by what the last guy who pointed a finger at Facebook got, the figure could well be close to \$65 million. This was apparently the settlement that ConnectU got when it said that Zuckerberg stole ConnectU's code and business plans for a social network. As per the terms of the settlement, Greenspan (Think) has agreed to abandon his efforts to get the U.S. Patent and Trademark Office to cancel the trademark issued to

Facebook in 2006.

Well, let's hope with this announcement peace is maintained in the social sphere for at least some time. It seems Zuckerberg had some legal spat with co-founder and fellow Harvard batchmate Eduardo Saverin too. If the story interests you perhaps you'd like to pick up a copy of "The Accidental Billionaires" due for release in July. The book's title slug goes something like this – "The founding of Facebook – A tale of sex, money, genius and betrayal."



Facebook settles a longstanding dispute

The pesky specter of Aaron Greenspan that has been plaguing Facebook for a long time has finally been put to rest. The dispute, which has finally reach a settlement was about the very existence of Facebook. The story is rather long and messy, but in a nutshell it goes something like this – Facebook founder Mark Zuckerberg and Aaron Greenspan studied together at Harvard. While perusing his academics, Greenspan founded a company

Books heading towards their Sci-Fi logical end

You know that concept we've come across in many science fiction books; about the sum total of human knowledge being available to all? No, not Wikipedia, more like the Encyclopedia Galactica.

This concept visualises all information ever created by mankind to be available to all people through devices that

tap into this great big source of data. However, for this concept to ever actualise, we'll have to go to those dusty old things. Err, what are they called? Books! That's right. For people to be able to access all this information stored in the form of books on shelves in libraries, they will have to be digitised. And it looks like the process is in full swing. The British Library in London has been putting to work four giant scanners and has nearly completed

digitising more than 1,00,000 books from the 19th century. The process took nearly two years and is quite interesting. A 21-MP camera photographs pages, while a robotic arm turns them. Google, too, is busy digitising millions of books for its book search tool and will easily exceed the British Library's project.

What about the tablet like Sci-Fi devices that catch information over the air for your ready viewing? They're here too. The latest of them is the Kindle DX from Amazon. It's got a screen that's almost 10-inches and can download books, periodicals, magazines and documents wirelessly with



support for 3G. The device is almost as thin as a magazine. Too bad it can't be rolled up, yet!. Currently, you can choose from over 2,85,000 books including the latest chart toppers. Books can be purchased over the air for about 10 dollars each, often this is

more expensive than printed books. The device itself is pretty expensive, retailing at \$489 on Amazon. So does this mean the death knell for good old paper and cardboard?

Certainly not until it all gets cheaper.

Apple Netbook may be around the corner

Netbooks are definitely the latest rage. Almost every PC manufacturer is offering products in this segment. Except, of course, Apple. This curious lack of any offering from the Mac maker and the current trend is prompting many an industry analyst to predict a device soon. Chances are that the announcement may even be made at Apple's Developers Conference in June. There are various speculative suggestions that this device may come with





Google algorithm to help HR

Will mine employee data to find those most likely to quit

a touch screen ranging from 7- to 10-inches and should retail in a price range of \$500 to \$700. Such a machine would be placed in the high-end netbook bracket. People have always been willing to pay for Apple's products. Nevertheless, it still needs to be functional and practical. The product will certainly make the Apple lineup more complete. As of now, there is nothing between the MacBook at one end, and the iPod and iPhone, at the other. There are also reports that Apple is working on a tablet-like full touch device. If this is the same gadget then it'll need a Bluetooth keyboard as an attachment. People won't really be comfortable typing on a virtual touch keyboard when it comes to netbooks. Consumers perceive Apple products as better constructed and so will sink in money if



the netbook gadget is their second or third PC.

10,000 GB on DVD in 5 years

While doing the hard disk test last month, we were wondering whatever happened to the sci-fi like holographic storage medium that was supposed to be just around the corner. Now it seems there is a DVD being developed that's based on nano technology dubbed ultra-DVD that can store 10 TB in a single disk. Currently, Blu-ray disks that hold 50 GB are not even close to the projected capacity of these ultra-DVDs. Scientists working on the project say the DVD could be available to consumers as early as five years from now. It will surely change the way we view and even perceive digital data, and even

entertainment. Its outcome could include things such as three dimensional video and some ultra-HD viewing. The scientists working on the project say that nano-structured material can be incorporated on to a disc to increase data capacity without increasing the size of the disk.

Meanwhile, another study is also under way in Australia that is looking at developing five dimensional DVDs. Researchers have already designed a five-dimensional DVD that can store 1.6 TB of data on a standard-size DVD. That is as much as 30 Blu-ray disks! Unlike normal DVDs that have two layers of stacked data these disks have an additional 3 layers – one data and two for reading wavelength and polarisation. The layers will be made of thin glass films and will be coated with gold nano rods with three different sizes. To record

data on the disk a laser is focused on the nano rods. Each nano rod melts at different wavelengths into spheres. This change of state denotes the change from 1 to 0. The researchers are currently working with Samsung

to make the technology commercially viable, but it could take anywhere between five to ten years. The challenge is that since the data is so densely packed, reading it at high speeds will pose a problem. Also, currently a very large and not to mention expensive titanium-sapphire femto-second laser is being used in the study. A cheaper laser will have to be developed.

Speed racers can't speed no more

A new system has been developed in London UK called the Intelligent Speed Adaptation. Don't let the name impress you. What this system does is it actually regulates the speed of your vehicle; if connected. This device uses satellites to track the vehicle

STAIR cell

A new air-fueled battery is being developed that could store almost 10 times more power. This would mean a tremendous breakthrough in portable electronics and it would also add to being a renewable resource

and a digital roadmap to pinpoint the position of the vehicle and at the same time find out the speed limit of that area. Once determined, it prevents the driver from accelerating further than the speed limit.


The implementation of this system is good and bad at the same time. Good, because its success will reduce the number of accidents caused due to speeding. However, speed demons will be really disappointed if this becomes compulsory for all vehicles. As of now, this technology is being implemented for taxis, buses and council vehicles.

The technology is supposed to go on sale some time next year for private car owners. We do see parents fitting their vehicles with this device so that their teenage children don't go over the speed limit, but veteran drivers won't really prefer these extra regulations.

Hubble upgrade

The Hubble space telescope which has been helping mankind get a better understanding of the universe for 19 years, was in serious need of an overhaul. A seven member crew flew aboard the space shuttle Atlantis this month to give the orbiting telescope its fifth and final repair. The mission lasted 13 days and began by first pulling the telescope to the shuttle's payload bay. Then the crew needed five spacewalks to replace the telescope's batteries, gyroscopes, data-handling unit and added a host of new instruments such as a new camera and spectrograph. The mission turned out to be tricky, say some reports, because although the telescope is installed in space, it was not designed to be fixed there. Once the crew was done



with the repairs and upgrades, astronauts used the Canadarm on the space shuttle to grab hold of the telescope and move it out of the shuttle's payload bay and back into space. After distancing itself from the telescope the Atlantis fired its engines to make its return trip back to earth. But the return trip was not as simple as expected. Stormy weather over Florida made it impossible for Atlantis to land safely. So the shuttle was diverted to California. The two day delay increased the risk profile of the mission and also caused the mission to shoot up economically. The Hubble telescope, although not mankind's only telescope in space, provides scientists and space enthusiasts a lot of information about the mysteries of space. Because it is in orbit, it can take very sharp pictures of deep space without the trouble of background light – a problem that Terrestrial observatories have to deal with. It has sent to earth the most detailed visible-light images ever taken of the universe's most distant objects. Among its other achievements is accurately determining the rate of expansion of the universe. Hubble has also helped scientists find out how old the universe is – 13.7 billion years, that black holes are at the centre of most galaxies, and details of planetary formation. NASA hopes that with this latest infusion of life, the telescope will be up and running for at least the next five years. 

28

Is the number of laptops that have been lost by the UK Ministry of Defense since the start of 2009



I just finished reading my issue of *Digit*. I must say *Digit* has really brought about a change in itself since I first started reading the magazine in June 2005. Let me tell you how.

1. The new designing of pages, the news items on almost every page instead of only four or five.

2. The most exciting change for me is the increased length and variety of articles. I now get to read more.

3. The cut-out format of the *Tips & Tricks* section. Now I can take them anywhere if need to refer them.

4. The DVDs were awesome, I liked the tech videos, especially the one on 'sixth sense'. It really inspired me a lot. It can really solve the problems of carrying around heavy hardware. If, in fact, most of the hardware gets eliminated as the technology promises, we can really achieve mobile computing (no more backaches or Carpel Tunnel Syndrome).

5. The *Fast Track* in colour, and this month's topic on Freeware was cool.

Plus, I liked your idea of interacting more with readers through this new nationwide campaign. Yes, readers are a strong community and someday readers will become leaders too (Hey, include me in that, please!).

I appreciate your innovation. Sometimes,

while reading your magazine, I really feel nothing is impossible. This feeling makes my bond with *Digit* stronger. I congratulate the *Digit* team on its 8th anniversary.

**Kuldeep Singh
Phagwara, Punjab**

Hello Kuldeep,
It's a matter of great encouragement to know that you have stayed with us ever since you discovered us four years ago. We are also impressed by the fact that you have not just been a regular reader, but a keen observer at that. Your feedback is valuable to us and we look forward to taking a step closer in connecting with readers such as you.

Editor

Let me just say one word - WOW!!!

Dr. Alekh Khanna

Thanks :)

Editor

First of all I want to congratulate *Team Digit* for its success for being the top tech-magazine of India. You guys are doing a superb job. I have been reading *Digit* for the past four years. I got my first issue in September 2005. From then, I've been called the tech-guy of my school and home. There is an excitement every time for the next issue. I'm in the tenth standard and a regular reader.

The new design of *Digit* looks very good.

Also, your section of mobile warriors' backpack was the best article in the May issue. But there is still scope for improvement, and I've mentioned them here:

1.) Please provide large fonts because of the strain in the eyes and also I'm unable to read *Digit* continuously for more than 15-20 minutes. You guys are truly giving absolute value for money. So there is no need to provide more content in your magazine at the cost of large fonts.

2.) I'm planning to buy a PDA. So, I want you to give a group test for PDAs, if possible.

3.) Please provide PDF format of your magazine in the monthly DVD because I want to keep *Digit* with me for life and I've to throw my magazines in the scrap.

**Mohit Sharma
Nurpur**

Hello Mohit,
We appreciate you sparing your time in writing to us with your honest feedback. We are looking at all options so that we can keep up our promise of providing increased content (more words) and the same cost (number of pages). In this bargain of increased content we had to reduce the font size. We understand your discomfort and are working at all our available options. Do write in to us after reading this issue and let us know how you find the change in fonts and also our tests on smartphones. We believe you would find it informative.

Editor

Good issue for May!

Tech to carry while travelling is a new concept. Drool maal section consisted attractive gadgets. What I liked the most was 'Fast track to Freeware'. It gave me various options for paid software. '*Digit* Videos' once again scored a ten-on-ten. Camcorders and DSLRs were

awesome, but cheaper ones would have been interesting. Tips and Tricks on Google was knowledge enhancer. You should test 'Freeware' against 'Commercial-ware' and what you loose by gaining 'Pirate-ware'. Various brands of RAM can also make it in the *Digit* issue. Please provide videos on how you test the games. It will be a golden gift for gaming enthusiasts like me. Overall, it was good issue and eagerly waiting for the anniversary issue.

**Mayur Gaikwad.
Satara**

Hello Mayur,
Your wait is over. June has arrived and so has our anniversary. We hope you enjoy reading this issue. We have tried our best in keeping you well informed, so that you have greater insights into the exciting and continuously evolving world of personal technology. Continue writing to us with your valuable feedback.

Editor

Although I bought your magazine this month and last month, I didn't read them. I'm not crazy. It's just that the font was just too small for my eyes. If I'm not wrong it's the case with 99 per cent of the readers.

You may want to increase content, but I guess also want to decrease the number of readers; or is it a wonderful strategy (you may have contacted all the eye surgeons and anybody literally attached to eye solution)? Well, that may have been tough, but really what were you thinking? It was like I opened the magazine and instead of reading it, I just saw the pictures and put it down. You know what I did next? Take a guess! I bought CHIP, and guess what? I didn't read that either. That magazine is not for me (for some reasons). So, either you increase your font size or you'll lose a very big part of your business.

And please will you stop writing crap about already ridiculous software, hardware and games?. You write a full page length article just to tell us that game scored 1/10? Please spare us the horror of reading crap. It yucks! And a full page picture of the game too! Leave it. Solution is: Just write a one liner! Yeah you heard (or read, take your pick) right. Write all the requirements and all other specs in one small table and in the end just give it the score. Don't publish the article about a software/hardware/game etc. if it doesn't score 6 or more.

Reason: You are leaders, so lead aggressively. Tell the manufacturers that you are not going to get the lime light till you don't come up with a very good solution. One more suggestion. Try to include the companies' profile per month. Like Microsoft featuring one month and Google next and so on. Give them space around 8 pages or more (space saved from crap). Why and what to include - Why because people wants to know that they (entrepreneurs) are simple human beings. What: everything from their WEBSITE to the SERVICES they provide.

It will be a treat.

Anubhav Saini

Hello Anubhav, We appreciate your feedback and honesty. We regret the discomfort due to our reduced font. We are analysing all possible changes that readers such as you have suggested through the numerous emails and letters that we receive.

We did promise you increased content. Yet in these days of rising costs, we are making all possible efforts to keep the costs low so that you don't have to pay more for a copy of *Digit*. We want to bring you the best and never will be compromise on the quality levels of our product. Do write in and let us know if this issue brings you some relief. We are continuously evolving and need your feedback at every stage.

With regard to the game review you are mentioning, we appreciate your honesty again. On one hand, we agree with you – a game that is rated one on ten does not deserve mention in *Digit*. We did feel the same. In fact, we had a discussion on it. Finally, the only reason we gave it space was the fact that the game was developed by an Indian team. It's a moment to be proud of considering the game development industry is finally picking up in our country with a game for the PS2.

Nevertheless, we have been honest in our rating too. As we said, we never compromise on the quality of our product.

Thank you for all your feedback. We are working at improving ourselves.

Editor

I know there are crores like me praising *Digit* and its content and why shouldn't they be? *Digit* has really made our life simpler technically. As a regular *Digit* reader, I wanted to give a suggestion:

Digit provides various comparison for monitors, speakers, cameras, etc. It would help if you can also provide comparative features of software and their open source alternative (e.g. AutoCAD, 3dMAX), its advantages, disadvantages, features of the products. At this time when everyone is talking and thinking about cutting cost, this comparison would really help if taken up by *Digit*.

Reetesh Choudhury

Thats a great idea Reetesh, and we'll consider it for out future issues. Keep writing in.

Editor

First of all, Happy Birthday *Digit*!!! Yours is a lovely magazine which I just gobble up the day it arrives. The new design is spectacular and it seems that the cover designers of both the magazine and the Fast Track have found some inspiration. However, since you are (and must be) constantly evolving, here are a few suggestions:

1. Please x1000 bring

back the *Digit* Archive. I don't think I need to stress its importance in making life easier.

2. Avoid FT topics which cater to a niche audience like developers, Linux users etc. Topics like *Digital* Photography, Freeware, Music etc have a universal appeal

3. I recommend one software to be included in your Essentials section - Altiris Software Virtualization Solution (free for personal use). You yourself had featured a How To over it a couple of years ago. A large no. of software on the discs include software which people will either love or hate, plus some demos and trialware which people aren't going to keep for over a month. So ASVS helps them to try everything out in a clean and organized manner. Hope you get the point.

Keep up the good work!!!

Mrinal Mohit Noida

Thanks for remembering our birthday, we appreciate it. As a tech magazine, we cannot really sideline the developers, linux users or other "niche" categories. However, we always try to include more content that everyone will find useful.

Editor

I am Lin Yong, Attorney at law. A deceased client of mine, that shares the same last name as yours, who died as the result of a heart-related condition in March 12th 2005. His heart condition was due to the death of all the members of his family in the tsunami disaster on the 26th December...

Yes we get spam too

Editor

Corrigendum

The writer of the *Fast Track* is wrongly credited as Khitij Sobti. The writer is Mihir Patkar. Srikrishna Patkar should be credited for *Fast Track* illustrations.

LETTER OF THE MONTH

I was a big fan of *Digit*. I'd read my first issue back in 2001, and *Digit* is one of the reasons I love computers. I continued to be a dedicated reader of the magazine till 2007. However, I wasn't that motivated to write to you guys or subscribe till 2005. I subscribed for a year. After that, I still used to buy every issue from the local book store.

However, around 2007, I got hooked on to the internet. I'd learned a lot by then - how to get information on anything, and how to get software for virtually anything. That's when I started feeling *Digit* had lost its sting. Almost everything *Digit* had to offer was available on the net, except the Tips and Tricks and the expert advice. Everything from tech reviews to IT articles to industry buzz could be found if one knew where to look. As for tips & tricks and the advice, I had learned a lot on my own (I do thank you for giving me the inspiration to experiment and probe into computers - hardware as well as software). So, I stopped buying *Digit* and switched to other magazines, but I did buy some issues which I felt were pretty good.

And then, I bought the May issue and good Lord! I was wondering how many such issues have I been missing. The issue is brilliant, but the content and layout is extraordinary. I love the classification of sections, especially Sci-tech, toolbox, tech@work, and Esc-unwind are just awesome and I also love that you've added a separate price-watch and killer-rig section. I loved hobbies online. The DVD content is no less. The videos are too good. Now, I'm not going to miss anything from *Digit*. I'm glad I'm also interested in Astronomy which was why I bought the issue in the first place those 160 Astronomy videos.

Rishikanta Pukhrambam

**No paper**

Google has dropped the long standing idea of buying a newspaper said CEO Eric Schmidt

**PowerMeter**

Google recently announced partners for its PowerMeter utility, designed to save energy by generating energy usage graphs

Industry Connect

Digit in a freewheeling interview with Prasad Ram, head of the Google R&D centre in Bangalore, India

Siddharth Parwatay

siddharth.parwatay@thinkdigit.com

What kind of innovative technologies is Google working on?

The emphasis is on building universal products. In a market such as India, universality is the key. However, we have to keep the local flavour in mind. The product is designed for a very large audience, but fulfils the needs of the local audience. India has a very unique position. We are a billion people in a democratic market (unlike China), and the diversity in this market is unparalleled. Nowhere else will you find as many differences in education, levels of income, languages, cultural pursuits, you name it. In urban settings, people are interested in social networking, entertainment, YouTube and so on. You go to tier II towns and you'll see a huge emphasis on education and classifieds because these impact their lives directly. When you go a step further to tier IV towns and villages, language becomes a problem. The attitude is that computers and internet is for English speaking people and we don't need them.

For example, in search we suddenly saw this huge spike of searches for "RBE" coming from a particular region. It turns out this stands for Railway Board Exam. Now our job is to provide a great search experience. Today if you type GOI, Google knows in India it means Government of India. Similarly, we intend to provide a great user experience to anyone looking for a particular piece of information. So if you typed RBE, you get the correct result. Also, it's common to search for Indian words on Google. But the way we spell Indian words differs. *Bachchan* may be spelt in so many ways,



As head of the Google R&D centre in Bangalore, India Prasad Ram is responsible for working with the India engineering teams on the development of innovative Google products and technologies

for example. The expectation of the user is that Google should understand all this; give me what I mean, not what I ask. So we want to give a great user experience and localise search along different dimensions. Localised by geography, economic status, language, and so on.

What is Google's outlook for the Indian market?

The market itself is extraordinarily exciting. It's relatively untapped in terms of internet usage. We have extraordinary talent in the country. For some good reason, all of us have a huge IT bias. As a result, we have the people who want to do good work.

What about the mobile platform?

Undoubtedly, the mobile platform is important. The interesting part of the mobile platform is currently more in the SMS space. This is because though we may have more than a hundred million phones in India that are data enabled, sadly, people don't browse significantly on their mobile

devices. So as for our SMS search we're doing a lot of work on its back end. There are a lot of challenges to this. Primarily, because the results are sent to the user for a particular query, it's almost like hitting "I'm feeling lucky" each time. You get one result and it should be the right result for you. Also, in SMS search, I can't know whether the user liked my result; more importantly whether he got anywhere as a result of it.

Any innovations?

In mobile search, one of the biggest challenges is understanding accents. Even our grammar constructs are influenced by the underlying native language we're more familiar with. Building a good recognition model is very important here. You might call in and ask for something which may be a native word combined with other English words. You may think you're speaking English, but there are few native words creeping in. But phone search is just about now gaining popularity in the country and these are the technical challenges we're facing.

Any research on natural language processing?

At Google, we collaborate on almost everything other Google centres across the world. For NLP, some of our best minds are based in New York and Mountain View. Of course, some of the linguistic problems we face here are uniquely Indian, but once we solve the problems, we solve them generally enough that they should apply anywhere; even the US where there is a fairly cosmopolitan mixture of people as well.

Looking forward?

If you look at the affordability of PCs lately, and the penetration, it's highly skewed. Some data said 12 per cent of Indian households can afford PCs, but only two per cent have them. There are 200,000 cyber cafes in India so accessibility is there. If I live in Nashik and I'm looking at going for a movie, chances are listings may not be available online. We're looking at changing that. That way the relevance of the internet goes up. The Map Maker product is a step towards this and it's got spectacular response. It was an India problem that inspired us to come up with this idea, but now it's a global product, launched worldwide. On the mobile platform, we have launched SMS channels where we've got a very positive response on it. People are creating and subscribing to various channels. They're actively publishing lots of information through these channels, so it's quite exciting. As the awareness of these channels goes up, every small community can stay informed and in sync by creating community specific channels. Communities here could be described as your apartment complex or it could even be the chess community of Mumbai. 

Mobile Watch

Unlicensed spectra, Mobile viruses and re-introduction of old pieces that we love, among other things

Why Twitter?

Twitter is not the only moblogging service out there, we explore the options.

Web Watch

The latest happenings from the web, served to you straight from Cyberspace

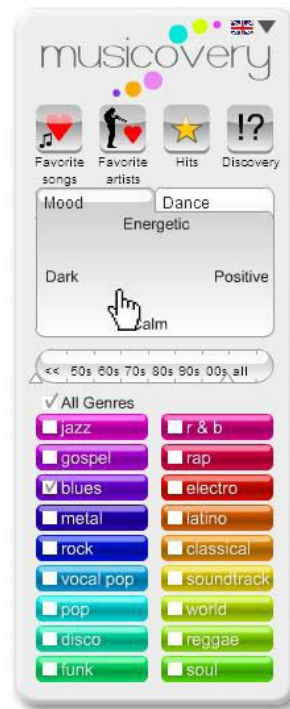
Siddharth Parwatay

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Tunes for your mood

When it comes to listening to music, people's habits are as varied as the music itself. Different listeners control their music in different ways. The music nazis will want complete control and fastidiously make detailed playlists. Then there are others who let their listening fate lie in the hands of a higher being – the radio jockey, or in today's world – internet radio. Still, even in going the latter way, one may not completely agree with the tunes that are dished out. What if you could tell the radio what kind of a mood you're in and have it play songs accordingly? Sourcetone's mood wheel promises precisely that fun and unique semi-controlled listening experience. All you need to do is pick a spot on the wheel that demarcates a specific mood and Sourcetone

is supposed to churn out tracks that best suit the mood. On choosing Aggressive as a mood, we were expecting it to belt out heavy numbers from the likes of Sinergy or at least Metallica. Instead, it played I'll turn to stone by a hardly known band called The four tops. The song was more '70s pop than anything remotely aggressive. The track selection improved a little with tracks such as Billy Jean and others that can actually be classified racy if not aggressive. Perhaps since this is after all radio, they're actually trying to keep everything "radio friendly". So if you're in the mood for a little background music, the Tranquil and Pleasant moods are a good choice to leave the dial on – that is about the most you can get out of Sourcetone. A tip to get more focused plays: choose a genre from the drop-down list. The service also offers standard options which you'll find on most internet radio services such as skip track, and adding tracks to favourites. If you



don't like a track, you can make sure it's never played by tagging it as banned. If you like something, add it to favourites. The trouble with the mood selector is that it jumps about a little on its own within a broader mood quarter. This can get quite annoying since there can be quite a difference between Blue and Sombre. There are quick access buttons on the interface from where you can quickly buy the tracks you like from Amazon, iTunes or eMusic. The service is free, but requires registration to play more than a few tracks at a time.

Musicoverly.com offers a similar listening experience, but allows for much greater control. This is because apart from mood, you can specify multiple genres, decades (70s, 60s, etc) and a tab to separate danceable music from the only-listening variety. However, much of the interactivity options such as playing the next song are disabled for non-premium users. Musicoverly also offers a Symbian

application for mobiles. The song selection of Musicoverly is definitely better than Sourcetone, but with the restrictions it has, we would give both the services an equal rating. So what are you in the mood for?

Google unveils search options

It's often said, "to get the right answer, one must ask the right question". This adage holds true even the domain of internet search and Google. No matter how simple and intuitive Google Search is, you just won't reach the right information without the correct query. Thankfully, the guys at Google keep trying to make our lives easier and their latest effort involves adding a whole bunch of search options that will help you get by more easily. The recently added search options panel lets you view search results in different ways. For instance, very often we're interested at looking at only reviews of a particular product and not other general information. For this, just click on reviews under the search panel and you'll get access to only reviews of that particular



product. You can then apply additional filters from the search panel such as results only within the last one week or year. You can even switch to the timeline view to see the chronology of the information in a graphical format or see how the topic has evolved over a certain period.

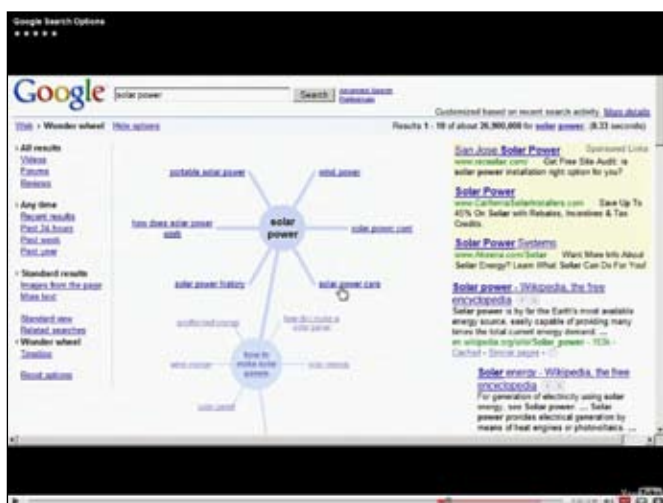
Like reviews, people also look for forum results for products, in which case, they are looking for only recent discussions. Such a query may

40 Portable OS
A DIY on how to take along your OS using portable virtualization software.

43 Always On
Social networking, blogging, booking tickets and other online activities from your mobile phone

47 Cybercafe Security
Insulate yourself from all the dangers of using public computers.

Web Watch



be difficult to form, but now with search panel options all you need to do is click on forum results and specify a timeline. The search panel also makes it easy to switch between different types of content such as videos, forums and reviews. Google has also tried to improve the snippets of text that it culls from the web pages and presents under each search result. These rich snippets are supposed to show more contextually useful information, such as the actual sentiment of the reviewer in the case of reviews. You can even click 'more text' to increase the length of the snippet. This will probably mean never having to go to the actual page at all. To make 'rich snippets' work properly Google hopes that web publishers will adopt micro-formats or RDFa standards to tag relevant data.

As for what's in store other than these options released, there is something known as Google Squared, that's on the Google drawing board and soon to be unveiled under Labs. Google Squared won't just find webpages about your topic but instead, it is supposed to automatically fetch and organise facts from across the internet.

Another feature in the works is Wonder Wheel. It gives you a graphical representation of search terms. You can click on any node to explore related queries. You can keep clicking nodes to drill deeper into a subject and look at a holistic view.

Election Nautanki

Nautanki.tv is our very own home grown cross between YouTube and Hulu. Of course, the similarity is more with Hulu than YouTube, since the web site features content from TV channels such as shows, videos, movies, etc. and features it online. Its repertoire has over 38 million videos from 25 broadcasters (TV channels), 300 content creators in 8 languages. The web site



also uses open source APIs to be able to stream content to other web sites. So, web sites can have the Nautanki widget and embed video on their web pages. During the election results, however, Nautanki took the online broadcasting platform to a whole new level with an ambitious plan to broadcast Indian elections live

over the internet. The content was sourced from Zee News and featured three days of continuous live coverage (in Hindi). The stream reached 5 million Indians across the globe on Facebook.com and through other web sites that had Nautanki embedded. By the end of the whole shindig, more than 8,000 comments were recorded, and hours of election streams were consumed. The microsite elections.nautanki.tv now shows the corny HitchHikers' message "So Long and Thanks for all the fish..." since the stream is now closed, but you can still go through the comments. This confluence between Facebook and Nautanki is somewhat of a breakthrough since it represents an integration between the two platforms and even Facebook's aggressive eye on the Indian markets – very recently, it added support for six Indian languages. Teams from all three entities worked on the seamless integration of the platforms and possibly this will mark a new paradigm shift between how video is

It seems there are over 100 million videos watched in India everyday, and with this new approach and collaboration with social media, the number is bound to go up.

An easy and efficient way to track assignments

Multi-tasking is not everyone's cup of tea. In today's fast-paced era, we have several assignments we need to track, whether you're a student or a working professional. Soshiku is a free online service for high school and college students that helps schedule and keep track of homework assignments. The service provides email as well as SMS notification reminders (in certain regions) for keeping track of your work. Although it is directed at students, using it will quickly give you the idea that it can be easily put to broader general use. Apart from just reminders, the web site has many useful features. With each assignment, you can save notes, manage tasks, attach files, and share messages with your partners. Partners are people you wish to collaborate on an assignment.

After signing up, click on new course to set up an assignment. After that, a "New Assignment" link will appear through which you can add new assignments to particular courses. While adding new assignments you can easily add to-do-list type of tasks for each assignment and specify who is going to be responsible for them. Assignments can be added remotely by emailing them to add@soshiku.com in the syntax <Assignment name> in <course name> due <due date>. Once you've set up all your due dates and projects, you can see a summary in the home page. Here you will see all your overdue and upcoming assignments. The calendar shows you when everything is due. Click a date to see exactly what is due that day. Under recent tasks you can view the five most recent tasks that have been assigned to you.



Three Wolf Moon t-shirt
Joke reviews about the product make its sale shoot up 2,300%



Chrome 2
Stable version released with improved speed, full screen mode, and auto-fill



MagCloud Beta
A service by HP, it is like the YouTube of online magazine publishing

You can even add new courses and assignments since these buttons are available on most pages. Notifications can be configured in the preferences, but SMS only works with US carriers.

Spotify

Spotify is relatively the latest music streaming service to hit cyberspace; and is making quite a few waves. Within a few months of launch the service has crossed more than half a million users, albeit it being available only on invitation basis in a handful of European countries such as Germany, Britain, France, Italy, Spain, Finland and Sweden. So what exactly is Spotify? How does it work and what's so great about it? It's essentially a tiny streaming service for PC or Mac. After creating an account, you simply type the name of the track or album you want and within five seconds you can listen to the music you asked for. Practically, no song is ever far away from you. Services such as **Last.fm** on the other hand only give you similar songs to the one you asked for. Besides, Spotify's repertoire of music quite vast – tipping the scales at around 8 million songs. What is more unique about this service is that it's free and completely legal. This due to Spotify's deals in place with the four major record labels of the world and not to mention the thousands of independent labels it has on its rolls. What's unfolding is probably the last leg of the battle between the

music industry and music piracy.

Some online blogs even likened Spotify to a lemonade stall run by the music industry that's giving out free lemonade. Well of course it's not all free. There is a premium paid version that plays tracks without ads. Otherwise listeners have to bear ads after about eight or nine tracks. The application itself is extremely easy to use. Its got fields such as recommendations and top artists, and top charts. In short, the whole works. No wonder regional and invitation restrictions haven't stopped anyone from using it. There are several reports of invitations being hawked at **inviteshare.com** and lots of users accessing it through proxy servers that mask the user's location. The service works on a unique hybrid p2p system that streams data from its own servers as well as other listeners.

Book marking

Theme-based social networks pop up every now and then. They may be based on music (**last.fm**), art (DeviantArt), photography (fotolog), movies (flixster) or even something as absurd as death (Tributes, Respectance, Footnote). Mainly, they'll help you connect with people who are linked by a particular hobby or interest. But a relatively new breed of

DO this

Here are a few web sites that will suggest books that you should read based on your likes, dislikes and more:

whatshouldireadnext.com: As the name suggests, the web site will give you suggestions for books you ought to read. From your side, you provide the site with a list of books you like and an exclude list comprising of books you read but didn't quite like. The web site does the rest.

beta.booklamp.org: Unlike socially driven web sites, this one is free of the human element, which might just turn out to be in your favour. BookLamp does an analysis of writing styles by actually analysing a book technically so that users can find books with a similar level of tone, tense, perspective, action, description, and dialogue. At the same time allowing you to suggest parameters such as a book's length.

whichbook.net: The way this site works is completely different from the others listed here. You don't give a list of your books for the site to find similar entries, instead you use sliders to specify certain parameters. The sliders quantify attributes such as funny vs. serious or beautiful vs. disgusting. The sliders will specify how much of a particular element you want in a book. Hit go and you're set.

social networks are emerging that'll go a step beyond and give you recommendations. After its initial faux pas of recommending Britney Spears to The Doors listeners, **Last.fm** has now ironed out the creases and is doing quite well. The same concept is being applied to books by a web site called BookArmy which is actually supposed to recommend new books to you based on your taste. Although a while ago, a web site called Shelfari had tried to implement a similar concept, BookArmy has done it much better. The interface is more user-friendly than Shelfari, and has something to offer to all book enthusiasts, even without registration. As an unregistered user, you can still browse book reviews, look at author bios and watch videos. With a registration you can add

books to your virtual shelf, read and write reviews and get book suggestions. The suggestions, however, leave a lot to be desired. A recommendation for similar books to Metroland by Julian Barnes – a humorous coming of age story set in London returned books by Terry Pratchett which are about elves, magic and sorcery. Hopefully, these are just teething troubles and the site will improve.

Avid book readers would like another service that has a better recommendation algorithm in place called **librarything.com**. It allows similar features such as adding books to your catalogue, rating them and getting recommendations based on them. A unique tool it features is 'Will You Like It' that calculates whether you will like a book based on the books in your library and user libraries similar to you.

Can Google hear me?

While looking at book recommendation platforms, we came across this unique little web site

called **cangooglehearme.com** in connection with one of the book web sites. Curiosity and a little bit of reading revealed that this particular web site is the result of one germ of an idea and a great deal of creativity on the part of one Mr. Aaron Stanton. He believed that he had an idea that could be the next big thing and was just perfect for the internet megalith Google to take up. An idea can get you only so far; how does a small time games reviewer go about getting the attention of a multi-billion dollar giant? He decided to just walk into Google's Mountain View office and speak to someone – he didn't even have an idea who that someone might be. As expected, he was shooed away, but Stanton didn't lose hope. He did the smart thing of video recording his misadventures and putting them up on his web site – **cangooglehearme.com**. He hoped that if he created enough buzz, at least someone at Google



Impressive infection

Eugene Kaspersky, CEO Kaspersky Labs, is impressed by the Conficker botnet, thinks it would be a real threat if it were used for things other than money.



Doodle 4 Google

12-year-old's doodle was used by Google on its home page



No illegal downloads

French govt. passes law to jail offenders after three strikes

would eventually spot him and his web site. This was back in 2007 and Stanton went about furiously popularising his blog in the blogosphere. Eventually, he got loads of traffic and the blogger community was abuzz with excitement and anticipation. Then one day he got his wish fulfilled – Google did hear him. He was called to the Googleplex to present his idea. Relevant papers and non-disclosure agreements were signed and Google heard him out. He became an instant internet hero and began receiving tons of fan mail. For about a year after that only he and Google knew what his idea was. Then in 2008, he revealed his idea on the web site. It was the concept behind booklamp – computerised analysis of the written word. The idea may be pretty meh, but the way Stanton went about attracting attention is brilliant. Maybe all of us armchair ideators can take a cue from this guy. An idea may be worth a million bucks, but to see it to fruition takes perseverance and a lot of ingenuity.

Get ready for the Bhai network

A social network for underworld dons and henchmen would be quite cool, wouldn't it? For friend requests you could send threat requests, trolls would be police and you could be giving ghodas (guns) instead of inane hugs or kisses!

But before getting carried away let us tell you something similar is happening on Facebook right now – as part of a full-fledged ARG. We wrote about ARGs (Alternate Reality Games) a few issues back as the next big thing in the world of interactive gaming. It's where your online life and real world merge and you play the game as yourself, instead of an online avatar. This one called "Supari" is currently in the process of gathering players through Facebook. It's an ambitious endeavour, launched by a witty 30 something duo – Ajesh Shah aka Lambu Kakdi and Tarun Durga aka Chashmish Chaaku. The game is intended to give Mumbaikars a fun thing to do and a chance to mingle with people in real life. So how does it take things from the virtual world into the real world? Well it involves assassinating people with guns. Don't worry, the guns here are water guns! But it's fun nonetheless. What you have to do is join the Supari group on Facebook and follow the link to an external web site where you will have to fill in lots of personal details about yourself such as photo, your work and home addresses and your various phone numbers. You also need to submit a creative answer to why you want to play. Applying doesn't guarantee enrollment. The two godfathers of the game



will first see if you fit the killer's profile. If accepted, you'll have to collect your contract, rules and dog tags from our Supari addas across the city before the game begins. Addresses will be provided shortly. There is a nominal charge of Rs. 50 to cover game expenses. After that, all hell will break loose – you hunt down and assassinate your target with a water pistol or water balloon. The game is three weeks long, 24/7, and is played throughout the city. Exterminate your target and inherit his targets. Become the don by killing off everyone playing the game! The puppetmasters of the game have come up with funny and innovative rules like immunity from from death in Public and Railway Station Loos or if you have a Sunday newspaper with you. Of course, there's no monitoring system so participants are expected to be scrupulous. And yes, it's only for Mumbai. However, if it picks up, we're quite certain other cities and towns will soon start hosting they're own ARGs.

Craigslist's troubles

The US-based classifieds web site has been facing a lot of controversy after South Carolina's attorney general accused it for not having adequately removed "advertisements for prostitution and graphic pornography

material." Looks like moral policing is not just a local affliction. However, the way Craigslist dealt with it is quite interesting. After having replaced

its erotic section with a new adult category and then having company employees go over every new post in the section, the web site filed counter-charges against the attorney general. Besides, the

premise is that a platform cannot be held directly responsible for the kind of content its users generate. Here too, we've had people filing suits against social networks for having content that they find objectionable. Craigslist claims the charges filed by the attorney general of South Carolina are flagrant, citing "In addition to being unwarranted by the facts, legal experts agree that the charges threatened represent an unconstitutional prior restraint on free speech, and are clearly barred by federal law".

On a lighter note, a popular tech blog started a poll to find out "Which is more important to you – Craigslist or South Carolina?". Surprisingly, the results favoured the web site rather than an entire state. 80 per cent of people the people (2278 votes) found that craigslist is more important in the grander scheme of things. The state had probably only one thing on its side – myrtle beach – a rather popular tourist destination. **A**



Two mobile devices

That's how many gadgets executives are willing to cram in their bag says a survey

Open Kernel Labs joins Symbian

OK will contribute its virtualisation expertise to the operating system development

Mobile Watch

Your monthly roundup of the mobile world

Siddharth Parwatay

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The magic of HTC

Back in February, reports of the HTC Magic started doing the rounds when they unveiled the phone in Barcelona. Soon people were quick to fuel rumours of it being a possible iPhone killer. Quite frankly, it's becoming increasingly tiresome every time someone



comes up with the latest iPhone killer. Leaving aside the Palm Pre as a strong contender, we haven't seen any phone come close. Still, that doesn't mean manufacturers can't make good phones. Perhaps without even any intention of competing with the fabled iPhone. The Magic is one such phone. It's a follow up to the G1 (the first phone to run on Google's Android OS), and runs on the new version of

the OS called Cupcake. By mid May, most of the speculation congealed into fact and so here is the low-down on HTC's latest Magic trick.

The build

Unlike its predecessor, the Magic doesn't have a physical keyboard, making it a full-touch smart phone. The Magic, for some reason has still retained the Blackberry-style track ball, which its older brother came with. It now seems redundant since this is a full touch phone. But that's where the similarity ends. The Magic is much slimmer, thanks to the missing keyboard and hence slightly more stylish. The body feels



tacky, according to those who have held it; because it's a plastic shell. So the iPhone scores in that area. The phone has taken a page out of the iPhone's books by including a capacitive display. This makes for superior touch response over traditional touchscreens. The virtual keyboard, which is an update to the old Android responds beautifully to your fingers and gives you a slight vibration as a tactile response to input. The phone is quadband, has Wi-Fi support and comes with a 3.2

MP camera. It has a built-in accelerometer that helps you switch seamlessly between landscape and portrait display when you rotate the phone from a vertical to a horizontal position.

Now for the absolute negatives. Surprisingly, the phone lacks a standard 3.5-mm head phone jack. The bundled earpiece plugs into a standard mini-USB. So you can forget about listening to music while the phone is charging or the option of going in for quality earphones for that matter. The lack of a flash will also be sorely missed.



Software

It has three desktops as part of its home screen, which is a good innovation as a single home screen can get very crowded, very fast. You can slide left or right to navigate between these screens, and click and hold the screen to add multiple widgets to a screen. Since this is an Android system, there is obviously great integration with all Google products such as Gmail, Calendar, Maps and GTalk. The OS seems really fast and slick with various animations and effects adding just the right amount of glitz. It's able

to switch between applications extremely quickly. The OS supports A2DP for Bluetooth, so you can stream stereo audio to a wireless headset or speaker system. This is definitely a one up over the iPhone. Where it falls short is multitouch. Yes, this otherwise nifty OS does not support multitouch that we're so used to on the iPhone. The phone also has a number of other interesting usability functions, such as:

Mashup

The phone has something known as a mashup technology that lets you take elements from one application and quickly use them in another. Assume you're playing a song in a music player application. You can click and hold the song name or artist name and it'll quickly bring up other options for jumping into other applications such as search. Say you're searching for a particular location on Maps, you can quickly add it as an element to your contacts. This provides you with a much more integrated experience.

Notification bar

At any time, you can bring down the notification bar that'll let you see what's going on with your phone at the moment. So if you've got a new message or new voice mail you can quickly view it from here and go back to what you were doing. If you're playing music you get play / pause options on the notification page.

YouTube player

A dedicated YouTube player

CHANGES IN THE CUPCAKE

ANDROID



The Android's latest version code named Cupcake found on the Magic has several small and major improvements. They are:

- A long list of bug fixes, security and miscellaneous improvements
- Now you can save MMS attachments
- Updated rendering core for browser with improved JavaScript support
- In-browser copy-paste and search
- Video recording added plus direct upload to YouTube
- Bluetooth now supports A2DP
- VoiceDialer now supports 'open app' command
- Applying labels in Gmail added along with batch operations
- Applications can now pause downloads
- Text prediction engine



Plam Pre

Its finally here! Release date fixed at 6 June. It will be available on Sprint.



Mozilla Fennec

An alpha version of mobile Firefox for Microsoft's Windows Mobile platform is released.

is found on the phone's main menu. Through this application, you can quickly search for and view clips. In the application, when you click on a thumbnail of a video, the phone automatically switches to landscape mode and expands the video.

Summing it up...

This is definitely a fast and easy-to-use smart phone. It is promising enough that comparisons to the iPhone can immediately be drawn. Together with the Palm Pre and the iPhone, it can easily form the holy trinity of smart phones. Oh and since it's exclusively available on Vodafone, we hope to get our hands on it soon in India.

The next step in social location

Nokia has launched the latest version of its mapping services under the Ovi umbrella brand. With this release, Nokia is moving into the mashup domain by making its mapping software open to a greater level of integration, sharing and collaboration with its audience. The erstwhile mapping application known as Nokia Maps Beta 3.0 for the past couple of months, has now got an overhaul with several improvements and enhancements through additional features and services. These include high resolution

satellite and terrain maps – both in 2D and 3D views – 3D landmarks for over 200 cities, rotation, tilting, night view, and fly-overs and fly-throughs.



The application now called Ovi Maps also offers enriched Point Of Interest information sourced from providers such as Lonely Planet, Michelin and Wcities. It will also feature a weather service that provides 24-hour and 5-day forecasts. With this release, Nokia is also trying to move away from standard size maps that are found on most other mapping services, to vector-graphic maps. They seem to be a combination of real images and overlays.

The application has a web version as well if you want to browse through it on your desktop instead of a mobile device. With the web app, you can search for addresses and POIs, find places and save

them into favourites, and organise them into collections. This way planning trips will be quite easy. Coupled with weather forecasts, there will not be any unforeseen disasters.

With this release, Nokia is also opening up an API called Ovi Maps Player API to independent developers. The API is supposed to be really easy to use and can be used to embed and integrate Ovi Maps on web pages, by using basic JavaScript. It's hoped that social networking web sites

will leverage this API and Nokia's location capabilities to come up with some rich social applications that can then be synched with mobile devices.

spectrum. The equipment, too, is modular and doesn't cost much. New York city with its technology-friendly mind frame provided the perfect setting

for testing of this technology. The company claims to have created a strong network architecture and has resolved issues involved with interference and roaming.

Eco-friendly phone accessories

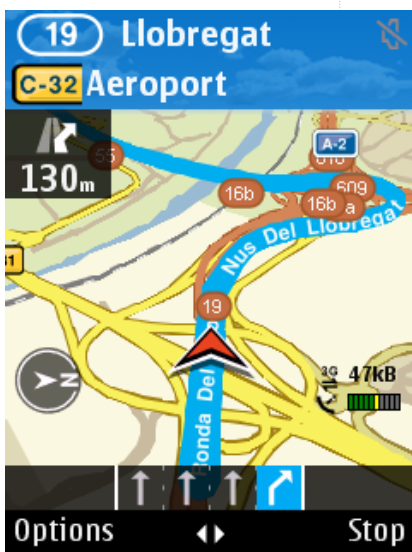
Sprint is really looking at doing its bit to save

the environment. In its latest Green lineup there are products such as the Solio Mono solar-powered charger and two new cell-phone carrying cases. What's eco-friendly about them, you ask? As the name suggests, the Solio charger lets users store power from the sun or electrical socket allowing customers to recharge their mobile phone anywhere, anytime. So not only are you saving the world, but getting a lot of utility value at the same time. The carrying cases, on the other hand, are made from 100 per cent recycled plastic water bottles.

To supplement the approach and accessories, Sprint has also launched a new green themed microsite (www.sprint.com/green). The web site features details on Sprint's sustainability initiatives such as e-billing options and wireless recycling programs. There are tips such as using mobile GPS to calculate the quickest route to save gas, and even a quiz to check your green-quotient. Incidentally, Sprint is the industry leader when it comes to reuse and recycling of wireless devices. In a single year Sprint rescued more than 16 million phones from ending up in landfills. Instead, they were recycled or reused.

Jack in the box

Samsung has recently released its latest smartphone – Jack – a





Panasonic to go open source

Says it is seriously considering building phones for the Android platform

third revamp of the original Blackjack. The Windows Mobile 6.1 smartphone is now available exclusively to AT&T customers in the US and powered by the nation's fastest 3G network. The handset is a sleek combination between a business and smartphone. It has a 3.2 MP camera, Wi-Fi, 256 RAM, GPS and a bevelled qwerty keyboard. It comes with Windows 6.1 that can be upgraded to the upcoming 6.5. The phone, like its predecessors is a message-centric handset and so the specially designed keyboard should help it maintain that status. The screen is slightly small for the standard we're come to expect out of smart phones – it's only 2.4 inches. Still, this series of phones is the largest selling of all Windows mobile phones. The phone features Microsoft Direct Push for enterprise and small business users, while AT&T Xpress Mail offers access to most major personal email accounts. The Jack also features over-the-air synchronisation of contacts, calendars and task lists with Microsoft Exchange Server or Xpress Mail.

In terms of entertainment, it has various music and video options. For music, you have AT&T Mobile Music service – an on-the-go music service that delivers access to a collection of music content, including access to XM Radio Mobile and more. For video, the phone comes with Windows Media Player 10 Mobile and a microSD slot that can take up to 16 GB, so you can carry a lot of stuff with you. Besides, AT&T's Cellular Video service gives viewers access to thousands of video clips on categories such as news, sports, weather and entertainment via streaming video.



Viruses may come crawling to phones soon

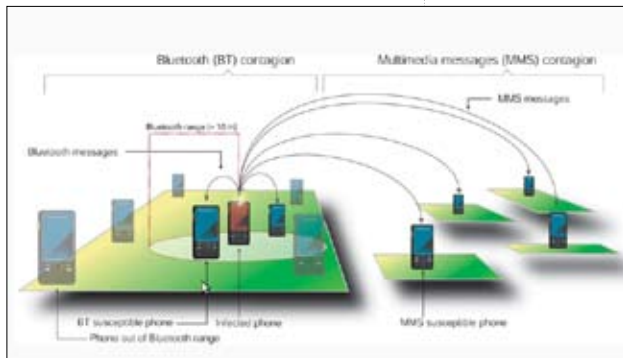
If you're reading this, chances are that you've probably dealt with at least one outbreak of virus infection on your computer at some point. Why is it then that these despised little pieces of code don't attack mobile phones even when they're now ubiquitous? In the US, mobile phone penetration is at about 80 per cent. Back home, the percentage may not be so large, but the sheer absolute number definitely is. The mobile subscriber base in India is close to some 360 million users. About 100 million of these are data-capable phones. Yet, there has not been a major or catastrophic outbreaks in the mobile realm. A recent

science magazine research team set about trying to find out why this is so and what kind of scenarios to expect if and when such an outbreak does take place.

The researchers studied calling and mobility data of six million anonymous users in the US. What they found was that the highly fragmented nature of market of operating systems is what has prevented an outbreak so far. The only type of phone that is susceptible to a virus attack is one that runs

an operating system – a smartphone. Considering that even in these difficult times, the growth of smartphones is 150 per cent annually, the time is not far when we see a full-fledged virus attack. But the study also predicts that viruses will pose a serious threat only once a single mobile operating system's market share grows sufficiently large. Once such a suitable environment is created for viruses, they can spread in two ways – Bluetooth and MMS. This

might remind you of a time around a few years ago when a Bluetooth virus was doing the rounds locally. The virus was actually a worm written for mobile phones running the Symbian operating system. So back then, we had lots of 6600s being infected with this pesky little thing. The worm called Caribe, was rated 'low



Credit: Pu Wang, University of Notre Dame, Physics Marta C. González, Northeastern University, Physics César A. Hidalgo, Harvard Kennedy School of Government Albert-László Barabási, Northeastern University, Harvard Medical School and Dana-Farber Cancer Institute


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iCarbon

An iPhone app designed by an Indian developer - Raghavendra Rathore
- calculates your individual carbon footprint

Dangerous driving

26% of mobile users SMS while driving.
Majority of them are youngsters

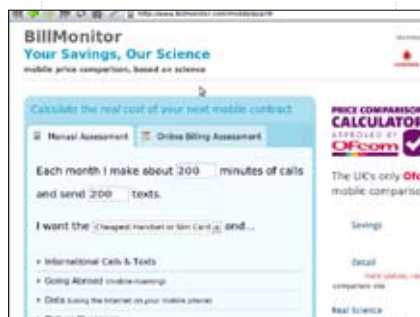
risk' by McAfee since the worm activity only reduced battery life. The next batch of viruses may not be so harmless.

For a virus to be spread through Bluetooth, it needs to be within a 10 to 30 metre radius of another Bluetooth-enabled phone. MMS proliferating viruses are not so restricted in their spread. Like computer viruses, they spread using the address book of the device and a network connection. The bad news is that hybrid viruses are also conceivable and these will pose the most significant threat. An interesting finding of the study showed that while Bluetooth viruses will eventually spread to all phones, their progress will be slow. This is because it depends on human behavioural and mobility patterns. So the spread will be just like an actual medical disease outbreak. This brings a glimmer of hope, since there would be ample time to deploy counter measures like antivirus. Studies such as this one are classified under computational social

science. They not only help in increasing the state of preparedness, but also help us find naturally occurring patterns in human behaviour.

Mobile bill advisor

Lets face it - with the multitude of plans and deals that cell phone companies offer, the confusion caused is limitless. Which plan do you opt for? Which service provider do you choose? Could you save a little on your bills by choosing something else? These questions always frustrate all of us to wits end. Most times you go by what a friend advises or by what you believe is the best plan depending on your usage pattern. But don't you wish there was a scientific way to make an informed decision? Well, it looks like there is



hope. Mathematicians and scientific advisers from Oxford University have helped develop a price comparison web site for mobile phone users. Of course, the web site and tool caters only to the UK mobile market, but something similar or based on it could easily be adapted for India. The web site - BillMonitor - is accredited by the communications regulator, Ofcom. The UK market seems to be highly complex as it offers consumers over three million deals on over 1,19,078 tariffs. But the web site considers only a few of the plans on offer. Consumers supply their bill details and the web site churns out a

recommendation. It makes money off the recommendation, but doesn't charge the consumers anything. In UK too, numerous complaints related to cell phones and other services such as broadband and digital television are received. Ofcom, the regulator, has previously accredited web sites in these sectors too. Maybe the TRAI could take a cue and launch an unbiased web site for us too.

Calling vs. SMS

It seems there is a great divide about what people prefer - calling or messaging. People's attitudes and preferences in this regard vary greatly from country to country and even region to region. Take the case of the US. Nielsen mobile recently announced that in the last quarter of 2008, the

average US cellphone user sent and received 447 texts in comparison to just 195 calls. The situation in other countries is far more skewed. A recent survey found that Filipinos have not made or received a single call in a period of three months. Instead, they preferred to SMS, while 86 per cent of Indians had made or received a call in the same period. The reason behind this could be economic as well as cultural. In this part of the world, an SMS costs as much as a call, (Re. 1 for local and around Rs.1.50 for STD), add to that the fact that as a people, we prefer to talk. Heck we love to talk so why not make a call when it's going to cost the same?! Calling also differs when it comes to gender. You might be right to think that women would much prefer to call than SMS. This same study also analysed non-cell phone calling patterns. It found that attitudes of women differ between countries too. Pakistani women, for instance, hardly ever use public phone booths, while women in India are more confident about public spaces. Stranger still is the mobile culture in Africa. There it is common to have one phone, but many SIM cards. One card is kept for SMSing, one card is good for receiving calls, while another may be used for calling one place and one card is reserved for a particular coverage in a particular area.

The old favourite 6600 is back!

Just the name 6600 brings back memories of days gone by, when the egg-like phone was the hottest new device in town. Ever since its launch, the phone had quickly

gained immense popularity. It was perhaps the first precursor of a smartphone that anyone had seen. So naturally when Nokia recently announced the return of the good old dependable handset in a new avatar 6600i, we were quite excited. It better match up to its older cousin was our first thought. In the looks department, it passes muster. On first look, the phone looks quite stunning - thanks to the brushed steel body it sports. The black version doesn't look that good though. The phone's got nice contours and a slide out keypad. The design has that



simplicity, yet elegant appeal that makes it more stylish than other flashy models. With a 5 MP camera with 8x zoom and dual-LED flash, the phone is designed for imaging and sharing. It is supposed to be the manufacturer's smallest 5 MP slider offering. But the phone might disappoint when it comes to what it is. Or rather what it is not. It's not a smartphone - it's just another Series 40 phone with a good camera.

For it to hold a candle to the old 6600 and the place it has in our heart, it should've had at least something revolutionary. It does feature touch technology, but most likely, it's limited to tasks such as answering or silencing calls. Other than an impressive camera, it's got a microSD slot expandable to 16 GB, 3G support, and a bright 2.2-inch 240x320 TFT 16-million colour display. It can record video at in VGA at 15 fps and QVGA at 30 fps. The phone is supposed to be specially built to make better use of Nokia's Ovi products. You won't have to wait too long to get a feel of it since its slated to be available in the third quarter of 2009 for 200 Euros (around Rs. 13,000). **A**





Happy birthday

AMD completed its 40 years in May



Hacker attacks

AVSIM.com, a 13 yr old community for a flight simulator add-on was attacked by hackers

Feature



Plurk is a place that lets you publish and share your thoughts, emo-ness and loves.

Tongue tied with Twitter

Logging began as a very personal exercise. People, like you and I would make frequent journal entries and put them online for the world to see. Then we started linking to each other's home pages, forming a network. These were the twilight days of blogging. Twitter was similarly birthed and just like blogging, it has blossomed early in its age. The reason why Twitter has become so big today is pretty obvious: People don't have the time or the patience to post long, detailed entries with regularity on their blogs. Or to sustain this kind of content for a long period of time. Visitors to these blogs, similarly, don't have the patience to read what's written. The solution was to shorten the size of the blog and have them updated more frequently — every day or every few hours, an exercise termed micro-blogging.

Social networking sites such as Facebook offer a similar feature through their status field — what are you up to, how do you feel, these ask. One might wonder — why not use these offerings instead of Twitter? Simplicity is a large reason, plus microblogs tend to fill up one's profile pages; micro-blogging is a simpler and a more elegant solution. Of course Facebook offers applications that let you bridge the gap with other micro-blogging services...

In India, Twitter has taken off surprisingly well. People use Twitter on their mobile phones and constantly post updates. There are regular Twitter meets — by the users and for the users, across the breadth of the country. The details of these meets are of course tweeted in real-time by people at the event. Photos are also posted on Twitter and other social networking sites. Twitter is being

Fed up of Twitter Tweeting Tweeple? We take a quick tour of some of the alternatives



Google Chrome 2.0
released



New beta builds of
iPhone OS and iTunes
are out



used for up-to-date news updates on some international channels. Discussions take place in real-time too.

The exercise of micro-blogging is fun and useful but our question is – is Twitter the only one? Of course not. Like any other good idea, there are alternatives; many have offered their own micro-blogging services. Here, we take a look at some of these services; you are sure to find one that will tempt you to leave Twitter behind, even if for a while.

Plurk (www.plurk.com)

Plurk was launched in mid-2008 and is considered by many to be one of Twitter's biggest competitors. Plurk's distinctive, colourful profile page, is easy to identify. Plurk's interface shows a timeline of all the posts that a user makes. Like tweets in Twitter, the posts in Plurk have been called "plurks". The user-interface is more colourful and user-friendly. The user has a lot more features to play around with. The timeline interface means you can use the mouse and slide the timeline around or use the scroll to move on to any period in order to read posts. It's simpler than having to going back a page at a time, like on most other services.

Plurk has a rating system called Karma. The service gives the user more karma points if he or she updates the profile information or posts often on Plurk. The perks are increase in Karma points and also access to more emoticons through the service. Karma points can also be lost if you don't post, or if you spam users. This

that you can post while you aren't on your PC. There's even the integration for Twitter, so your posts on Plurk are posted on Twitter simultaneously.

Everything you do in Plurk is interactive. This is what makes it so great, and also unnecessarily complex. Twitter is great for simple text messages but if you want to add lots of content, have lots of toys to play with, Plurk will definitely interest you.

Ping.fm (www.ping.fm)

So we're looking at alternatives to Twitter. What if you want to use Twitter and all the other blogging services at the same time? Ping.fm might be the one for you. It's a slightly different kind of micro blogging service. It acts as a junction through which

to post updates to other social networking sites using its simple interface. Almost every social networking has a current status field. Ping.fm can connect to all of them and



update them simultaneously.

Registration on Ping.fm is one of the simplest you'll find. Simply enter your e-mail address and a password for the account you are about to setup. The next page shows a huge list of some 50 social networking sites. This list covers Twitter, Plurk and even Facebook. You can choose the ones where you have accounts and enter the authentication information for the same. There are plenty of Ping.fm applications for various platforms which make posting even simpler. One of the other unique features is the chatbots that Ping.fm has on instant messenger services. Users can send instant messages to these bots to update their status on other micro-blogging sites.

It's simple – if you have an account on several micro-blogging sites and you want to post on each one of them, simply get a Ping.fm account and link it to all the services. You won't have to visit any other site again.

Jaiku (www.jaiku.com)

Jaiku is a micro-blogging service owned by Google since 2007. Jaiku is almost as simple and identical to Twitter. If at all, it's a slightly prettier looking interface than Twitter's. The features are also almost



identical. There are channels for users to access and have a discussion. Replies to posts made by others are done in the same page itself rather than posting through your profile page in a forum-styled text area.

Jaiku has badges that can be embedded into personal web pages or sites. Customising the profile page is also available for all users. A background colour can be selected and also the background image. Similar to Ping.fm, updates can be sent to the service through chat bots

INDIAN MICRO-BLOGGING SERVICES

Blogging has caught the attention of Indian entrepreneurs and there are a couple of micro-blogging services aimed at Indians. One of them is Dil Khol Ke Bol (www.dilkhokkebol.com). It is more than just a micro-blogging site – the service offered is a mix of multiple

blogging sites. Dil Khol Ke Bhol has a larger text message limit than other services and also offers the option for users to upload images, videos and audio to the site. The interface might seem bland but it's a good place for people within the country to congregate.

SMSGupShup (www.smsgupshup.com)

is an Indian mobile micro-blogging site. Other than the usual set of features of downloading content and getting updates, users can also send messages directly to the site using a mobile phone. Users can also add members or join groups of users by sending SMS.





Trillian Astra finally goes into beta after 3 years of development



Windows Vista Service Pack 2 is slated to be released in June

Feature

via instant messengers. Messages can be sent and updates received through a mobile phone. Another very similar service is Identi.ca. It's a free and open micro blogging service that runs on backend software called Laconica.

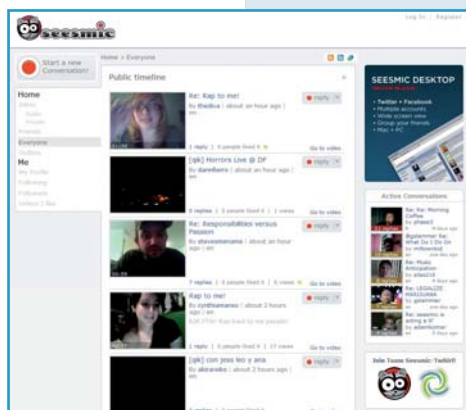
Tumblr (www.tumblr.com)

Tumblr offers an impressive interface as well, but it's not as flashy as Plurk. There



is a main dashboard, which displays all the options to the user — to post a photo, text, chat, audio, video, and so on. Tumblr has taken the components of micro-blogging services and have added on all the functionalities that you would expect from a complete blog service, on to it. Tumblr includes a schedule function which you can use to set a day when the post should be published on your blog. Another impressive feature of Tumblr is the ability to dial a US number and posting an audio blog post using a phone call.

Tumblr is a great service for you if



posting images is what you want to do. For those who want to post plain text messages, Tumblr is an overkill. It even displays a list of popular bloggers under different categories. Tumblr has a huge collection of customised themes. It gives the user a sub-domain as well so others can easily access their profile.

In conclusion

Choosing a micro blogging service is like choosing an instant messenger service — you'll always want to have as many friends as possible on a single network. Twitter seems to be doing well at that.

VIDEO MICRO BLOGGING

(www.seesmic.com)

There are those who think that text blogging is old and voice-chat is the way to go. It is, after all, a more natural way of communicating with others. Seesmic is a service that works like any other micro-blogging service; except on Seesmic, people communicate by posting video clips. Seesmic uses web cams and microphones to record posts. Pre-recorded videos can also be uploaded to the service. A 500 MB limit is set; a video can be either in the MP4 or FLV format. These videos are also downloadable. YouTube videos are also allowed. Replies can be sent in the same manner in the form of videos. They are displayed as

small videos that are viewed by the in-built flash player on each page. Clicking on the enlarge icon opens a larger version of a video. Users can follow others in the same way as they would with a text-based micro-blogging service. Videos can also be sent to other Seesmic users as well. Seesmic is at an alpha stage and the offering is interesting and different. It's definitely worth trying out; even though the presentation might not impress many — it isn't as pretty as some of the other web 2.0 startups around.

Other services have to try harder to attract users to them. With each service trying to setup a bridge between others, it's possible to post on one service and automatically have it replicated on others. Ping.fm lets you do just this. The solution you pick then depends on what you want out of such a service — there are options plenty, you just need to make a choice and get (micro)blogging! **d**

THE END OF A SERVICE

Pownce

(www.pownce.com)

Of all the offerings, one of the first micro-blogging services to fall was Pownce (www.pownce.com). Pownce was started by Kevin Rose, the co-owner and founder of Digg.com. It started in January of 2008 and was shut down in December of 2008, just days after being taken over by Six Apart, the previous owner of the famous blogging site Live Journal. Pownce had a superior set of features as compared to some of the others.

The service could be availed via an invitation-based system. It was so famous that invites

were even sold on online auctioning sites such as eBay. Some of the features that Pownce had were the ability to send messages, files, links and even set events. Files of up to 10 MB could be attached. The pro version of the service allowed even larger files. Groups out of friends could be made and sending messages to these groups was possible.

This was something not seen on most services and still isn't very common. Pownce was talked about because of Digg's huge community. It had support for mobile phones and there were clients based on Adobe's AIR developed for it. The developers said that they would come back with something much better in 2009.

WAKOOPA

As if displaying your current status and presence weren't enough; here's a service that was designed to display what software users were using. The service is Wakoopa and its been around for two years now. It's simple to use. After a registration, a small tracking program has to be downloaded and installed. This tracking application is available for Windows, Linux and Mac OS X. This application sends back statistics on the software being used and how often you use them. This data is displayed on your profile page at Wakoopa.com. Wakoopa allows you to find similar users and in turn find better and newer software that



you might have not come across. Wakoopa makes a chart of the software that you use and also creates tags according to the tasks performed by these programs. You can even click on a particular tag — chat for example, and get a list of programs for chat. There's even small signature images that you can put up on your favourite social networking site that displays your most used programs.



New Release
Firefox 3.5 RC is set to
release in June 2009



Moblin 2.0 Beta
Intel releases a new beta version
of Moblin – it's an OS for netbooks
and MID's



Portable drives let you carry your
data; with portable virtualisation
tools, your OS can go along!

Virtually Portable

Rossi Fernandes

rossi.fernandes@thinkdigit.com

For many, virtualisation might be nothing more than jargon. It automatically relates to something to do with servers and businesses. It is much more than that. It's handy for everybody. It could be a school going student or a businessman, and everyone in between. With compact storage, users were able to carry large amounts of data on drives.

Carrying data is just a part of the entire problem. Being able to carry pre-installed applications would make it

more useful. Some people would even like to carry their operating system with them. Carrying an operating system means carrying all the applications, your data and customisations with you. Portable storage is affordable and devices such as flash drives have shrunk in size. There are flash drives today that are one-third the size of your wristwatch.

Some development groups and companies have tried addressing this issue. PortableApps (www.portableapps.com) is one such free bundle of software specifically for flash drive and

portable hard drive users. The applications in this package can be run straight from the flash drive without having to install them. Similar to the PortableApps pack, U3 is a company that specialises in making applications for portable drives. If you've owned flash drives that has bundled software in it, you would've heard of U3. If you have a U3 drive, there's a free application called U3 PackageFactory that lets you create your own portable applications for it.

One of the software specifically made for carrying applications around is called Mojopac. Different from U3 and PortableApps, Mojopac runs as a layer on top of your existing operating system. Mojopac's basic version is free for download on its site – www.mojopac.com. The commercial version costs around Rs. 2,500 (\$49.99) for a single user license. This version has additional security features to protect your portable OS from the primary OS, some antivirus features and also a built-in PDF printer.

Mojopac is sensitive to service packs. A 32-bit Windows XP on SP2 or SP3 is the most stable operating system to run Mojopac on at the moment. Mojopac can install on a flash drive, a portable drive or even on your iPod.

Installing Mojopac

Everything that you install on Windows will go straight into a separate folder structure, so there is hardly any direct interaction with the Windows registry or folders on your current operating system.

The first step of installing Mojopac is installing it. The installation need not be done on the local drive, but on the portable drive that you'll be carrying around with you. We'll be using this same installation to access Mojopac on every system. This means, there's no need to install a separate client version of Mojopac on every system to access the data on the drive. The second step of the installation requires you to choose the drive you want to install Mojopac.

Running Mojopac

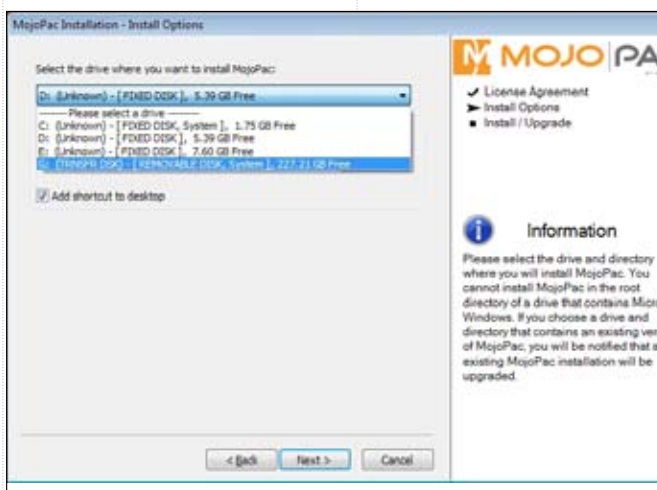
Mojopac sets itself up to autorun when you connect the flash drive or hard drive to the PC. When it runs, you'll be shown a desktop like the one after a clean install of Windows. There are no installed applications in this interface.

You should be able to access the internet, download and install applications the same way you would on a regular desktop. All this data is directly written to your flash drive and not your local one.

The interface of Mojopac is really simple to understand. There is a banner on top which lets you access some of its functions.



PackageFactory for U3



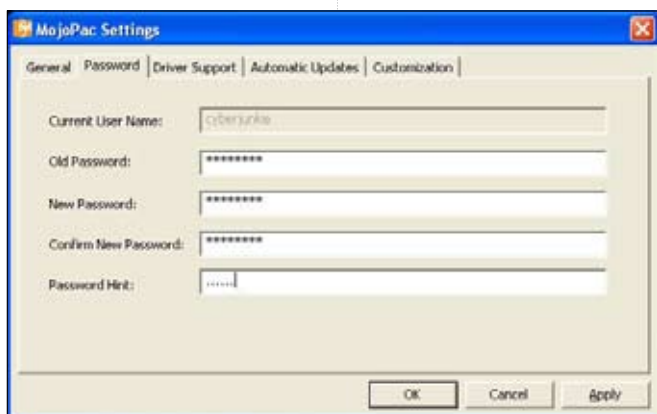
Selecting the install drive for Mojopac



Microsoft plans on releasing dummy updates to Windows 7 RC users to test the updating system



Office 2010 gets leaked on the internet



Setting a username and password for the MojoPac desktop

Click on the Host-Switch button in the toolbar to switch to your host desktop. On the desktop, you'll find the same toolbar with the button to switch back to the MojoPac desktop.

Windows has its own security, but when MojoPac is installed, there is no security blockages in place. This means anyone with your hard drive has access to all your documents and applications.

You can set a password for your MojoPac, which different from your Windows password. Click on the Setting button on the right top of the toolbar. Click on the Password tab and add a user name and password to MojoPac. Click OK.

You can move data from your local drive to the portable drive's folder like you would with any other data. The data will automatically show up in the corresponding folder through MojoPac desktop.

Getting rid of the MojoPac toolbar

To make things a little less annoying, the large toolbar on top of the screen can be removed or its size be reduced. Click on the Settings icon again and click on Customization. Click the Minimal size MojoPac toolbar radio button and the Autohide MojoPac toolbar checkbox. Click OK.

The great thing about MojoPac is that it is lighter than using some of the alternatives. You can actually install and run games off your

MojoPac drive. To use this same operating on another system, simply plug the same drive in and start MojoPac. Use the same username and password to login.

Moving operating systems with Virtualbox

MojoPac only carries all your installed programs and settings. What if you wanted your entire operating system with you? Virtualbox is an application that lets you do that. Once it's setup, it's almost as simple to use as MojoPac.

With Virtualbox, the entire install goes along with you. Virtualbox stores the entire dump of your operating system into a single file. Using Virtualbox, you aren't limited to Windows like MojoPac. You can choose pretty much any operating system of your choice to install on it. You can have any number of operating systems on your portable drive.

Because the operating system is installed on a virtual computer, there isn't any change of hardware so you won't ever have any problems on any other desktop that you happen to access it from.

Using the regular installer of Virtualbox might not work. Fortunately, a portable version of Virtualbox is now available for download from www.vbox.me. Download the 32-bit or

64-bit version and there's even a download which has both the versions in it.

Installing portable Virtualbox

Run the downloaded executable to extract its contents into a folder in your flash drive or portable hard drive. Run the Portable-Virtualbox executable from the folder and you're all ready to go.

Creating a virtual disk

Virtualbox operating systems are stored in virtual disks that are the form of large files. All the operating systems installed



Choosing the kind of virtual disk

go into that file. Technically, you should be able to access these drives on a Virtualbox installation anywhere. In our case, our Virtualbox installation will be carried with the disk images.

To create a virtual disk, click on File > Virtual Media Manager. If you install several operating systems on Virtualbox,

Smart Tip

Set your portable drive for 'Better Performance' using the Windows Device Manager

this view will show all of the disks in your Virtualbox. Click on New, then follow the wizard. On the second step, you'll be prompted to choose the kind of image.

If you choose fixed-size storage, then you'll be fixing

a size that cannot be changed later. This is a good option if you don't want any more space to be used up by your virtual operating system. However, if you have a small drive and don't want to allot that much space in one go, then the option Dynamically expanding storage option should be used. As space in the virtual OS drops, more space will be allotted by Virtualbox.

Creating a virtual disk for the virtual machine

Select the type of image and set the space for that image and complete the disk creation process. Give a name for the disk and leave the location as default. If you move the disk image to a local hard drive, Virtualbox won't be able to load the virtual disk when you run it on a different PC.

Setting up the virtual machine

In this step, we can create the virtual machine that installs into the virtual disk we just created. Click on the New button on the toolbar. Proceed to the next step and enter a name for the virtual machine there. Choose the operating system that closely resembles the one you are about to install.

Some of the really compact operating systems worth installing on flash drives are Damn Small Linux, Puppy Linux, or ReactOS. It's also possible to have XP and Vista running off your hard drive like any other Linux distribution.

In the next step, set a Base Memory Size. This is the memory that will be allotted to the virtual machine. A compact Linux distribution or Windows XP will be able to run just fine with somewhere around 256 MB of RAM. For larger operating systems, set a memory size of 1 GB or more. While setting it, keep the amount of memory available on the PCs you'll be running this virtual machine on, in mind.

The next step is to select the hard drive. In our case,

we've already set the hard drive. It should appear in the dropdown. If you haven't created a virtual disk or if you want to create a different one for this operating system, click on Create new hard disk. Proceed to complete the virtual machine creation process.

At any time, to get focus into the virtual machine window, click on the virtual machine window. To get out of it back to the local desktop, press the right [Ctrl] key.

Installing the operating system

Installing the operating system on the virtual machine is the next step. There are two main ways of installing the operating system. One can be using a disk image. This is fine for Linux distributions that are download as disc images. For operating systems such as Windows, you can also install directly from the disk.

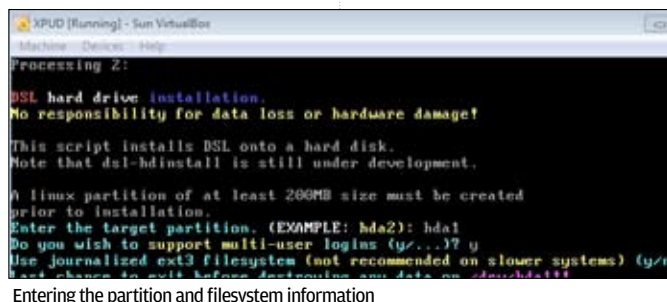
Right-click on your virtual machine and click on Settings. Now click on CD/DVD-ROM from the left pane. Click on Mount CD/DVD drive if you want to install from the CD or DVD. Choose ISO Image file if have a disc image. Click on the icon next to the dropdown to choose the image you want to use.

Here, click on Add. Browse and choose the image. Click OK and return to the main Virtualbox window when you are done.

In our case, we'll be installing Damn Small Linux on a portable hard drive using a disk image from the hard drive.

Powering up and installing the OS

Click the Start button to begin booting the virtual machine.



Entering the partition and filesystem information

Follow the entire process for installing the operating system like you normally would with a regular PC.

We will be installing Damn Small Linux (DSL) on the virtual machine, so we'll type install at the prompt when the disk boots. In the case of Windows, you'll be prompted to press a key to boot into the installation disc.

Installing Damn Small Linux on the virtual machine

When the DSL menu shows up, press 2 choose to install. By default, the location for installing the distribution should be /dev/hda in the case of a Virtualbox install with a single virtual disk set up.

When prompted by the OS to partition the disk or select the installation drive, you'll see the virtual drive we created. Follow the procedure for your OS and format the disk with the file system it requires you to. In our case, we chose ext3.

At the end of the installation, you'll be prompted by most Linux distributions to choose the boot loader to be used - GRUB or LILO. When this ends, the installation of your operating system will be completed.

With Windows, you'll need to reboot a couple of times before the installation is completed. Then, turn off the virtual machine by clicking on Machine > ACPI Shutdown.

Booting up the fresh operating system

When the installation completes, disable the mounted image or CD/DVD by going to the Settings window for the virtual machine. You can also do it by clicking on Devices

Related Resources

Sandboxie
www.sandboxie.com
Virtualbox
www.virtualbox.org
Portable Virtualbox
www.vbox.me
Mojopac
www.mojopac.com
Parallels Desktop
www.parallels.com
VMWare
www.vmware.com
Ceedo
www.ceedo.com

> Unmount CD/DVD-ROM.

Now power up the virtual machine again with the CD/DVD drive disabled. Your operating should boot up immediately. When you have it running, you can start using it and installing applications. Like a real desktop, care must



Running Damn Small Linux from within Windows

be taken to shut down the operating system the right way. Files can be corrupted if care isn't taken.

Our installation of Damn Small Linux boots up without any problems with LILO installed. The distribution requires us to create a root password. Once logged in, type startx at the prompt to start X windows. To go into full screen mode, press [Ctrl] + [Shift] + [F]. Press the same combination of keys to get out of it.

Tweaking the virtual machine and adding components

For slightly better graphics performance, you can increase the video memory for the

virtual machine. This can be set in the General section of the Settings window. Use the slider to increase the video memory. By default, network connectivity is also disabled. To enable it, click the Advanced tab in the same window. Check the network box and click OK. If you click on the Network section of the Settings window, you can have more than one virtual network adapter enabled.


Saving state of a virtual machine

Virtualbox lets you save the state of the operating system. It's similar to the hibernate feature found on Windows. The status of all the programs running are saved. The next time you restore the system, programs continue running from where they left off. This is useful when you're in a hurry and need to turn off the system or when you have lots happening on your desktop and you want to be able to restore from where you left off at a later time.

To save the state, simply click on Machine > Close. Click on Save the machine state. The next time you start this virtual machine, you'll be instantaneously at the position you left it at. It's also a quick way to boot your virtual machine.

When you have everything running as you want it to, you can take this portable drive with Virtualbox in it to a different system and run the Virtualbox application. You'll never

ever have to go around complaining about customizing somebody else's desktop to be comfortable.

These techniques allow you to be completely independent. It's also a good way to backup all your necessary documents along with the software you use on a regular basis. This way, you can access all of it anytime you have a system crash. 



Rock your Phone

RYP, the alternative to iPhone's App Store is doing extremely well with applications such as IntelliScreen. The application creates a much better home screen for the iPhone, and many of the applications on RYP, are restricted on the App store

Mobile Woes

Handset sales are expected to decline 20 per cent in the current year and of the handsets that are sold about 33 per cent of them will be replacements

Feature

Ashwini Baiskar



Always on

The culture of connectivity

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Back in the days when the world was new to WAP, we all had simple phones with which we could connect to web sites and download Java games. Some of the more savvy ones would go to MSN every now and then to check email or install Java applications such as *Talkonaut* that would allow users simultaneously to sign into the MSN, Yahoo and Google chat networks. That was all there was to mobile internet usage. We've significantly evolved ever since. Now you have high-end phones

with full internet capability. Carriers have introduced GPRS services where you can have a complete browsing experience through mobile browsers such as Opera Mini. This has made the mobile phone the new face of the internet.

With your mobile, you can now always stay connected to the vast stream of information that is constantly flowing across the world wide web. Mobile devices are no longer used only to call people, but are an interface that lets you connect better with all your social groups. You can send pictures to friends as you click them, find out where they are through services such as Google Latitude, post location-

specific tagged content and engage in loads of other activities.

The first wave of the "always on" mentality was propelled by Google and Wikipedia. As any information-hungry user would tell you, the thirst for that prickly bit of information which is nagging your brain cannot be put aside until you have a PC. It has to be fulfilled then and there. So, people started using their mobile phones to access Google in an effort to look for everything from varieties of coffee to phone numbers of businesses and services such as cinema halls.

India has approximately 350 million mobile phone subscribers. Of these, about

New from Apple

BusinessWeek suggests that two new versions of the iPhone may soon be released



New by NTT DOCOMO

18 models include various 3G phones including the Evangelion Phone based on an upcoming anime film

100 million handsets are data compatible. However, actual data users are still only about 10 per cent of that number. Although internet usage via mobiles has proliferated substantially since the days of WAP, it's still doubtful whether many would take to it willingly. Primarily, the reason is cost, since mobile browsing is expensive. The basic GPRS service that most carriers provide is really useless since it only allows access to WAP sites. The advanced GPRS service, for which plans start at Rs. 199, lets you access sites on the world wide web as you would on a desktop browser. Subscribing to advanced GPRS lets your installed applications use packet data. However, lower plans have a data limit. For example, the Rs. 199 plan from one operator has no free transfers clubbed and data is charged at 5 paise per 10 kb. Another plan for Rs. 499 allows up to 1 GB of free data transfer. Thereafter, every 10 kb is charged at 5 paise, which works out to about Rs. 5 per Mb. If your data usage is high, only an unlimited plan would make life comfortable for you. Some carriers provide a corporate plan where you get unlimited usage for approximately Rs. 299. If you manage to get your phone under such a scheme then you're set. High-end users will frequently exceed around 1.5 GB of data usage from their phones; so if you're such a user, it's best to look for an unlimited data usage plan. Actually, always look for a genuinely unlimited plan.

Earlier mobile internet enthusiasts would download widgets or applications for accessing specific services online. So you would have an application for Gmail, one for Yahoo, Wikipedia, and so on. The trouble with going this way was that you constantly needed to switch between applications to use the services. We now

It is always best to look for a genuinely unlimited data plan for your mobile phone... Some carriers provide a corporate plan where you get unlimited usage for approximately Rs. 299. Get a phone under such a scheme and you're set

have browsers (both native as well as third party) that give you a full internet experience, and so people are moving away from using widgets and dedicated apps to using browsers just like from their PCs. Most people prefer a third party

browser such as Opera Mini or SkyFire. These display almost all web pages exactly as they would be rendered on a desktop PC only scaled down for a smaller screen. Another similar browser is TeaShark. Its interface is a little jumpy, but many people like it.

There is also the newly released Bolt browser from Bitstream, which is still in beta, but promises a great

browsing experience.

Checking for movie listings is much simpler over the internet using a mobile device than going through the IVR menu of cinema halls. The IVR is painfully slow and often you don't even reach the listing you want. Besides, who wants to bear call charges to listen to a monotonous voice for 15 minutes? Through the web, it's much simpler. You can go to the web site for each of the cinema hall chains such as Adlabs, PVR or Big Cinema and get listings consolidated into one place. Alternatively, you can even install an application



Bookmyshow: booking movie tickets has never been simpler



Connect with Fring

on your phone called b-mobile, from m.bookmyshow.com. This application allows you to select your movie, date, time, quantity of tickets, etc. and even make payments.

Social Connect

When it comes to connecting to chat and social networks, there is an undisputed leader in this space – an application called Fring. It lets you interact with friends on all your favourite chat and social networks such as Skype, MSN Messenger, Google Talk, ICQ, SIP, Twitter, Yahoo and AIM. Using Twitter through this application is also catching on pretty fast. Through Fring you can even listen to music with your Last.fm friends, check out the latest scene on Facebook, and receive Gmail. Through VOIP, which some carriers support, you can even make calls to people. The lag or delays faced are perfectly acceptable, ranging from half a second to a few seconds. So if your friend is logged into MSN, you can talk to him or her through Fring. This way you can even save on airtime costs. Java users can download minifring which is a lite version for J2ME users (m.fring.com). This version does not support VOIP.

Blog connect

Mobile blogging is also catching on with many users today. If you're a regular blogger and want your Wordpress web site to look compatible with a mobile phone browser, you can download a plugin for it. As for blogging from your mobile phone to Wordpress, there have been Symbian apps for a long time. Wordmobi, a Wordpress app for your Symbian S60 device is a good option and so is Scribe; both need Python installed. Blogger, too, has recently joined the bandwagon by enabling a much simpler way to blog from your mobile device. In your blogger dashboard, you will notice two new icons for setting up this service. Click on the envelop icon to set up a custom email address that will automatically be converted to blog posts. This address is something like username.uniquetext@blogger.com. Any email you send to this address from your mobile will instantaneously be posted on your blog. The subject line becomes the post heading, or teaser, and the body text follows. You can even post via MMS. For this, you will need to send a verification code as an MMS to go@blogger.com. There is still no word of a Symbian or Java app for blogger. Sony Ericsson has a native app for blogger, while for iPhone users there is a \$3 app called BlogPress that helps you post to various blogging services such as WordPress, TypePad, LiveJournal and of course Blogger. Speaking of blogging,

900 per cent

That's how much global Android smartphone shipments will grow in 2009, says new research by Strategy Analytics

Feature

users have taken to uploading photos from their cell phones directly; a variant of image blogging.

The text boxes on Facebook are a problem, but there's always a work around such as installing a dedicated Facebook app from Mobile Facebook. Mobile internet enthusiasts will also go to random web sites such as icanhascheezburger.com.

DO this

Set up your own file server

Using a simple 600 kb free open source application called HFS (Http File Server), you can have access to your files and folders from your mobile phone. Download HFS from <http://www.rejetto.com/hfs> and run it. Click Menu > Add



folder from disk. Choose which folders you would want to access remotely. You can also add entire drives. Right-click on the drive and set a username and password. Now if you enter your IP address from your mobile's browser, you will have access to your entire hard drive displayed in tree structure format.

[com, failblog.org](http://com.failblog.org) or the Photoshop Disaster blog, and basically find various means to stay entertained. This includes getting on to YouTube.com and streaming videos. YouTube video is best viewed if you are stationary because switching between transmission towers reduces the effective transmission speeds. But YouTube has recently implemented a Flash-based interface for mobile phones, by which you can pause your video so that it buffers and you get to watch it uninterrupted. Earlier, when streaming with Real Player, the videos would frequently stop. YouTube is very popular with the *always on* crowd because every now and then when you're with friends,

and there is some interesting clip that you want to show, it makes for good conversation starter.

Another advantage of Advanced GPRS is that you can connect your laptop to the phone and use the phone as a modem. This way you can use the phone's internet via your laptop even for playing online games. For games such as *Red Alert 3* you can join the game lobby and have an online match anytime. Some of the carriers indeed provide connections that are fast enough for online games. Of course in every city you'll have dead spots where you get little or no GPRS connectivity.

Give me more

Many people buy phones with large storage capacity in the hope of carrying along all of their music; but let's face it, there will always something that you'll find left behind and miss. Perhaps you just got your hands on that latest album and forgot to transfer it to your phone or maybe it's that classic you removed from your flash card to make way for that new single, but are now craving for. Is there a way to have your entire music collection follow you around? With phones enabled with internet connectivity it's easily possible. Mihir Pathare, a self-confessed information junkie and *always on* addict uses something known as *Winamp Remote* to stream his music to his phone remotely. "I've set up my own web server at home, since my PC is always switched on and online. So what Winamp Remote does is it takes my entire media library and streams it to me", he says. Once the user logs into Winamp Remote it will broadcast the song to the users' phone at the maximum bitrate the connection supports at that point of time.

So if you're in a Wi-Fi hot spot with a compatible phone, your music will stream at 128 kbps or even 320 kbps, while if you are connected via the GPRS packet service, you can set the bit rate limit at say 60 kbps depending on the strength and bandwidth of the connection. While travelling, when your connection changes cell sites frequently it is recommended to keep the bit rate low such that there's the least chance of interruption. 40 kbps is the least bitrate that you can set. Another alternative is

to listen to internet radio. On Nokia N-series phones, for example, internet radio comes inbuilt. There are also Java and Symbian applications such as *VRadio* which has 200

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Wi-Fi in the sky

Some US based domestic airlines are offering the service at 30,000 feet

daily stations from around the world. Virgin radio (now called *Absolute Radio*) is also an excellent option. For gamers, there is always N-Gage gaming or the option of downloading Java games from the thousands of web sites available. iPhone users have their own set of games that can be downloaded. Check out our Fast Track on Mobile Apps bundled with this issue for more.

Hosting a server at home has other advantages as well. Using your cell phone, you can log into the web interface for Utorrent and start a download; by the time you reach home, you have data ready for your consumption. This server can also serve up files from your hard drive, so in effect, you're carrying your entire hard drive wherever you go. Once you have the file with you on the phone's memory, you are free to do whatever you want with it. Check out the *Do This* box for more info.

For viewing office documents, there are many free apps that you can download for Symbian. Many of these come pre-installed for S60 and Windows Mobile. As for editing office documents there is Open Office for Sony Ericsson Symbian UIQ.


For viewing PDFs, there is Adobe Reader that is bundled with most Nokia N-series phones. Foxit Reader is supported on Symbian UIQ again and available free on Windows Mobile.

Geographical connect

GPS is also getting increasingly popular in India. The geographic location service offered by GPS and A-GPS providers are so sophisticated that if you if you have a compatible phone, it even shows which side of the road you are on, besides giving you turn by turn directions for most points of interest (POI) such as restaurants, ATMs, malls and various other businesses. Most N-series Nokia phones come with a built-in GPS unit and mapping software, but the mapping software expires after a certain trial period. Even after it expires, the maps are available but turn-by-turn directions support switches off. If you have a Windows Mobile phone which doesn't have in-built GPS, you can get a unit separately that will pair with the phone via Bluetooth. Then all you need is to find

a solution for mapping software.

In the case of Nokia phones, you need to purchase mapping support from Nokia after the trial version expires. But there are other applications and providers in the market with both paid and free solutions. A trial software for Symbian is available from SatGuide that works on most N- and E-series Nokia phones. The trial version with limited usage comes with maps and POIs for 26 cities. A full version can be purchased for Rs. 2,000 (one time), it offers more detail and maps of over 200 cities across India. Another alternative is to use Google Maps. Download the Google Maps application from m.google.com/maps and you will get driving and transit directions, which are not very good, but acceptable. The application is built for almost all mobile OS platforms. The application will also give you access to phone numbers and addresses for local businesses. Google Maps triangulates your location based on your nearest cell site signal or even via GPS if your phone has it. Users say it's faster than using pure GPS.

So there you have it. A multitude of ways to connect, share and do more with your phone. So go ahead, join the culture of connectivity and remain always on! 



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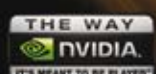
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Stranded friend

If you received an e-mail from someone stranded abroad and asking for money, ignore it, as it most certainly is a scam

Job hunting?

Never pay up any sum of money to your potential employers, it is not standard practice



E-gold

The international currency used by hackers and scammers to trade information, as it is independent of inflation

Feature

Cybercafe Security

You never know what kind of malicious program or person is lurking in the next public computer you are going to use

Aditya Madanapalle

aditya.madanapalle@thinkdigit.com

Cybercafes are not the safest place to surf. A number of users are bound to fill up the system with a whole bunch of viruses, worms and trojans, all of which can find their way into your portable devices. Some malicious programs can be used to relay personal information over the web. There may be keyloggers waiting to get into your accounts. Voyeuristic tendencies are not the only thing driving people to get access to your accounts, your e-mail account is one step away from your bank details and possible credit card numbers. Downloaded data, or data used for attachments can be abused by other people who come across it. A simple example: say user A downloads and prints a class project, and leaves the file there, user B comes along, and prints out the same project. There are a number of methods for gaining information, and using it maliciously. The techniques are many and varied, often changing from case to case. There are however, a few simple measures that users can take to ensure that they are not compromised while surfing at a cybercafé.

To start with, choose a cybercafé which is frequented by a lot of people. This ensures that there is a blizzard of data running through the computers, making your particular information less susceptible. Also choose a cybercafé which has enclosed cubicles. Make sure that your screen is not visible to passers-by, and your keyboard is

shielded from anyone looking over your shoulder. This gives you privacy. Also ensure that the cybercafé allows you to use USB drives. It is OK if USB drive has to be connected to a computer that the administrator of the café uses, which is a common constraint. This allows you to bring along your own set of tools to keep yourself safe.

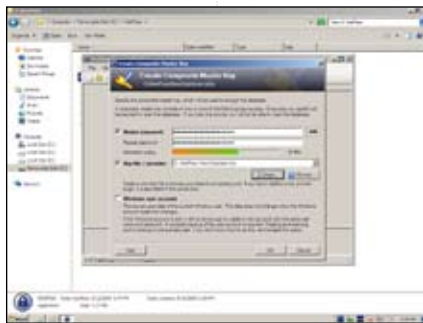
The first step is to prepare a USB drive. Set up a few useful portable software in one of these, and you are ready to tackle most of the security issues that people

face at cybercafés. A portable version of Mozilla Firefox is the most stable portable browser around. There are portable builds of Opera too, if you prefer. Portable Firefox allows you to take your bookmarks and passwords with you, while not writing any information on the host computer.

This allows you to

bypass keyloggers as well. KeyPass is an Open Source application that stores all your passwords and allows you to login automatically. There is a portable version of KeyPass as well, which can be used in addition to portable Firefox.

Process Explorer is a small utility for monitoring system processes. It works off an exe file, without any installation. Process Explorer is a useful little tool to monitor, halt or pause any undesirable background activities on the host computer. It is also a good idea to carry a copy of Free Commander. Free Commander is a file explorer, that allows you to perform complex tasks and navigate the computer better. There is more on why this explorer is necessary later. Eraser is a great tool for



Specifying a strong master password

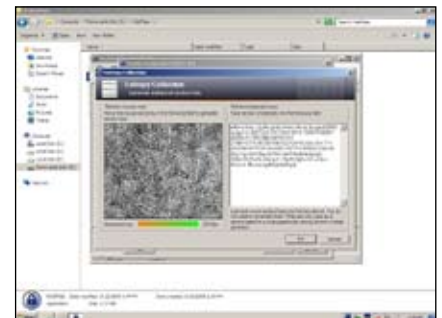
deleting data securely. All these programs run directly from the USB drive, and don't need administrator privileges. This set of applications can be used to avoid pitfalls, each of which are addressed individually.

Bypassing keyloggers

A keylogger can be any kind of mechanism to take a note of every key pressed by the user. There are a variety of keyloggers available, some of them are even open source! Keyloggers can be software-based, hardware-based, or both. A program that logs keystrokes is the most common kind of keylogger. Software based keyloggers can be remotely activated on a computer by a Trojan. This is usually accompanied by a time stamp. The keylogger does not itself know what is sensitive information and what is not. A typical log will look something like:

```
9:04 http://www.google.comuser@gmail.compass
9:05 word1hello,Iwasintownandwonderingif
```

Anyone going through the logsheet, can however sieve out the useful information. In this case, the username follows the url, and the password follows the username. Hardware based keyloggers, use a small chip in the keyboard, which is impossible to bypass. More sophisticated keyloggers can take periodic screenshots of the screen, track the mouse movements, log the keys and send all this information in real-time to a remote server. Some programs allow remote viewing of all activity on the host computer in real time. If you leave your computer unattended, they can even remotely control the mouse, and navigate to unsafe areas of say, your inbox. However, it is highly unlikely that anyone would go through the trouble to track the web activities of everyone in a cybercafé, because of the bandwidth involved. Sorting through all the data for anything useful is also a problem, but those with malicious intents have known to take the trouble. You should however, be mindful of specific and targeted attacks, where the probability of gaining sensitive information is higher. A cybercafé



Creating a random keyfile

A recently busted phishing scam in India involved a fake UTI website

IRC and forums

Two common places where cyber criminals group and share information. E-mail lists and working credit card numbers are traded most often

Botnets

A group of remotely controlled computers that can together be used for a number of malicious purposes

Not about being cool

The biggest draw for hackers today is not a show of coding prowess, but a simple urge to earn money

located in a business hub for example, is a very good target for such attacks.

Credit card details cannot be changed after a stint at a Cybercafe, and is something that should never be keyed in on a public computer. If it is absolutely essential, a simple precaution is to use an on screen keyboard. Go to the Start > Accessories > Accessibility > On-Screen Keyboard on any Windows system. A virtual keyboard will show up on the screen, and you can use the mouse to key in any sensitive information. Many banks offer virtual keyboards as part of their websites, use these for security when available.

A virtual keyboard is just an accessibility tool, and the default virtual keyboard can bypass only hardware keyloggers. If you frequent cybercafés, and are an advanced user of on-screen keyboards, there is a software called on-screen keyboard portable that can be used across machines. You can customize the keyboard, and take the settings with you. Users, can for example, set hover preferences that keys in the text without resorting to mouse clicks.

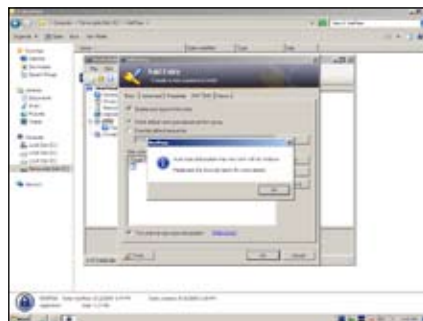
Keypass password safe

Not all software keyloggers can be bypassed with the use of virtual keyboards, as the keyloggers log the keypresses from the virtual keyboards as well. Some keyloggers are even configured to log only details from on-screen keyboards, which makes the work for the malicious person much easier, as the un-sensitive keypresses from the keyboard are not logged at all. The safest way to bypass this, is to use a process called obfuscation. Obfuscation basically allows keyloggers to log a certain combination of keys, while keying in a different combination. There are some programs that are targeted at different obfuscation algorithms, and bypass them, but this still remains the most secure approach to keying in sensitive details. The user does not have to enter the keys manually, or use a virtual keyboard in this process. The password, login details, and other sensitive information is stored in a secure computer, then the program is run on a public machine. At this point, the program automatically enters the details, while obfuscating the characters used.

The best software for this is an open source program called *KeyPass*. Open source software can be trusted in matters of security at least, since a lot of people stand to lose their data, the code is open for everyone to examine. That does not mean that the software is easy to bypass, quite

the opposite, the open scrutiny gives more credence to the software.

KeyPass is a password "safe", that stores all your passwords and sensitive information in one encrypted database file. This database file cannot be easily accessed, and can be taken around with you on a USB drive. You need



Obfuscating the text while auto-keying

just one password to access the database. To keep matters simple, people tend to use the same password across all the websites they access. If one account is compromised, all of them are. The best way to keep all your accounts secure is to keep different passwords for them, and change the passwords regularly.

People who do this have a code or a system, where that they use to choose and cycle the passwords for different sites. Despite that, it is a good idea to use a password safe to store all your passwords. This way, you have to remember just one strong password, and you don't have to key in your passwords on any site.

KeyPass works by using a sensitive information database. There are some steps that KeyPass takes to protect this database from intrusion. When you first run the software, you will be asked to create a master key and a keyfile. The keyfile is a file with random data, that is many times more secure than a password. A password more than 16 characters long for example, becomes very difficult to remember. Therefore, crackers or brute force methods, that exhaust all the possible combinations can get into the information with relative ease. In practice, this takes a long time, but is not impossible. A keyfile makes intrusion much more difficult, and beyond the purview of current brute-force intrusion methods. First you will have to create a master password for the database. The longer the password, the stronger it is. The more numbers and special characters you use, the better the password. KeyPass

gives you an indication of how strong your password is. Anything over 50 bits in the "estimated quality" field is good to go.

You can choose to opt out of creating the keyfile. However, if you are storing a lot of sensitive data in the database, it is a good idea to create a keyfile. Click on Create to make a keyfile. There are two approaches to make a keyfile. Both these approaches ensure that the keyfile is truly random, and not pseudo-random. On the left is a field of noise, which the user has to run over with a mouse. Alternatively, a user can choose to key in random data from the keyboard. The more secure approach is to run the mouse randomly over the noise field, as even a random set of keys from a human user concentrates on a few keys, and is not that random.

You can stop once 256 characters are reached, which is many times more secure than a 12 character password. Now the database should have a few default fields. Fill this in and add details as necessary. For all the frequently used entries, you need to enable auto-type. Auto-type automatically fills in the username and passwords in a number of sites. Auto-type works for most kinds of windows, but not all. Any field in a standard web page is accessible, and all the browsers are supported. There are a few places where auto-type does not work, such as a command line interface. Unless you are using a text-based browser, this should not be a problem.

When you edit the preferences for an entry, go to the Auto-type tab, and check Enable auto-type for this entry. Also check two-channel auto-type obfuscation. This is the feature that makes the text invisible to any kind of program that discovers cloaked text, or software keyloggers. You will be warned that auto-type obfuscation will not work everywhere, but ignore this warning as it is applicable to only the command-line type scenarios.

Carry your browser with you

Portable Firefox, and Opera@USB are both browsers that you can take with you to cybercafés. A simple way to bypass the process of entering e-mail information is to select the "remember me" option on a secure computer. The browser does not save any data on the host system, and all the necessary files are stored on the portable memory. Since the programs are already installed, you don't need administrative privileges to run the software. Additionally, this will save you a lot of time, as your favorites and bookmarks are carried with you in the browser. To use either of these browsers, just use the installer and install the browser in the relevant USB drive.

SMART TIP

It is a good idea to change all the passwords you used on a public computer, once you access your account or profile from a secure computer

The add-ons are vulnerable

Any kind of third-party applications, such as flash, quick time, java are targets for finding exploits

Social engineering

Targeted attacks focus more on fooling the user than exploiting a weakness in the computer itself

Conficker havoc

Although the conficker worm is more or less neutralized, it spread most in the Asian subcontinent, speaking volumes of our security

Feature

Securely deleting data

Ideally, you should be using public computers like a ghost. No trace of your activities on the computer should be left behind. If you have downloaded any kind of data, or have created data in the cybercafé, it is a good idea to delete the data before you leave. Even if you use [Shift] + [Delete] to get rid of the data, or empty the Recycle Bin, the data is still there on the hard drives, but not indexed in the filesystem. This means that fairly simple and commonly available file recovery software can be used to recover the deleted data. There are a number of free and portable programs to securely delete data from the hard drive. These programs manage to do this by overwriting the empty space, or the areas of the hard disk occupied by the file. We will be using two programs for securely deleting data – Free Commander and Eraser. Free Commander is faster, less secure, but should do for most day to day purposes. Eraser is a highly-specialized application, and can offer as much security as time permits.

Free Commander is a free file browser that makes exploring the file system easier. Folders show up with sizes, and there is a dual-pane interface that makes moving data around a breeze. To securely delete data, select the files or folders, then go to File > Wipe.

Free Commander offers upto ten overwrite runs. Each “run” involves rewriting the area where the data was stored with random data. The more the runs, the more irrecoverable the data becomes. However, if you have deleted data, without wiping it, then it can be recoverable by a file recovery software. Free Commander has no function to erase the empty hard disk space, and rewrite the empty information. This is where Eraser steps in.

Eraser is a deceptively simple looking program. Go to File and add tasks to add the parts of the hard disk that has to be erased. The user can add empty hard disk space, specific folders, or individual files. Each operation is called a task, and any number of tasks can be added to a list known as the task list. Eraser goes through the task list, erasing the identified data one at a time. At each instance of an erasing operation, there are a whole range of secure deletion

options available to the user. There are a few default patterns in which the erasing occurs, but this can be entirely tweaked by the user. The most secure default pattern offered by the program is the Gattmann method, which involves thirty five passes. This is more than anyone really requires. Click on new to create your own pattern. You can specify an unlimited number of passes, and define what kind of data is used to overwrite the file or empty space in

each of these passes. A pattern overwrite uses a specified pattern, and the pseudorandom data overwrites with random characters. We specified an operation which implements 101 passes.

Note here, that the more passes you specify, the more is the time taken. Overwriting files and folders is a relatively fast operation, compared to rewriting all the empty space in a hard disk. Even a 10 passes operation will take a long time when it comes to clearing hard disks

with a lot of empty space. Also note that two or more identical passes, following the same pattern (say all zeroes) is the same as one pass with that pattern. Either alternate the pattern, or sandwich patterns between two pseudorandom data passes.

Protect your USB drive from viruses

The first thing to do when you plug in your USB drive into a public computer is to identify and disable malicious processes running on the host computer. A great utility for doing thing is Process Explorer.



Stop Trojan Infections

A simple way to disable any virus, worm or trojan from entering your USB drive, is to create a folder by the name of “autorun.inf”. Once this is done, right click on the folder, navigate to properties, hide the folder as well as write protect it. This works as well with a text file of the same name. This ensures that even if a virus, trojan or worm does get into the USB drive, it does not being to operate as soon as the drive is connected to any computer.



Clamwin identifying Trojans in the USB drive

Process Explorer is a free alternative to Windows Task Manager. Process Explorer can halt or disable undesirable processes. The most useful little feature in Process Explorer is, if there is a process that restarts when you stop it, you can suspend in and leave it hanging while you continue with your work.

Some experience with the process manager is required before you can identify the harmful or irregular processes right away. The website ProcessLibrary.com lists all the harmful processes, and has a listing of the most common threats. If there is a process you are suspicious about, this is the place to identify it. ProcessLibrary also has lists of legitimate processes, so you know at any point of time everything that is going on in your computer.

If you want to use more active measures, Clamwin is a free anti virus software that is also portable. As with all anti virus software, the anti virus definitions have to be updated regularly. This can be done when you run the anti-virus from the cybercafé itself. The first time you update the definitions, the process is going to be quite lengthy, as the installer of the anti-virus does not come with definitions. The updates are much faster after the first run.

Scanning for viruses, worms and Trojans takes some time. Not only can you prevent viruses from infecting your USB drive, you can also scan and fix the host computer from an installation in your drive.

These software should help you stay secure in most situations, and all of them are in the accompanying DVD. However, attackers are likely to target the humans as much as the computers. Don't give away banking details to anonymous people, no matter who left you property in their wills, or which lottery you won. Don't follow links to banking sites through e-mails, as they may be dummy sites that are made to look like the official sites. Use the URL of the official sites that you trust, and have used before.



3G with netbooks

As netbooks get smaller, the inevitable has happened. 3G broadband services may start to bundle connections with netbooks, in a similar fashion to the current bundling strategy with phones, according to Pyramid research



Ionic cooling

Tessera is working on a revolutionary new way of cooling laptops with ionic wind

Laptop accessories...

...for travelling



Surge protector

Travellers often have to use dubious electrical connections. A sudden change in voltage can fry the components of a laptop, or damage the data. To protect your laptop and your data, it is a good idea to pick up a surge protector. Instead of purchasing a cheap one for around Rs. 350, pick up the more reliable ones that start from Rs. 750. If you are travelling overseas, it's a good idea to choose a surge protector that is designed to work for different source voltages. Surge protectors also come with connectors for telephones and ethernet cables. Some surge protectors have just one port, and are ultra-portable. Since you are bound to have a few gadgets with you, it's better to choose variants which have anywhere between four and eight outputs.

Security cable

A security cable is a length of steel chord, along with a lock that prevents your laptop from theft. There is a security slot available in most laptops, which is used by the security cable. Some cables use a standard lock and key, while others have a combination lock. Choose one with cabling that is as long as possible, which gives you greater versatility when it comes to locking your laptop down.



Universal adapter

A common frustration that travellers face is to go hunting in the local markets for plugs that will allow them to connect their devices to the power sockets at their local hotels. A universal adapter is a plug that can dock into any socket. These can be made up of a number of plugs, or one plug with pins that slide out. The multiple-plug design is not recommended as the individual components are bound to get lost. The design with the slide out pins is preferable. These have sockets where any kind of plug can be connected; and up to four sliding sets of pins in the front, depending on the type of power outlet you have.



Cooling pad

Those who use their laptops for long periods of time are bound to experience what is known as "lap burn". This is when the laptop heats up to uncomfortable levels. The best way to cool the laptop is to use a cooling pad. There are a wide variety of cooling pads available in the market. The cheaper ones are just sheets of aluminum, acting as a heat sink. The costlier variations however, have fans built into them, which actively cool the laptop. It is preferable to pick up one made of aluminum rather than one made of fabric or plastic, as aluminum is more effective as a heat sink.



Multiple headphone jack

If you are using your laptop to play a movie or for listening to music while traveling, the chances are that ambient noise is going to drown out the music. Consequently, you are likely to play at as high a volume as possible, which is going to drain the laptop rapidly. The best way to combat this is to use a multiple headphone jack. Ones with two or three are pretty common. Shown here is the Belkin Rockstar, which allows up to five headphones to connect to it. Of course, it's a good idea to carry along some headphones as well.





C64 laptop

No, it's not available for sale, Ben Heck, this is an enthusiast mod rig using original components



Old news

Prevent laptop theft by using sleeves that look like old newspapers, from Mitemite



The peewee

Spoil kids silly with the touchscreen laptop for kids, that works like a 21st century slatex

Feature

...for home use

DVD writer

Many notebooks and netbooks come without a built-in DVD writer. Writing a DVD is a necessary task for most people, even when they are on the go. A portable DVD writer is a great option, as these can be used with any kind of computer with a USB drive. There are many small and sleek models available. If possible, pick up a version that plays Blu-ray disks, if not write them. If you burn a lot of DVDs to share with people, or give to clients, it's a good idea to get a LightScribe drive. Such a drive can imprint a black and white pattern on the face of a compatible DVD. The LightScribe variants are only slightly costlier than the regular drives.



USB speakers

The built-in speakers in most laptops are not adequate for listening to music or playing movies. When it comes to movies particularly, the built-in speakers considerably dampen the experience. Most people connect speakers to the laptop, but these require an additional power supply, and the cabling can be a hassle to manage. USB speakers draw power from the USB port of the computer, and considerably improve the experience of multimedia on laptops. There are a wide variety of USB speakers available, offering variety in design, size, to sound output.

Wireless mouse

The trackpad is not the best way to navigate through the virtual world. A cabled mouse is good, but a wireless mouse is even better. There are a range of models available in the market, pick up one that is light and fits comfortably in your hand. The lack of wires eliminate clutter, and you don't have to keep going to the back of your laptop to connect or disconnect the mouse. However, most wireless mice use batteries which have to be changed every now and then.



Portable hard drive

Laptops come with very limited storage capacity. Most people use laptops that have less than 80 GB of storage space. An external hard drive is the solution for this. Although portable hard drives with power supplies are far cheaper than portable hard drives without power supplies, it is a good idea to go for the ones without power supply. These come in handy in the long run, and ensure that the hard drive is as portable as the laptop.



USB hub

Just like RAM, you can never have enough USB ports. A USB hub partially takes care of this problem. USB hubs are anywhere between two to eight ports attached to one cable. Make sure that the model you pick up are at least USB 2.0, as there are a lot of old hubs in the market. There are also USB "squids" available, which are USB ports with long cables attached to them, this allows for greater mobility.

staggering 70, 000 batteries due to overheating concerns • 20% of all

**Alienware**

The high-end, Alienware brand is launching the Allpowerful range this June

**iPhone V3**

The latest firmware updates for the iPhone has 100 new features

**Ultralim backpack**

Thinkgeek is selling these ultralim laptop backpacks

...for the Businessman/Executive

**Anti-glare screen**

Using laptops in public areas, and while travelling can be problematic. The shifting lights can make you constantly change position. You also have to be mindful of snoopers looking over your shoulder or glancing in the direction of your screen. An anti-glare screen takes care of both these problems. It reduces the glare, and makes the LCD opaque if viewed from an obtuse angle.

**Portable printer**

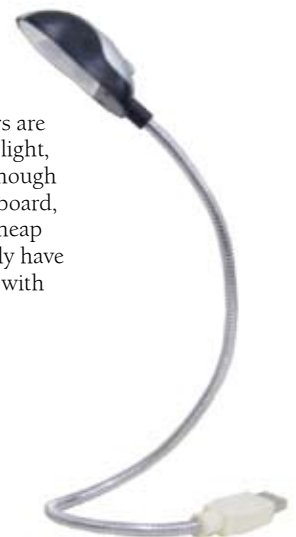
A portable printer is a must have accessory for the travelling executive. The printers are sleek, and light. The speed of the printers may not be too great, but that does not mean that they don't offer quality. They are a convenience, but it is unwise to depend on them for important matters. Replacing the ink cartridges for example, can be a little bit of a hassle – especially if you run out while you are travelling.

**Projector**

Taking around your own projector may seem a good idea for those who have to present a lot. Although there are models available that run right off the USB, and fit in the palm of your hand, avoid these models. They are not powerful, and their performance is not impressive. It is better to pick up a smaller, and lighter version of a conventional projector.

USB light

Often, you might have to work on while others are asleep. The screen of the laptop throws some light, but is not enough to light up the keyboard. Though experienced users hardly ever look at the keyboard, an odd glance now and then is necessary. A cheap USB light solves this problem. Models typically have bright and powerful LEDs. There are variants with clip-ons or a sturdy stand.

**USB internet**

For a businessman, it is vital to stay connected on the go. Instead of connecting through your phone, it is better to carry around a dedicated connection through a USB drive. Most telecommunication companies have schemes for such a connection. Be warned though, the speeds are not that great, and the connections are relatively costly when compared to other types of internet connectivity. Use these only if you travel to remote areas frequently, and absolutely need an always-on net connection. You will at least need to be near an area with a network of some mobile phone service provider, and roaming charges apply.



GoogleSync

Now available on Symbian; use it to easily sync your Google contacts and Google calendar with your Series 60 3rd edition devices



Sync online calendars

with Dropbox. Simply use Rainlendar Calendar and place the .ics file of the calendar in the Dropbox folder

Ashwini Bavskar



Synchronicity

We show you how you can automatically sync files and folders between two or more PCs using simple applications. We include a low-down on what each of these services has to offer, and which one is best suited to your needs

Siddharth Parwatay

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Most of us find ourselves working on at least two PCs in the course of our personal or professional lives; be it a combination of notebook and office desktop, or the good old home PC and the notebook which you take to work. Let's face it – parts of your digital world are scattered all over the place and there ought to be a way to get it all together. Nothing can be worse than showing up at the office and realising that you left the most recent copy of that important presentation at home. Working on different machines brings with it the headache of keeping track of versions and having the latest files updated on all PCs, at all times. Sure, you have the

option of carrying files on a USB drive and manually updating tons of data. But that's cumbersome. What you need is a way to automatically sync files between PCs. Several web-based services allow you to do just that. All you need is an internet connection and you will soon find yourself exhausting lesser brain cells figuring out which PC has the latest version of which file. Here, we show you which are the best options available out there and how to use

them. You can then choose a solution to fit your needs.

Windows Live Sync [sync.live.com] Simplicity for the novice user

This is a simple service to use and thankfully you don't need to create yet another email ID with Hotmail or MSN in order to use it. You can use your existing e-mail to register with the service or use your MSN/Hotmail Live ID if you already have one. Once you complete registration, you will be directed to a download page. Once you download and run the small client you can specify which folders to sync via a web interface. Install the application on any other computer with which you wish to sync files and point the application to the corresponding folder. The web interface is easy to use but of course simplicity has its limitations. LiveSync works only with Mac and Windows, so Linux users will have to look at other alternatives. Other than that, both the syncing computers have to be turned on for a sync to take place. Unlike some other services in this realm, Live Sync doesn't keep a copy of your files in the cloud, which you can then access without the client. This however has an upside – no data limits. So go ahead and sync away to your heart's content. You can even enable remote access through Live Sync. Remote access allows you to browse through the computer's hard disk remotely. But since this is essentially a P2P application which sends information via the internet, enabling this is not recommended. By default, remote access is disabled.

Live Mesh [mesh.com] Not meshy at all

Another Microsoft web offering; this one however is quite promising. Apart from syncing files and folders it also merges them with the cloud. So, instead of synchronising files between PCs directly, you create folders in the "Mesh", and then have your PCs



Add devices to the Mesh by installing the client on each machine



Now even seats in sync

In a corny technological advance, theater seats for Terminator are being retrofitted to move "in perfect sync" with the onscreen action



Bento

The iPhone app that lets you sync address book, mail and calendar data, is named after the Japanese word for compartmentalised Lunch Boxes

Feature

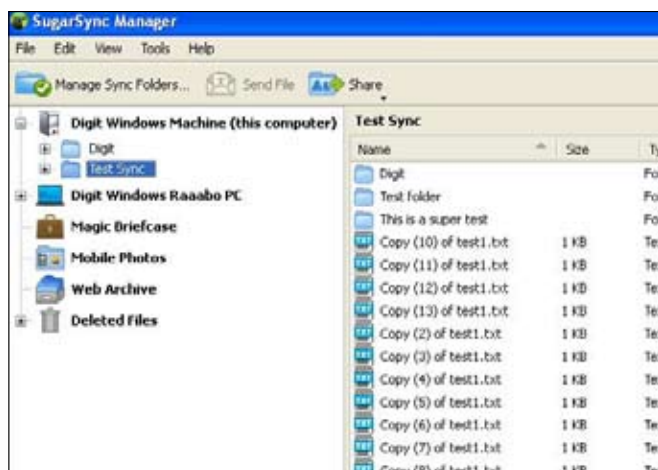
connect to those folders to execute a sync. Although you need to download the application, the interface is mostly web-based and you can connect to your Live Desktop through your browser when you need to access your mesh from the web. Your mesh includes any devices that you add, and the folders you choose to sync and share. Using this service is a little complicated, but it is powerful. It will integrate into your Windows Explorer and give you a new option in the right-click menu to add any file or folder to the mesh.

Once folders and files have been added to the mesh, they sync automatically. If you want to view your files online without downloading the client, head over to the Live Desktop. Files renamed, edited or deleted in the mesh will automatically be reflected in all devices connected to the mesh. To alter the synchronisation settings of any folder simply right-click on it through the web interface and go to Settings. You can specify settings for the relevant devices that you will synchronise, and when to sync; for example, "sync only those files modified in the last 30 days." Connecting to a PC remotely, however, requires ActiveX controls. As far as limitations go — this software is available for Mac and Windows only; it also has a data cap of 5GB which should be sufficient for most users looking to sync important documents.

SugarSync [sugarsync.com]

For the power user

Once you register and install this powerful tool, your SugarSync account will be created and your computer added to it. After this it will ask you to specify the folders that you want to sync. SugarSync is configured to display the status of files and folders directly in Windows Explorer via an icon overlay. The folders you select will be backed up to the SugarSync server from where they will be available for remote access through any browser, on any computer. Install the client on multiple computers to automatically sync files between them. The trial version of this software comes with a 10 GB limit and expires after 45 days. A feature very unique to SugarSync is its ability to sync with mobile devices. It has applications for the iPhone, Blackberry and Windows Mobile platforms. Besides, you can always visit m.sugarsync.com from any WAP-enabled phone. Even through WAP, this application retains most of its functionality. Using the online interface, you can click on any file to access options for available actions. These include the ability to edit text files with WebSync, which opens a Java-based auto-updater to update changes on the fly. You can even directly email files as attachments or check out version history. All-in-all, a robust solution for the power user. It will set you back by \$50 a year for a 30 GB package.



SugarSync Interface: one look should tell you that this is a syncing solution for the power user

SHARE LARGE FILES

Many of these syncing services allow you to share large files with others. These files are obviously too large to be sent via email. There are, however, standalone services that are meant specifically for this purpose.

www.Drop.io - Head over to this file sharing website for a simple and easy way to share files and collaborate with others. Its easy; simply create a "drop" in two clicks and get going. The site allows

for real-time collaboration with features like chat, adding multiple files and notes to a drop. An email address is also created for a drop. Any mail attachments sent to the id will automatically be added to the drop.

www.Yousendit.com - Perfect for the occasional sending of large files. This free service covers file sizes up to 100mb and doesn't require registration.

Dropbox [getdropbox.com] Best of both worlds

Dropbox lets you sync files online as well as across computers and like some of the other solutions, it even has a web interface. So, what's the big deal? The big deal is that it also has support for the Linux world! The service lets you sync seamlessly between Mac, Windows and Linux; none of the other featured services offer this. Dropbox maintains a good balance between ease of use and availability of advanced features.

It makes use of an incremental sync process which means that only those parts of a file that have changed are uploaded each time. So you

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Unison

A sync tool for Windows and Linux that is run from the command line



Xmarks

Use the Xmarks Firefox plugin to synchronise your bookmarks across PCs

DO YOUR STUFF ONLINE

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Head over to www.zamzar.com for a quick and easy way to convert .docx files to .doc. Simply upload a file and a converted file will be sent to your email address.

Ever wanted to record what happens on your screen while online? A little voyeuristic are we? All right, perhaps it's something innocuous like making a training video for an application. Head over to screentoaster.com

and capture your screen video

Printing webpages is a rather messy affair. Often you don't want certain elements to be printed. printwhatyoulike.com lets you enter any url, edit the page, and print it. No more pasting into Word. And you save on costs.

Think picnik.com is the only online photo editing service? Check out befunky.com and sumopaint.com; and remember to tell us what you think.

save on both transfers and time. However, Dropbox is slightly restrictive because it allows syncing only through the "Dropbox Folder". This is quite like SugarSync's Magic Briefcase, but its use in SugarSync is optional. But syncing through one folder might well be convenient for some users. Surprisingly, Dropbox uses almost no interface and yet it is easy to use. Clicking on the system tray icon opens the Dropbox Folder. Right clicking on the files and folders brings up individual manipulation options. In the Preferences you can specify how much bandwidth you want to allocate to Dropbox, and specify connectivity options. The free version lets you sync up to 2 GB of data. Upgrading to a pro account with 50 GB of space will set you back by \$99 a year.

Syncplicity [syncplicity.com] For the cloud player

Syncplicity is very similar to Dropbox but has a few cloud-interfacing features in addition to the standard synchronisation. It has the added functionality of being able to integrate with Google Docs, Zoho online Word Processor, and Scribd online document viewer. Besides these, it can also sync photos from your native folders into Facebook albums. Hence, this is ideally suited to those who depend heavily on cloud-based services such as Google Docs. Changes to online documents will automatically be reflected in

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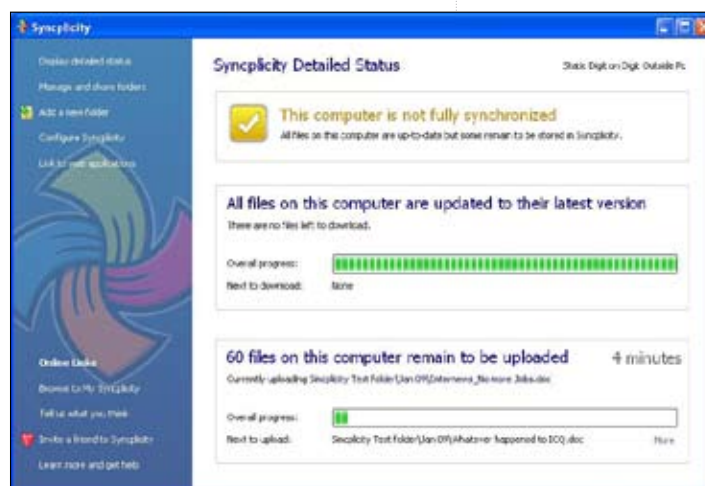
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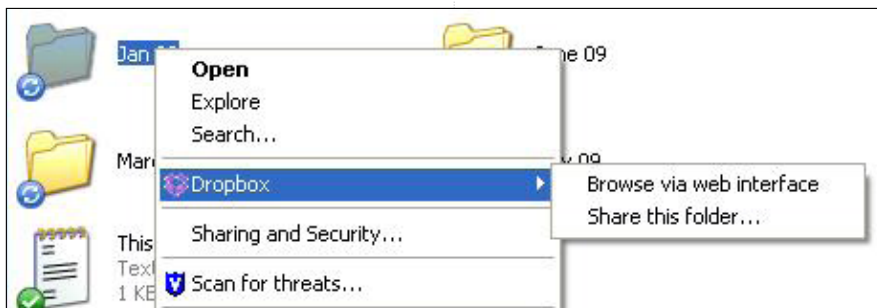
off-line copies across all your computers.

Once you install the small application and the Syncplicity wizard appears, enter your email address, password, and a name for your computer. Syncplicity will then link your computer to your Syncplicity account. Next, tell Syncplicity what you'd like to synchronise and backup on that computer. Syncplicity will let you pick your folders as the wizard completes. It will do the initial backup in the

background, automatically. You can click the



Syncplicity Synchronisation



Right-clicking on any folder brings up the Dropbox options

tray icon at anytime to find out the status of the backup. Like others, this application also integrates into Windows Explorer and gives you various right-click options and icon overlays. Head over to the Syncplicity website to view your files and folders through the web interface from any computer. To sync with another computer simply download the client on another PC and link it to your account. It's simple!

Through the web interface you can click on the menu icon to view revision history for a particular file. Click on the Applications tab to associate Syncplicity with your Google Docs and Facebook account. It must be emphasised here that the Google Docs sync with the service is pretty erratic and may not work at all. But once a link with your Google Docs account is established you should get a copy of all the docs in the cloud on your local drive. The two will always be kept in sync – any document you create or change in Google Docs should immediately appear on your computers and vice-versa. The service boasts of a number of safety measures incorporated into this sync process. For instance, when there is a conflict between versions, it will save both copies side-by-side and have you decide which one you want. If you delete a file in either location, the delete will reflect in all the synchronised places; but a copy will always be maintained in the online recycle bin with Syncplicity.

In case of rich documents with features such as comments and track changes, which are not supported by Google Docs, Syncplicity will maintain the rich copy on your hard drive while removing those features from the online version.

So in conclusion you now have several options; each of them provide you with a few unique features

to cover your file synchronisation needs. Some services provide simplicity while others provide cross platform support or cloud integration. Power users can opt for one of the paid services or upgrade a free service they like to a premium version. However, in our opinion Dropbox seems to be the most well rounded of the lot. Whatever service you eventually settle on, one thing is for sure - the days of leaving files behind and over dependence on USB drives are over. **d**



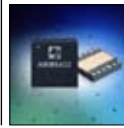
What Recession?

WiMax is estimated to generate US Dollar 15 Billion by 2014



WiMax Vs 3G

Its a battle of Capacity versus storage, and the heavyweights are backing WiMax



Say hello to 4G

Forget 3G, Anadigics has launched a 4G power amplifier

Feature

Mobile WiMAX: Meet 802.16e

We are about to experience yet another revolution. Worldwide interoperability for microwave access (WiMAX) has the potential to do to the internet exactly what mobiles did to telephones

Khitij Sobti

kshitij.sobti@thinkdigit.com

The world was revolutionised with the advent of mobile phones. Along came the concepts of text messaging and missed calls. These ensured we always stayed connected to our contacts.

We are about to experience yet another revolution. Worldwide interoperability for microwave access (WiMAX) has the potential to do to the internet exactly what mobiles did to telephones - to make it wireless on the large scale. Additionally, it can also be used to help mobile telecommunications.

What was wrong with WiFi?

A popular misconception is that WiMAX is aimed at replacing WiFi. This isn't entirely true. WiFi is only concerned with creating a wireless pocket of connectivity around the router, instead of being strangled with a wire.

WiMAX, on the other hand, takes wireless to the maximum (although that isn't what it stands for), by facilitating wireless broadband connectivity of up to 3 Mbps spread over large areas. WiFi can be used to create wireless local area networks and provide internet connectivity to computers in the range of a router however it doesn't provide a viable means to connect computers over a wide range, say that of a city. WiFi can thus be thought of as a wireless alternative to Ethernet networks, while WiMAX is an alternative to technologies such as DSL.

WiMAX

WiMAX is an acronym for Worldwide Interoperability for Microwave Access. It is a relatively new technology, having been first introduced in 2004 as 802.16, more popularly known now as 'fixed WiMAX'. It was created as a technology to provide the last-mile connectivity for broadband access. This means that it can potentially be used as a replacement for current broadband network systems such as DSL, landline or cable connectivity.

Where WiMAX wins out here is due to the fact that it is wireless, and as such huge savings can be expected from implementing this in place of wired technologies. Just like cellular-phone towers, setting up one WiMAX tower has the potential to cover a large area, and as such, can also be used to provide connectivity to some of the more remote areas where wired connectivity is currently unavailable, infeasible or expensive.

In a revision accepted in 2005 named 802.16e, many improvements were made to the standard, some of which were to enable the use of WiMAX in mobile installations.

IEEE 802.16e-2005

This is indeed the full standard name for "Mobile WiMAX". This amendment of the WiMAX standard is perhaps most popular for the addition of features enabling its use in mobile installations. The standard describes itself as "Physical and Medium Access Control Layers for Combined Fixed and Mobile Operation in Licensed Bands", changing the title of the 802.16 standard to "Air Interface for Fixed and Mobile Broadband Wireless Access Systems". WiMAX, by itself, promises wonders, then why all the hype about this new amendment?

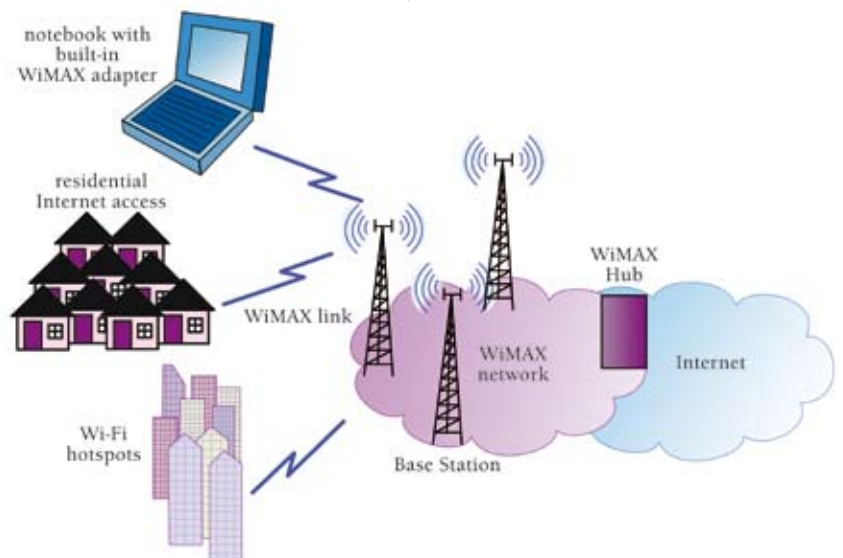
Consider this - you have full speed broadband access on the go; surfing wirelessly at home, you could check your email on the way to work, and continue working once there without ever needing to connect a wire! What if this connectivity existed everywhere, you would never have to worry about searching for hotspots. The whole city would be a hotspot. But then, since this is India, you'll have to imagine waiting for another three decades before this becomes a reality.

One of the key technologies for facilitating mobile access of WiMAX networks is a scheme called SOFDMA (Scalable Orthogonal Frequency Division Multiple Access) which is a scalable form of the system used in 802.16-2004 OFDMA (Orthogonal Frequency Division Multiple Access).

SOFDMA Deconstructed

Scalable Orthogonal Frequency Division Multiple Access, quite a mouthful! However if we break it down into its components it begins to sound much more sensible.

Scalable: Scalability is important when considering any technology. Especially for WiMAX which can be used to provide connectivity for as far as 50 miles, and may





WiMax gaining ground in MENA nations

WiMax is gaining considerable ground in the Middle East and North Africa (MENA) nations, according to WiFi trackers. This is mostly because of a lack of penetration of fixed line internet services. The connections however, are mostly for business purposes



Still wait for WiMax

BSNL is still evaluating the tenders for WiMax services in India

be used for bandwidths up to 70Mbps by a large number of people simultaneously.

Orthogonal: This means mutually perpendicular. Here it applies to signals, that the signals are perpendicular to each other so that when one is at its peak, all others are zero.

Frequency Division: This is a means of transmitting multiple signals via a single medium, by using carriers of different frequencies. DSL is an example of how voice signals and internet connectivity signals are both carried in the same line.

Multiple access: This bit is obvious, a single access internet connection would be amazing surely, but the waiting in line for access would be quite annoying! Networking technologies have to ensure a feasible and stable method for allowing multiple people at access the service at the same time.

SOFDMA builds upon OFDMA which builds upon FDMA. SOFDMA is thus a specialised form of frequency division multiple access (FDMA). However, it is incompatible with the earlier technologies in some ways, and will require WiMAX 'broadcasters' to upgrade their equipments to support SOFDMA.

So, why SOFDMA, what does it do, and why is it important, that it was introduced despite compatibility issues.

Bandwidth, frequencies and data transfer

To transmit any kind of data it needs to first be modulated so that it can be carried over some kind of medium. Wired methods transmit data by sending electric signals of varying frequencies through the wire, which are modulated with the information to be sent. This modulation process involves the conversion of data which is composed of binary digits into a kind of electrical waveform.

In the modulation process, a base waveform or a carrier wave, is taken and modified with a pattern which is representative of the data being transferred. What quality of the carrier wave is modified depends on the modulation used. How much information a wave can carry depends greatly on the frequency of the waveform.

Different modulation schemes approach modulation in different ways in order to gain better and better efficiency. It is better to divide the same data and send it in parallel at multiple lower frequency bands than to transmit it over a single very high frequency band. The reason for this is simple, a single channel carrying data at 1 Mbps means that each binary digit will occur for just 1 micro-second! On the other hand, sending the same over 100 channels at 10 kbps would give us a much better duration per bit leading to easier detection.

The reason FDMA is superseded by OFDMA and OFDMA by SOFDMA is precisely because each improving technology brings with it better bandwidth efficiency, greater reach and better stability. The main concept used in all technologies remains frequency division, so let's have a look at FDMA from which they evolved.

FDMA

FDMA or frequency division multiplexing is a way of transmitting multiple streams of data along the same medium (wired or wireless) by using different frequency bands for each channel. By keeping the frequency bands far enough apart, we can ensure that each channel can be filtered out separately. We can compare this to a room filled with people speaking in different languages. Although you may be able to hear everything, you will only be able to understand the languages you know.

In reality, we can look at the example of an FM Radio, where different channels come at different frequencies. One signal may be allotted a central frequency of 98.1 MHz with a bandwidth of 200 kHz, meaning that it will broadcast at frequencies between 98.0 MHz and 98.2 MHz, while another may be allocated a 200 kHz bandwidth around the 98.7 MHz. As such, each frequency band is separated by sufficient margins so that they don't overlap or interfere. On the receiving end, we can tune in the receiver to a particular frequency and filtering out the other signals, and boosting power at the selected frequency.

FDMA (Frequency Division Multiple Access), works by giving different users their own frequency bands, thus each user can communicate using a channel of their own.

This makes FDM quite inefficient, as a lot of bandwidth is wasted in the gaps used to separate different frequency bands. OFDM or Orthogonal Frequency Division Multiplexing packs in much more information by eliminating the requirement for these gap-bands.

OFDM and OFDMA

With OFDM (Orthogonal Frequency Division Multiplexing), sub-carriers in the signal wave can be overlapping without causing any interference. This is accomplished by making the sub-carriers in an OFDM exactly orthogonal to each other, meaning that while one is at its peak the others are all zero. The efficiency is greatly increased by this, as more data streams can now be transmitted using the same bandwidth.

OFDM spreads out the data among multiple carriers, each of which is

modulated separately. As there is now larger number of carriers to modulate, the effective system throughput is increased. Also since a large no of frequencies is used, some of the issues

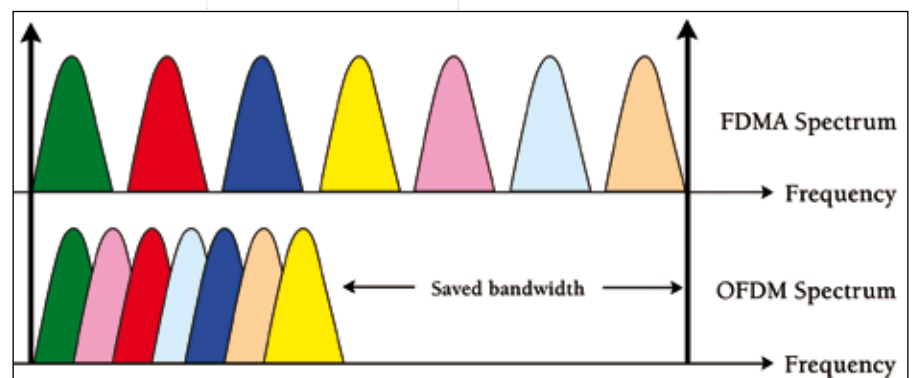
surrounding wireless communication such as multi-path, signal cancellation, and spectral interference are reduced to a great extent.

However in OFDM each channel is assigned to a single user. To enable multiple user access it is additionally used with Time Division Multiple Access (TDMA) or Frequency Division Multiple Access (FDMA), however each approach has its caveats.

OFDMA (Orthogonal Frequency Division Multiple Access) as its name suggests is designed for multiple user access. Unlike OFDM, OFDMA is capable of supporting multiple users on the same channel, by

FACT BOX

IEEE establishes and maintains the 802.16 standard which The WiMAX Forum uses to certify devices. IEEE does not test for standards compliance; as such WiMAX is not a standard in itself but rather a use of the IEEE Standard 802.16.



OFDM vs DMA comparison



Kabul

One of the few cities with a fully functional Wi-Max infrastructure



Dell Studio

Dell has jumped into the bandwagon, its Studio lineup is now available with WiMax capability

WiMax devices for businesses

Soma enterprises, has tied up with BSNL and will offer WiMax enabled devices for Business customers in India

Feature

dividing each channel into sub-channel groups. Insofar that the channel assigned to any user will be optimized based on which will perform best for the current user's location, environment and equipment.

In the original 802.16-2004 specification, OFDM-256 was used, which meant each channel would be composed of 256 sub-carriers and multiple user access available via TDMA (or FDMA). The 802.16e-2005 spec adds OFDMA 128/512/1024/2048, while the old OFDM-256 is kept for compatibility reasons.

What a difference an alphabet can make!

SOFDMA

SOFDMA is OFDMA but with scalability to enable its usage in a wider variety of scenarios, especially mobile. While the original 802.16-2004 standard was meant to enable wireless internet access to fixed locations such as homes and businesses, where a WiMAX receiver would be affixed outside a the building similar to a dish antenna, in 802.16e-2005 many specifications were added which would enable a mobile system to access the network.

SOFDMA is scalable in that it allows for changing the bandwidth allocation to channels from 1.25 MHz to 20 MHz. Smaller channels such as those to be used by mobile devices are optimized for lesser system complexity, while higher bandwidth channels such as those used by fixed point subscribers at home or in offices, are optimized for higher bandwidth. Even the modulation scheme is scalable such that a different encoding scheme can be depending on the quality of the signal.

WIMAX VS LTE

There is another war of standards coming up! LTE stands for Long Term Evolution, and it widely thought of as an upgrade path from the current GSM 3G / 3.5G standards. It has backing from a majority of the GSM providers, but unlike WiMAX it is not based on an open standard.

Although LTE cannot compete with WiMAX in all its facilities, in the mobile sphere they are both quite well matched. In fact they both use the same OFDM and MIMO technologies



Other 802.16e features

Many other features were also added in 802.16e-2005, to improve its mobility characteristics, an important one being MIMO (multiple-in multiple-out). Other than the mobility enhancements, there were also the addition of HARQ (Hybrid Automatic Repeat Request), and QoS (Quality of Service) improvements.

MIMO

To improve the range and speed characteristics, multiple antennae can be used at the transmitting and receiving station. This improves the maximum range of the transmission and the data throughput. Using this in WiMAX means that without increasing the output power of the transmitter, and while keeping the same bandwidth, they will be able to provide better performance to a longer range. This is of obvious benefit in

mobile access, as it enables customers to get better access with wider area coverage, all without significant cost increase to the broadcaster.

QoS

Networks are used for a wide variety of communication, from internet gaming to bank transactions, each type of communication requiring different network characteristics. While we may consider out internet surfing quite important, there are many other protocols which are less resilient to network outages or interruptions. VoIP for example requires a constant guaranteed minimum rate of data flow for communication to persist.

To guarantee that such time and delay critical communications are not interrupted, QoS protocols are employed to give them higher priority. Communications of different classes are given different priority. The QoS in 802.16e-2005 divides network communication into 5 classes:

- 1.Unsolicited Grant Service
- 2.Extended Real-time Polling Service
- 3.Real-time Polling Service
- 4.Non-real-time Polling Service
- 5.Best Effort

VoIP falls in the second class, and our favorite HTTP communication is sadly last, given only as much bandwidth as is left over in the end.

Conclusion

Are we ready for internet as easily available as telephone signals? I believe we are, we have been good, and we deserve our candy. WiMAX is not the technology of the future; it is already something that is being implemented in many areas around the globe, a good example being WiBro, which is an 802.16 implementation in South Korea.

802.16 holds a lot of promise for more than just internet, it is potentially a technology that can provide a wireless backbone for the telecommunications industry. Our homes are already starting to get wireless, WiMAX aims to make entire cities wireless, which if you live in India you can clearly sympathize with.

No more broken connection due to wiring faults, or overloaded trucks passing through narrow streets! Just like mobile phones have made the telecommunication an indispensable tool, and taken us from one landline per home to one phone per person, so does WiMAX hold the potential to someday make internet as personal and as available.

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world are shelling out big money for WiMax. Gastonia paid up \$40,000

Uniform rates

Due to clever tax evasions, the Indian Government may force telecom companies to use uniform revenue models. This covers all the services offered, including mobile connections and Internet services.

**MTNL for businessmen**

MTNL now offers connections for Blackberry phones

ISPs – The Fine Lines

Your ISP's plans might not be as straightforward as they seem...

Madhusudan Mukerjee

readersletters@thinkdigit.com

VISNL first introduced internet services in India in 1995. One should think that when the internet is entering its fifteenth year in Indian history (starting August 2009), our access to the network of networks would be a piece of cake. Then how come we end up with mud on our faces? Perhaps the reason is we don't know enough about the chaps and chips that provide us this access. Perhaps we need to know our internet service providers a little better.

Internet service providers

Any organisation that provides you access to the internet could be termed an internet service provider (ISP) – sometimes also called an internet access provider (IAP). Your home PC could be linked to the internet using a phone line modem, digital subscriber line (DSL) or a cable modem, which serves as an interface between your machine and the machine of your ISP – a 'server'. There are more than 150 ISPs in India with some popular ones being BSNL, Airtel, Reliance and Tata.

Types of connections

An ISP would typically present you with a myriad of options and you'll have to choose how you want to connect to the internet. These are basically either dialup connections or broadband ones.

Dialup

A dial-up account (or analogue connection) simply means using your telephone line to access the internet. This is slow and keeps your phone line occupied, implying that you can't talk on the phone and browse simultaneously. Downloading audio/video streams could be troublesome while using dial-ups. Besides, charges are levied over and above the regular charges that you would have to pay for a telephone call of the same duration. So if you've browsed for an hour, they would, likely, charge you for the cost of the telephone call (that's lasted for an hour) ~plus~ the cost of internet usage.

Sometimes, ISPs advertise "high-speed dialup connections". These may offer to provide speeds as high as 256 kbps (the bottom-line for broadband service speeds in India) – but what you get in reality is far from the typically seamless broadband experience. What ISPs actually do here is use a "handshake" – a shortened logon process and a different data-compression technique to speed up the process. Besides, they use an 'Acceleration Server' – a small-business Microsoft server that lets the ISP connect to the web through broadband. However, in the end, it's the telephone line that will receive the data and there's only so much data it can sustain at a particular moment – irrespective of what, and how much, is fed from the other end. Typically, dialups promise a maximum speed of 56 kbps, which is pretty much equivalent to snail mail by present day standards. A dialup connection is, therefore, the last resort of a frantic webophile. All the rest use broadband.

Broadband

According to the definition by the Department of Telecommunication Broadband Policy published in 2004, 'broadband' refers to an 'always-on' data connection that is able to support interactive services including internet access and has the capability of the minimum download speed of 256 kilobits per second (256 kbps) to an individual subscriber from the point of presence (POP). The major access technologies for broadband are:

- **DSL:** Digital subscriber line is a technology that provides access using a dedicated digital circuit from your residence (or office) to the ISP's central office. It allows high-speed data exchange over existing telephone lines, usually using a modem at each end. DSL connection speeds range from 128 Kbps to 8 Mbps. The DSL bouquet of technologies includes ADSL, SDSL and VDSL.
- **ADSL:** The asymmetric digital subscriber line technology is quite commonly used in India and is just another kind of DSL. The only difference here is that it provides more bandwidth downstream than upstream, so uploaders may sometimes feel that they've got a raw deal.
- **SDSL:** The Symmetric Digital Subscriber Line is another DSL connection, with a minor difference: the technology allows the same data rates for upstream as well as downstream traffic. The same telephone wires, however, cannot be simultaneously used for voice connections.
- **VDSL:** The 'V' stands for 'Very High' and VDSL technology, therefore assures you of super-fast data rates. However, it is usually meant for relatively short distances – the data rate being in direct proportion to the distance between the subscriber and the server.

Cable

Cable TV has been around a lot longer than the internet, with coaxial wires linking millions of Indians with cable operators. Cable ISPs provide internet access through existing lines.

Satellite internet service

Geo-stationary satellites allow users to access the web using the IoS (Internet over Satellite) technology.

Wireless Internet Access

'Wireless' is a magic word for techies – and technologies like Wi-Fi, WAP (Wireless Access Protocol), CDMA and GSM, offer access to the internet by making wires disappear, replacing the wires with radio waves.



TATA plans to enter the ISP field with an aggressive strategy • CERT India has joined forces with Microsoft

RBI compromised by Russian ISP

The Bank of India's website was infected with malware by an illegal Russian ISP by the name of RBN



BSNL top ISP

BSNL is the leader amongst Indian ISPs, with a 43% market share

Private ISPs

Although these are still few and far between, private ISPs in India have packages that are competitively priced

Feature

IPTV

A relatively new entrant into the world of internet services in India, Internet Protocol Television is a triple-play bundled service which offers broadband internet connections, digital television, VoIP and Video on Demand services – all over a single connection.

WiMAX

WiMAX stands for worldwide interoperability for microwave access and is a wireless technology that allows broadband access, usually for WiFi hot spots and providing 'last-mile-connectivity'. WiMAX promises cheaper, faster wireless access, but having been introduced in India only in 2009, has yet to make its presence properly felt.

How to choose an ISP

Which of these technologies you choose depends on several factors. If you travel a lot, need to access the web on the go or can't stop tweeting your friends, you'll have to depend on the GSM or CDMA internet access services provided by your cellular service provider. Or, if you're living in a city, you could use your laptop at any of the Wi-Fi hubs that are fast increasing in number. Mobile telephony companies (such as Reliance, Tata and Idea) offer USB modems that can be used with your laptop (and your PC too), which doesn't leave you dependent on a Wi-Fi zone. However, you need to be within their network coverage. If you have a static PC to work with, DSL would be one of the better options to choose.

● **Speed:** A high-speed connection is essential to almost anyone who bothers to log on to the net today. Although the basic minimum is 256 kbps for broadband, it's not always what the ISP says it is. The speed of connection that you actually experience will often be a far cry from that promised by the ISP. The number quoted to you is the maximum possible – but not always what you get in reality.

● **Upload/download limits:** Typically, an ISP offers you cheaper deals for limited usage. So the 1 GB scheme with speed 256 kbps would be the cheapest while the 'Unlimited' ones with speeds of 2 Mbps or 16 Mbps would be most expensive. If you just want to check your email once or twice a day, check up the odd web page or download a few documents in Word or PDF, the 1-GB or 2-GB limit would do just fine.

Most ISPs have some form of an unlimited plan on offer. Sometimes, this is bundled up with the regular low-tariff plans as "free unlimited night surfing". However, there's a catch. Different ISPs

have different concepts of "night". Some give you the happy hours from 8 p.m. to 8 a.m., others from 10 p.m. to 8 a.m. while some from 2 a.m. to 8 a.m. only. So either you'll need to get up really early in the morning or stay awake late if you want to take advantage of these. This, however, is great for those of you who just can't stop downloading, but are too busy working through the day to log on and find your favourite videos. 1 GB bandwidth, however, gets exhausted pretty quickly even if you're not downloading heavy files in the daytime. Flash files, online radio, etc., also use up a lot of bandwidth, so perhaps you'd do better opting for 2 GB or 4 GB plans with 'night-unlimited' combos.

"Unlimited" isn't really unlimited either. Taking inspiration from the international ISPs, some Indian companies (viz. Airtel and Tata Indicom) recently announced a limit on their 'unlimited' plans. The unlimited high-speed access to the web is now restricted to 20 GB or 50 GB, or more, depending on the company and the scheme. If you exceed this limit, the ISP may do any of two things: (a) It may halve the speed of data transfer to your PC, or (b) It may even terminate your account. They call this the "Fair

Use Policy" – an internationally accepted term which refers to a metering system or a restriction on individual use of bandwidth so that a single user does not hog all of it, leaving little or nothing for others. If you're looking, you'll find the details in really fine print.

● **Reliability:** It would be of great help to you if you could figure out the latency trends of a particular ISP. 'Latency' refers to delay in data transmission. The amount of time a packet of data takes to

reach from one point in a network to another could be greatly affected by faulty hardware, congestion in the network or crashing servers.

● **Service/Maintenance:** Got a glitch with your modem? Can't login because of a virus? Being overcharged? Don't expect your favourite ISP personnel to barge into your home with instant solutions. It may take them anything from a few hours to a few days. Most disconcerting is the advice you receive from the call-centre executive, who puts you through mundane motions and IP checks while the problem very clearly lies elsewhere. Again, find out from your kith and kin how customer support and tech support of a particular ISP is before you go and purchase your first connection. Better still, find out the customer helpline and make a call yourself to see what kind of reply you receive – or whether you receive a reply at all.

● **The fine print:** In the age of the internet, it's amazing that the ISPs still expect us to read extremely small fonts at the end of the forms we're supposed to fill. Typically, however,

we don't read the 'Terms and Conditions' section even if the print is big enough for our impatient eyes. We forget that the reason that the terms are in fine print is precisely because if we read them, we'd probably never apply for a connection at all. Here are a few points you should keep in mind about the fine print:

- ◆ An asterisk (*) usually refers to a crimp in the scheme. Check out what it says.
- ◆ Never trust the word "free". Nothing comes free, especially bandwidth. A leading ISP offered two months of free dialup internet services to existing phone users in 2008. Users who failed to read the fine print didn't realise that while internet access was free, usage was charged according to the pulse rate of a regular phone call. Expectedly, several users were shocked to receive unbelievable bills, only to be told that the error was theirs.
- ◆ Not all rates printed by ISPs in their offer documents are inclusive of service tax.
- ◆ The ISP retains the full right to revise tariffs of all existing schemes without notice.
- ◆ Every ISP has the right to terminate any customer's connection without any notice if it finds the customer defaulting on a payment, misusing the services or sending unsolicited messages.
- ◆ The ISP does not provide any warranty that they will provide "an uninterrupted and error free service".
- ◆ The ISP takes no responsibility of the sites you browse and whatever you access is at your own risk. You can't, for example, file a case against your ISP for not installing an effective firewall or for allowing malicious software to enter your PC.
- ◆ "Unlimited" always means "Limited". The trick words here are "up to" (or, as in some cases, the misspelling "upto"). Try and find out what the limit on the 'unlimited' is before signing up.
- ◆ ISPs can block the viewing of certain web sites or blogs, read your email or terminate your service at any given time without notice. An example of this is the selective blocking of certain internet telephony sites by some Indian ISPs before net telephony was legalised in April 2002.

While we can't enforce a change in the policy of the ISP, the least we can do is be aware – for with awareness comes empowerment. Let us not forget that while advertisements give us the right to choose, we retain the prerogative to choose wisely. So the next time you see an ad, don't go rushing into the ISP's office. Rather, sign on the dotted line and go home wondering whether you made the right choice. Walk in being aware of all the possible pitfalls and loopholes, ask the right questions, and don't subscribe until you have all the necessary answers. Better still, take this article with you. **d**

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See page 36

Spam

Everyday, around 100 billion spam emails are sent around the world

Another Storm

UAE-based operator Etisalat says around 10,000 users signed up for BlackBerry services after the launch of the Storm

Ajax Push Engine

This is a server that pushes live or real-time data to Rich Internet Applications through a Javascript socket. This system also does not require any plugins to be downloaded on the web browser

All about *Push Mail*

Eliminate the need to keep checking your emails on the go, let Push Mail do the work for you



Ashwini Ravishkar

Kumar Jhuremalani

kumar.j@thinkdigit.com

Supporting big phones and checking email while on the move is something the elite normally do. But in this day and age, email on the go is reaching the masses and is now easier to use than ever before thanks to push mail. Being in touch with one another has never been easier. So read on to find out the secrets of the world of push mail

What is push mail?

So you've heard of push email, or perhaps you own a phone with push capabilities. But what does push actually mean, and how can it be useful to you? Firstly, it is important to learn what push isn't: some phones fetch email after every 10 or 15 minutes – this is not push as the phone is checking your email server regardless of whether you have received a new message. In the case of push mail, there is a service that is constantly watching your email server for any new emails and will only activate your cellular data once a new mail has arrived, and will then push it to your phone.

How is it different from polling (POP)?

An email is normally sent to the recipient's mail server, which is then downloaded when the user accesses the account using an email client such as Microsoft Outlook, Eudora, etc. Alternatively, the email will arrive at a web server in case the email is web-based such as Hotmail or Yahoo!. Post office protocol (POP) is used by email clients to download mail from a POP mail server. The server receives your email when you are offline and stores it there. The mail client you use sends a request to the POP mail server which then downloads the new emails your computer once you are connected to the internet. With an email client, the push is only the last step while sending an email, not while receiving.

When it comes to push mail, as the message reaches the mail server, it gets pushed directly to the recipient, informing the user that there is a new email waiting. Having this system on the move is what has attracted many users to move towards this new mode of keeping in touch instantaneously. There is a third-party service that acts as a go-between, constantly

looking for a new email, offloading the task from the phone or the email service.

POP3 was a great breakthrough in email, but we needed a system where we could keep the email on the mail server itself so that we could connect to it from various machines instead of just our standard home computers. With POP3, once the email is downloaded to your PC, it is stuck there. It won't be possible to read the same email on your laptop using that protocol. Internet mail access protocol (IMAP) is the best protocol when it comes to push mail or checking mail in general. With IMAP, the email stays on the mail server allowing you to check it from anywhere and from any device you choose.

A smart phone with push mail and your email protocol set to IMAP just brings you one step closer to be connected via email in the most optimum way possible.

What makes BlackBerry special?

The BlackBerry smart phone was the first of its kind to be craved by most executives. What made it special was the email-on-the-go feature that it offered, developed by Research In Motion (RIM) – the makers of BlackBerry products. The marriage of a

Messenger

Recent BlackBerries come with an instant messenger application called BlackBerry Messenger which only allows messages to be sent between BlackBerry devices

Push Pull

The term Push-Pull has its roots in supply chain management. It's now a widely used term on the internet, because of the way the email system works

Feature

full-QWERTY keypad, which made typing easier, the BlackBerry phones also offered a push mail service which was very attractive to corporates. Initially, the BlackBerry email system had to be integrated with a company's already present mail server for use of the push mail services. But once blood was tasted, everyone wanted the same kind of instant email access with services other than those related to their work life. That's when the concept of push email exploded into the tech scene.

If you were to visit the web site of a mobile service provider such as Vodafone, Loop Mobile, Reliance Mobile and Idea, all of them have a separate BlackBerry section where they offer BlackBerry phones along with their services, which include push email. The average cost of this service is approximately Rs. 499 per month with a limit of 500 Kb, which is a total rip off, in our opinion. If you intend to go for an unlimited scheme, it would cost you around Rs. 999 per month. These charges differ when it comes to companies and business schemes.

where you are constantly connected to the internet, the phone's data is only activated once a new mail has arrived at the mail server. When not using Push, your phone might check for new email every 15 minutes or so; during which the cell radio would be activated to check for new emails. This is a big drain on battery life.

One problem that push email faces is spam. If the user is prone to spam mail and does not have proper filters setup with his email account, then there is a possibility of getting spam mail every few minutes directly pushed onto your phone. This is definitely bad – if you're not using an unlimited data plan you might end up paying a bomb thanks to this junk!

Receiving and sending emails instantaneously can grow into a bad habit for some. The term 'Crackberry' has become quite popular and describes a person who feels compelled to reply to an email as soon as it reaches his inbox.

There are some groups that also believe email has not been created for instant

PUSH MAIL APPLICATIONS AND SERVICES

Emoze.com: This push mail application has two versions — Basic and Pro. The Basic version is free and lets you setup only one email account on your mobile phone. You can send and receive attachments only upto 100 KB with this basic version. The Pro version, on the other hand lets you setup multiple accounts and even allows you to create a folder on your phone where you can store emails. It works with Windows Mobile and

Symbian based devices.

Goolel.in: Goolel is the Hindi word for Slingshot, which in fact was the name considered for this application. The Goolel application offers many services including push mail. All you need for this is a phone that supports Java MIDP 2.0 and a GPRS service.

Movamail.com: This is another Java based application that

offers multiple features including push mail. MovaMail boasts of downloads in over 200 countries and support services such as Yahoo!, Hotmail, Gmail, AOL, POP3 and IMAP accounts. This service is free to try for 30 days and after that costs \$2.95 US per month.

Momail.in: Currently in the Beta phase, Momail offers the smallest and most optimised mobile email solution.

Myths and problems revealed

One of the most prevalent myth is that push email is only possible through BlackBerry phones. This is not true. Most phones now come with Push Mail features and setting it up is as easy as just typing a username and password. There are of course extra costs involved, especially with regard to your data plan be it WAP, GPRS, EDGE or 3G – this will vary from Rs. 49 per month to Rs. 500 and more per month, according to the service you choose.

Companies such as Nokia have launched their own Push Mail applications – Nokia Messaging, for their S60 platform based phones with include N-series and E-series phones.

Another thing to be noted is that Push Mail goes easy on the battery of your mobile phone. Unlike browsing on your phone,

messaging: if the content in an email is really that important then it would be wiser to just contact the person via phone.

Push mail is a sought after service by those who want to be in touch all the time through email, or by those who need to make split-second business decisions. Sure information can be passed by calling the person, but there are some who might ignore what has been said on the phone, with email a to-do is present in black and white and works as a means of proof when needed. In the corporate world, an email tends to be more of an official statement, so for those users, it definitely does make sense to go for push mail, but for the rest, you need to ask yourself how important push email might be, before you dip your toes in. **[1]**

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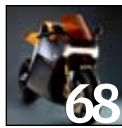
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Gold Edition Rolliflex

Frank & Heidecke, manufacturers of cameras and projectors are celebrating 80 years of the old school TLR Rolliflex cameras with a limited edition box set. Each walnut box comes with three hand assembled Rolliflex cameras. The boxes are upholstered with "Bordeaux Nappa" leather to keep the components safe. A sliding drawer contains lenshoods and filters for the cameras. There will be only 80 of these sets in the world. The package also includes an exclusive illustrated book. The set costs \$39,176 (Rs. 19,37,200) but there are no extra charges for shipping.



Canon Powershot D10

Pick this one up and rest assured that you will end up with unforgettable images from your next trip. No need to shield this camera from the rains, as the camera is waterproof. Yes, you can stick it right into the salty waters, and take underwater photographs. The camera is also rugged enough to withstand shocks, very cold temperatures, and dust. The camera churns out 12.1-megapixel images. There are a whole bunch of features that are an added bonus, including a feature that notifies you if a person in the frame blinks when you take a pic. For \$330 (Rs. 16,300), this camera is a steal.



Cars 2.0

A sneak peek at the cars of the future



Tomorrow's Technology

Digit's dream portable multipurpose gadget



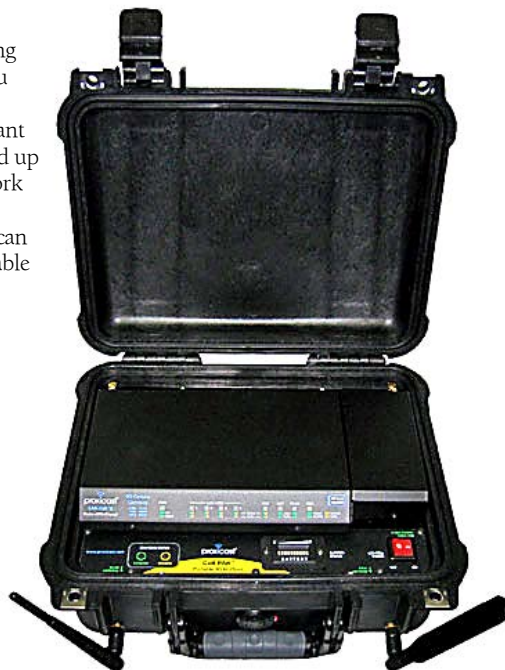
Bazaar

All the dirt on the latest tech to hit the streets

Drool maal

Proxicast Cell-PAK

The Proxicast Cell-PAK is your own portable Wi-Fi hotspot, along with a 3G mobile internet connection. Get one of these, and you don't have to worry about connectivity, no matter where your travels take you. The chassis is rugged, crunch-proof, and resistant to moisture and extreme temperatures. This device can be juiced up using almost any kind of power supply, AC/DC connections work perfectly, along with charging through a vehicle and even solar charging. By default, the only colour available is black, but you can slap on custom designs if you want. Get military standard portable connectivity for \$1,295 (Rs. 64,000).



Shiro SQ-S media player

Investing in eco-friendly gadgets sometimes has its uses. You don't have to worry about batteries, adapters or any kind of power supply for this PMP. The back panel is made up of solar cells, which basically means that you are assured of power on the go. A single charge will give users 38 hours of music playback, and 10 hours of video playback. All the major audio and video formats can be played, and the PMP even supports FLAC, which is somewhat of a rarity among media players. The player comes with 16 GB of space, which unfortunately cannot be expanded.



Drool maal



Daschund buds

Make it look like a dog is running through your head for \$12 (Rs. 600) at tinyurl.com/ojx634



Waterproof TV

Panasonic has rolled out a range of waterproof portable TVs. Grab one and dive in.



Devkit Xbox

If you want one of these steel blue tinted Xbox 360s, become a game developer.



Raden Vaio P

Japan's most celebrated gadget artist, UFO-Hayashi's one of a kind Vaio P is the ultimate luxury netbook. The designs on the netbook is not merely painted on, but painstakingly crafted by carving various shells, and then inlaid on the surface - an artform called Raden. For many, the gemstone inspired sheen of the Vaio P itself is a work of art, which peeks through between the gaps of UFO-Hayashi's intricate Raden. The pricing is a somewhat complicated issue. UFO-Hayashi hand crafts each of his pieces, making each piece unique. We spotted an Aspire one which costs \$300 (Rs. 14,819) to begin with, costs \$3000 (Rs. 1,48,190) after UFO-Hayashi was done with it. The unadorned Vaio P sells for \$1400 (Rs. 69,167), so go figure.



The Internet Conference Station X1-N6

The X1-N6 is the ultimate device for the travelling businessman. The device allows for conferencing over the internet, with a capability of upto 6 people per station. The device plugs into a Linux, Macintosh or Windows computer, and comes pre-installed with a range of conferencing software. Essentially, this device allows for mobile conferencing, no matter where you are as long as you have a laptop and an broadband connection. The device sells for just \$170 (Rs. 8,392), but if that's too cheap for you, the people at bling-my-thing.com will help you out by adding as many gemstones and crystals as you want.

**Kirk chair**

The *perfect* addition for your home build enterprise scale model. The James Kirk chair.

**BMW Baby Racer II**

A BMW for little kiddies, available at selected BMW dealers.

**Wi-Fi T-shirts**

ThinkGeek is selling T-Shirts that light up and let everyone know when there is a Wi-Fi zone about.

Drool maal

Portable Solar charger

Brando retails portable solar panels, that can juice up your devices from anywhere. The charger can be used for laptops, and any other device that charges using a normal adapter. The charger additionally supports charging VIA USB. The panel itself can be charged using AC current. At 280x200x16 mm, the panel is slightly smaller than most netbooks. An added feature that will help those in the outdoors, is an ultrasonic mosquito repellent. The charger sells for \$230 (Rs. 11,370).

**Dell Latitude E6400 XFR**

The Dell Latitude E6400 XFR is about as rugged as laptops can get. The laptop is actually armor-plated, with the chassis being twice as durable as magnesium alloy. This one can stand extreme temperature changes – from ice caps to deserts, and weather a fair bit of water as well. Most of the components are individually shielded from dust and shock to keep your data safe. If this one gets stolen, you can track it with the GPS device, or even remotely delete all the data. The laptop itself is modular, so you can put in additional components. The basic package sells for \$4,299 (Rs. 2,12,280).

**Optoma Pico**

The Optoma Pico is one of the smallest projectors available. Manufactured to be used with an iPod, the projector can also be used with an iPhone. The Pico is very light, weighing in at just 120 grams. The pico can project a 480x320 resolution image on almost any surface, between 8 inches and 8 feet away. The projection is pretty bright for such a small device (9 lumens, if you need to know). Available for only \$430 (Rs. 21,256), but the device will burn out after 20,000 hours of usage.



**Fly your bike**

If you own a Honda Reflex, buy the Flite Bike kit and watch as your wheels take to the air!

**Air powered**

Indian Engineering students have made a 100 cc bike that runs on compressed air

**ECU Flashing**

The expensive and often dangerous "hobby" of changing the firmware in ECUs for custom tuning

An insight into motorcycle gadgetry

Wonder Wheels



Photos: YAMAHA RACING, HONDA

Joshua Crasto

Modern boy racers in the premier class of motorcycle racing have been debating the 'excessive' use of electronics that currently subdue their 250-odd bhp motorcycles. Some are of the opinion that it is progressively killing the sport, others think they're simply a way of making the motorcycling world a better and safer place to ride in. The men who made their mark in the racing world in the 80s and 90s were unanimous in saying that electronics have their time and place – Monday to Friday, 9 to 5, at the R&D centre. But then again, if it means living life the way they'd like it, we'd all show up to work boozed up, black-eyed and have a

leggy blonde for a personal secretary...

The blonde secretary is a myth and it has been 12 hours since you had your last beer (if

have over the years trickled down to the everyday road bike. So let's spend some time going over a motorcycle to closely examine these systems

Let's grab a microscope and put the key into the ignition of a 2008 Yamaha YZF-R6 and see what happens. The tach needle sweeps through its range while that little black box silently boots up: sensors feed signals to the ECU, kickstand up...

you're lucky) and we're now in the 21st century. This is the age of little black boxes, tiny microchips and a host of other silicon-smothered devices. Developed for state-of-the-art race motorcycles, these gadgets

and see how, and if, they make a difference to your life.

The think tank

The Electronic Control Unit

Let us start by examining the core of every current

day motorcycle. Like your first guess, we too would like to believe this to be the crankshaft, the pistons or at least the motor in its entirety, but the truth is far from it. It's a lunch-box sized "brain" called the ECU. A small black box that mad scientists in white lab coats decided would have a 32-bit CPU running at about 40 MHz. The numbers pale in comparison to your average desktop, but with miniscule, clever code, the CPU is a thousand times more efficient. The ECU micro-manages every little happening on the motorcycle, working in collaboration with numerous sensors from systems such as the lighting and the brakes, to the fuel and air flowing into and out of the engine. And these are just its primary functions. Let's



RD350

If you are really interested, India's largest RD350 forum is at tinyurl.com/rxeqmv



Street control

A Timing Retard Eliminator is used on street legal sport bikes to limit throttle and prevent accidents



Traction Control

A throttle reducing safety feature in street bikes

Geek Life



grab a microscope and put the key into the ignition of a 2008 Yamaha YZF-R6 and see what happens.

The tach needle sweeps through its range while that little black box silently boots up: ambient temperatures are recorded, sensors feed signals to the ECU, kickstand up - check, gearbox in neutral - check, clutch lever depressed - check, and we now have current in the little red button that fires the beast to life. But wait, that's not all. The crank position sensor tells the ECU exactly where the piston is in relation to TDC (top dead centre) while the YCCT or Yamaha Chip Control Throttle checks the position of the throttle, making sure you don't flood the engine if you have it pinned to the stop. And the YCC-I or the Yamaha Chip Controlled Intake is busy making sure the variable length intake trumpets are fully extended. And all of that happened from the time you turned the key to the time you moved your thumb to fire her up. The symphony of the electronic orchestra is yet to begin...

Like Yamaha's YCC-I, every motorcycle manufacturer has various technological trademarks registered to their name, some gaining more

popularity than the others, while yet others just work silently in the background.

All enhancing your motorcycling in some little way or another. Think back to the early 2000's when TVS launched the *Fiero*. At the time, the motorcycle was by far the most advanced Indian motorcycle. But did any one talk about the multiple map ignition system that extracted every bit of juice from that engine? Or for that matter - Bangalore-based two-stroke tuning house RDDreams offering in-house designed, multiple maps ignition kits for the legendary RD350? Not a word on the street. But circa 2007 and the whole world is talking about Suzuki's S-DMS or Suzuki Drive Mode Selector - the three-way switch on the handle bar that puts the fearsome Suzuki Hayabusa on a leash.

Let's go back to that motorcycle idling in the background and we'll make an attempt to delve deeper into its workings.

Perfect curves Ignition Maps

The ignition system, more commonly known as the CDI, is a finely-tuned piece of timing genius. It's got one job and one job alone, and that's to make sure a spark is delivered to the combustion chamber when the need arises; the cylinders are so needy, they grab a few hundred sparks each second at high RPM. And that's what the much talked about ignition maps essentially are, a graph of 'time

of spark' against 'engine speed'.

So, for example, at slower engine speeds, the spark is fired shortly before (in terms of position) the piston reaches the top, but as engine speed increases, the spark fires earlier, to give the mixture time to fully ignite. Sounds confusing doesn't it? Now, if mastering this wasn't difficult enough, research engineers discovered that at different engine loads (climbing a hill, selected gear, two passengers, etc.), a further change of the timing curves would ensure that the engine is using its full potential, making the maps three dimensional. So, while TVS used these maps to enable efficient combustion and increased fuel economy, tuners and the Japanese biggies took this to a different level as they extracted every last bit of potential the motorcycle could offer without having any manual adjustments made to them. Then Suzuki reverse-engineered this tech with their S-DMS. It spoiled boy racer silly by giving him an option to flick a switch, restrict the power on tap, and make him feel like he was on top of things. Safe? Yes. Fun? Most definitely not. But hey, it's an evolving world and fun need not be a dangerous sport, right?

Slippery when wet Traction control

Traction control is another rider-aid which was criticised by racing greats and serious motorcyclists. But it is actually making motorcycling a whole lot safer and has been a long time coming. Ducati is the only manufacturer that has



FLIP FLOP

There are only two kinds of motorcyclist: those who have fallen and those who shall fall. Check out Dani Pedrosa earning his stripes. Lined up alongside Suzuki rider John Hopkins, Pedrosa forgets to switch on the most important electronic launch control system on his Honda RC211V unleashing 250bhp instantaneously at the rear wheel. Oops!

<http://tinyurl.com/r3fsq1>



Credit YouTube

**Wearable Bike**

Behold the wearable bike concept by Yamaha. The bike allows two riding positions

**Mission 1**

An electric bike that is capable at reaching 150 miles per hour, runs on lithium-ion batteries

**Yamaha EC2**

This may look like a bike, but it is actually a two-wheeled iPod dock. Yes, you can ride it to work

pretty much made it a standard feature on all their top-of-the-line road-going machines. And why not? It was the first to master the art of using traction control effectively in MotoGP, so what you buy today is based on the exact technology that helped Casey Stoner win his world championship in 2007. In theory, the traction control system is rather simple and seems like it was sketched up on the back of a napkin in a coffee shop – if one wheel is rotating faster than the other, use some means to slow it down and recover lost traction. In practice though, the system relies on on-board gyros, accelerometers, gear box position sensors, and RPM sensors, to feed inputs to the ECU which are processed instantaneously as the system tries to slow one wheel down. The slowing down process can happen in a number of ways and usually differs with each manufacturer and the sophistication of the system. In the early 90's Honda had a primitive version of traction control where if one wheel was spinning faster than the other, the ECU applied the brakes on the faster wheel in order to reduce speed. Since then, the system has improved in leaps and bounds. Yamaha's MotoGP bike, the YZF-M1, uses an assortment of sensors and a GPS system to detect the spin and controls it by partially shutting off the throttle. Ducati, on the other hand, goes about it in a different way. The ECU on the Ducati knows the grip the tyre and the track have on offer at various temperatures



and lean angles and prevents the spin altogether by limiting the amount of power that goes to the rear wheel. Many more variables to work with and a little more complex, but so much more effective than the competition that a little Australian kid has been running circles around an eight-times world champion.

**Stop and go
Anti-lock braking system**

Electronic advancements have not been restricted to engines and engine management, but have also found their way into what seemed to be uncomplicated parts on the chassis as well. Brakes and suspension have also been hooked up to electronics. Honda's advanced braking technology, the Combined ABS, has made its way to



India this year on board the CBR1000RR. So far, ABS, which is synonymous with cars, has been seldom used on motorcycles. Developmental systems were used on motorcycles, none of which were as fast or as sophisticated, or demanded a high threshold for braking, or brake performance, as the current day crop. However, along with other advances, ABS has also come of age. Honda's been busy developing what is known as Combined ABS for a few years now, to make its motorcycles safer to ride. The system, unlike conventional ABS, uses

brake-by-wire technology that senses the force applied to the brake lever. This is relayed to the central processor which in-turn instructs motors on how much hydraulic force to send to both the front and the rear brake calipers, depending on your speed and the degree of deceleration. This means that a novice rider on a motorcycle equipped with Combined ABS can now grab a handful of lever and forgivingly come to a halt without having to think about, or risk, a low-side, and writing off a couple of lakhs in a crash. Racers and journalists the world over claim that the

SIDE BURN

Traction control was still in its nascent stage in the 90s and that was when motorcycle racing was at its lethal best. Rear wheels trying to overtake the front were the norm and a high-side wasn't a term used to describe a rider's mood after he won a race. Racers had nothing but pure skill and handlebars to hold on to. <http://tinyurl.com/pxf5xb>



Credit YouTube



SportVUE MC1
A helmet with a HUD, with RPM, speed and other info, from Motion Research, USA



Spreadmatic
The spreadmatic is a bread buttering machine that works at industrial speed

Ninja ZX-14

Contrary to popular belief, the most powerful hyperbike on the roads is not the Hayabusa, but the Ninja ZX-14

Geek Life



brake-by-wire works flawlessly when at the limit and the C-ABS performs seamlessly too; not a judder or pulse at lever or brake pedal at all.

Spring roll The suspension

As for the advanced suspension, you'd have to rely on München engineering. If you buy a current-day, K-series motorcycle, you will no longer have to sit around with a C-spanner and a measuring tape, adjusting your suspension before that weekend ride. BMW, who has been known for its radical designs and technological advances, has developed the Electronically Adjustable Suspension or ESA II. Perhaps that should have been EAS, but let's not be trivial about these things after the trouble it has taken to develop the world's first on-the-fly electronically adjustable suspension system

for motorcycles. The ESA can adjust preload, compression and rebound damping (check out the box 'Spring roll' on suspension jargon) and does so by adjusting the spring rate. Adjusting the spring rates was a common practice with purpose-built machines, but involved stripping the suspension and actually changing the springs. BMW engineers got smart here and used a polyetherane bushing (called Elastogran) over the main spring — electronically controlling a small sleeve in the Elastogran — enabling it to compress at different rates as the primary spring compressed against it. This makes the suspension a lot more effective in varying conditions, yet adapts to the rider's comfort levels. In addition to this, the suspension's rebound and compression damping are also adjustable on the fly, which allows the rider to push harder,

SPRING ROLL

We did throw in a lot of jargon when it came to the suspension, here's what we mean when we say —

Preload: the weight of the motorcycle acting on the springs of the suspension without a rider or pillion



Courtesy Ohlins

Compression Damping: the rate at which the suspension compress when under load

Rebound Damping: the rate at which the suspension recoils to come back to its original form

CABLE TIES

Fly-by-wire is now common place on most performance motorcycles. When it comes down to critical systems, motorcycle designers tend to want the computer to do most of the work reducing the human element while riding. The fly-by-wire throttle is one such invention. The twist grip looks just the same and so do the cables that run out of it. But instead of operating the butterflies in the throttle bodies, the cables end up in the ECU. So no matter what positions you've



Credit Yamaha

twisted the throttle to, if the ECU thinks it's inappropriate, it takes over and restricts the throttle action. Sort of like your mum telling you to ride slowly, huh?



and ride faster without having to worry if his suspension is set up to spit him off, or leave his mates in his wake around the next corner.

As we move away from the top class of motorcycles and more towards the commuter end of the spectrum, there are a number of unmentioned black boxes and silicon chips that silently make decisions, save that big spill or even make riding the motorcycles as easy as buttering hot bread. All of which have, at some point of time, been the subject of envy of world champions and local enthusiasts alike. But, unlike ten years ago, when one would have to wait a lifetime to see technology trickle down to everyday motorcycles, it now takes about two years from the first prototype to standard technology in road bikes. It's no secret that smart motorcycles have slowly begun to take away the human element from the top flight of



motorcycle racing and races are won in R&D centres rather than on the race track. And so, while professional riders ask 'How much is too much?', they must realise that unlike the last century, motorcycle racing has come of age, and they're doing it for more than just fun. It's a job, a social responsibility to help develop technology that will someday make motorcycling mundane, yet help save lives.

So Mr. Valentino Rossi, you eight time World Champion you, the next time you decide to tell the world that use of electronic rider aids has killed your enthusiasm to race, make a note that while it may have also killed our enthusiasm to watch you, the fact is you're making the motorcycle world a safer place to be in. More fun? Let me switch the power curve on my motorcycle before I tell you.

3D for the web

Google recently released a piece of software called O3D that lets web applications use the computing power of the PC's graphics chip

Similar concepts

It turns out that Google's recently launched "similar images" lab feature was already a working feature with Microsoft's Live Search – since about four months back

Disconnected:**A week without**

[Advanced Search](#)
[Preferences](#)
[Language Tools](#)

Search

I'm Feeling Lucky

Search: ☒ the Web ☐ pages from India

[Hindi](#) [Bengali](#) [Telugu](#) [Marathi](#) [Tamil](#) [Gujarati](#) [Kannada](#) [Malayalam](#) [Punjabi](#)

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Agent 001 takes up a challenge to go a week without Google and its plethora of products**Agent 001**

agent001@thinkdigit.com

The other day I was having a casual conversation with my friend about – you guessed it – technology. The conversation quickly turned towards Google because it seems these days no commentary on anything remotely related to tech is ever complete without the G word creeping in. Now this gentleman I'm talking about is somewhat of the paranoid sort but well, who isn't? He thinks Big Brother is watching his every move and so he feebly tries to cover his tracks online, all the time. Even after repeated attempts of trying to convince him that his life is just not interesting enough to track, he doesn't seem to get the message. It's not surprising then, that he suffers from the "big company syndrome" wherein people start trusting a corporation less as it grows bigger; in this case – Google. Whether or not there is any merit in not trusting such an entity is debatable, but it's certainly worth some speculation. Imagine a single corporation such as Google, giving you access to so many services you so helplessly depend on, leading to much information that you unknowingly reveal to it. In an age where information is power, such an entity could have an awful lot of power, perhaps too much.

My friend then went on to tell me how dependent we are on Google and its many offerings and he'd bet that no

one can survive a week without using Google. Now this was interesting. I eagerly took him up on that challenge. Not because I find Google a Big Bad Wolf but because I'm quite bored of it. The same old layout for all the services – the top bar with settings and links to other services, the lame old blue and not to mention the overly simplistic presentation. This little experiment might turn out to be pretty interesting, I figured. A change is always nice, isn't it? Besides, any old hand would tell you that depending on a single supplier for all your needs is just bad practice.

Although I took it up gallantly, at the very outset it seemed likely that my "week without Google" could soon render me "weak without Google". Indeed we depend so much on the Mountain View giant. Its services that we all take for granted are varied and I admit, quite good. Even someone like me, who is generally a serious character, would like my daily dose of entertainment through YouTube. Not to mention the fact that, like many others, I depend heavily on Google Search, Gmail, Google Docs and Google maps. That's not all; I read somewhere that Google offers over seventy services, at least ten of which we've become habituated to use.

But I was determined to make it work. After all, no challenge is too big for Agent 001 right? The more I got down to breaking down Google's offerings and

looking for alternatives, it became apparent that there are equivalent, and sometimes even better options available out there. Here's what I found.

Search

Search is perhaps the single most important offering Google has. Well apart from mail of course, but I'll come back to that later. The problem of looking at alternatives for Google Search, however has got me thinking some more. It reminds me of a time back in January when it seemed Google search actually went offline for an hour. Well it didn't go offline in the traditional sense of the word – it just broke. That's right someone broke Google. For an hour Google kept identifying every search result as potentially harmful and didn't take you anywhere except a warning page. The problem was caused by human error. Some nitwit at one of Google's associates, [stopbadware.com](#), identified the back slash "/" as a bad site. The problem was solved on the double, but what if Google didn't come back on in an hour and had taken longer to fix? Makes one wonder about the repercussions, doesn't it? Would the economy slow down a little more? It's possible, many online shopping web sites would not get visitors. Transactions would dwindle down, and so on. So it appears that Google has become synonymous with the internet rather than being an access gate to the internet. If we were to draw a usage pie

representing the ways in which we use the Google Search engine, you'd be surprised to know that the maximum percentage would probably be as a spell checker. Followed by – searching for porn; searching for finding useful information; using it because you are unsure about the correct URL or even something as ridiculous as being lazy enough to type ".com". Pertaining to information we must remember that there are other entry points for accessing the vast amounts of information floating around in cyberspace.

Which other search engines can you use? I decided to visit my old favourite pre-Google era haunt [alltheweb.com](#). It's now owned by Yahoo!, it's still fast and the advanced search feature is quite extensive. I tried to put in a wrong spelling and it even offered me a "did you mean?" suggestion. Speaking of Yahoo, the Yahoo search itself is not that bad. Another option is Ask.com which has a nice simple interface; simpler than Google's. [Dogpile.com](#) is a search engine that aggregates results from other engines, while [Mamma.com](#) (aka. the mother of all search engines) is also an alternative. [Faganfinder.com](#) also helps me get to those really pesky bits of information on the web. The other biggie – Microsoft – provides a very viable alternative in its Live Search ([live.com](#)) service. It's good at searching the web, but at the same time I found it to be the best alternative when it comes to dethroning Google's image search. An image search

YouTube numbers

According to comScore, the web's leading video-streaming website crossed a hundred million unique viewers in the US



Superfast Chrome

Everyone on the web is gaga over the superfast new version of Chrome



Analytics Widget

Google now allows website owners to publish analytics

Agent 001

for *confiker* actually returned better results than the raining image search champion. As far as using Google Search as a spell checker, I used an application called Wordweb. It's a free dictionary and thesaurus that is far better than using Google. Just hit [Alt]+[Ctrl]+[W] to bring up the nifty little application from the task bar and query any word you want. You don't even have to get the spelling right, it'll give you suggestions just like Google does.

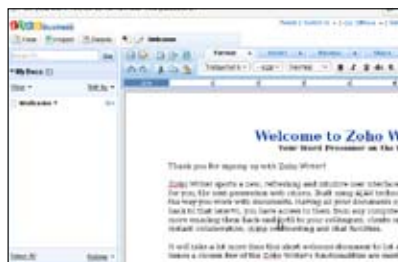
Gmail

Gmail is a tricky animal to live without. Many of us have already migrated to Gmail having still retained those old Yahoo, Hotmail or other inboxes. In such cases it shouldn't be a problem, just use a filter in Gmail to forward all your mail to another account, like I did. But what about those people who have started off with Gmail? They're far too used to the conversation style layout of Gmail which clubs relevant conversations together.

web to a single page. Finding a replacement for this service was not at all a difficult task. Several players such as Netvibes, Shrt, Pageflakes and even MyYahoo and Microsoft Live provide start pages that are equally good and perhaps even better. I settled in on Netvibes.

Google Docs

This is perhaps the most non-trivial service Google is providing. It is definitely the most popular name when it comes to cloud-based office applications. But as with most things, popular isn't necessarily the best. Zoho offers office tools that are actually better. The word processor layout is very similar to MS Word and hence I found it pretty comfortable to use. The features offered by Zoho Writer are much better than Google Docs. Zoho allows you to post to your blog directly from within the feature rich Writer. Be it Blogger.com, Wordpress.com, LiveJournal, TypePad or any



Zoho Writer: A powerful online word processor and an able replacement to Google Docs

is, and it comes in the form of downloadable feed reader apps such as FeedDemon and Feedreader. Feed Demon has certain unique features such as "Watches" which are folders that aggregate current news for keywords automatically. Still, like me, if you are one of those who prefer online applications then you can use plugins for Firefox such as Sage or even the inbuilt feed aggregator for Opera. Or go in for popular options such as Bloglines or Netvibes which are essentially feed readers.

be good. My search led me to one of Google's biggest rivals — Live Search. But it turns out that the news section here is not available to people in this part of the world. So to get to it, you'll have to change your default location to United States. Very silly. It's a fairly decent option and I particularly liked the "More on this story" button which brings you similar news results. Just like Google News you have the option of browsing by categories such as entertainment, sport, sci-tech, health, and so on. Its news videos are quite relevant too. If you are looking for a fresh look like the Google Labs' timeline experiment, check out marumushi.com/apps/newsmap/ for an interesting way to depict news.

YouTube

But speaking of video, what am I going to do without my daily dose of YouTube? Obviously I'm overreacting. Between

Several start pages such as Netvibes and Pageflakes provide a much better substitute to the iGoogle page. Netvibes also functions as a feed reader that has a lot of interesting preset news sources to choose from

Some are very comfortable with the labelling system (Though personally, I never did mind folders). Fear not, it's not as if there is no one out there who offers the same. Zoho Mail is a nice mail service that will give you much of the functionality of Google and will even let you access it using your existing Gmail or Yahoo account. In.com offers a small mail ID while giving you the conversation style system along with ample storage space. Mozilla's Thunderbird, though not technically web mail but a mail client, is another great alternative. It has the capability of adding plugins or extensions. Add in Lightning or Sunbird and you can even replace Google Calendar. If you prefer a web-based calendar app then 30 Boxes should work for you. It also integrates with Twitter and Facebook.

iGoogle

Another important Google service I use is the iGoogle start page. It is a customisable start page that lets you add news, photos, weather, and stuff from across the

blog that supports metaWeblog API, you can make the post from Zoho Writer. You can add tags and optionally make the post as a draft as well. Like Google Docs, Zoho also provides great integration with its other products. In addition to all this Zoho's Notebook tool surely earns it some more points.

Thinkfree, another great option, goes beyond just online word processing and offers the power tool, which lets you work offline and sync files with the cloud. Since Thinkfree is a Java-based suite, it works online as well as offline, offering you a better usage experience than purely online options such as Google Docs, that try to work strictly within the confines of an HTML framework. Thinkfree is a very powerful office tool — once you get past the annoying initial phase when opening a new document

Google Reader

The Google Reader is fast and easy to use. But surely there can be an alternative. There

Google Maps

Google Maps has become one of the most used of its myriad services. I find myself depending on it quite heavily when planning my vacations. The product is no doubt superlative, but as always, there are options. There are the other web biggies — Microsoft's Virtual Earth and Yahoo Maps. Another forerunner in the online mapping space, and one that I found quite useful, is maps.ask.com. It has regular maps as well as satellite overlays, complete with driving instructions and distance calculator. Google Earth also has a rival in the form of Virtual Earth 3D — a Microsoft brainchild.

Google News

The whole world it seems has now got quite used to Google News. It's a good aggregator for reliable news from reputed sources. I found the new timeline feature quite interesting too. So if I am to look for an alternative for this particular tool, it had better

Yahoo Video, Metacafe, Vimeo, Rewer, Blip.tv and Veoh I don't think I'll be missing YouTube anytime soon. In fact, looking elsewhere in this department might seriously be a refreshing experience. So moving on, for Orkut there's already FaceBook, for Picasa there's Flickr, and so on and so forth. The point is that without Google my life certainly did not come to a standstill. And neither will anyone else's. Sure Google has some superlative products but I don't need to be a willing participant in its increasing monoculture.

7 days later...

The week has finally ended and I've won the bet. This little experiment proved, if anything, that Google is good at most of what it does. But should the need for variety arise there are always options. Also, on a lighter note, if someone were to sabotage the multi-tentacled G monster, I'm probably the most prepared person there is. Now, so are you.

CARS 2.0

It's time for an upgrade

What we see coming is a change in the definition of what makes a car... After a long time we are due to see a change in the internals, the kernel, if you will, of the car. A version increment is fitting



Kshitij Sobti

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Who decides these version numbers?

What do you imagine when you think of a car?

Cars are undoubtedly one of the most revolutionary inventions of all time. However the fact remains that even though it's been a hundred years since their inception, they remain the noisy, inefficient, fuel-guzzling, pollution-spewing monsters that they were when they began. Cars are like lions tamed to act like kittens — cute, but you wouldn't trust your kids around them.

What we see coming is a change in the definition of what makes a car. Future definitions will not be limited to a machine

which runs on fuel, or has four wheels or even has wheels at all! After a long time we are due to see a change in the internals, the kernel, if you will, of the car. A version increment is thus fitting.

Green cars

Cars are one of the major factors responsible for environmental pollution. Vehicles have become so integrated into our lives that we dare not even discuss if their benefits outweigh their costs. Stricter and stricter norms are being put into place, but our final goal of a Zero Emission Vehicle (ZEV) is still far away from becoming mainstream.

Besides the environmental considerations, these technologies decrease a country's reliance on imported oil.

Let's see what we have to look forward to.

Electric

The concept of electric cars has been around for so long, that by all means it should have been obsolete by now! However, electric cars have only become a possibility recently. With new innovations in batteries, storing more energy in a smaller space, we can now have inexpensively manufactured, and cheap running electric cars.

Accessories for smartphones

114

Agent 001 digs deep into his big bag of tricks

Like to flash?

146

We test the latest USB drives in the market

Superbike tech

68

We check out what goes on in the innards of a Superbike.

Feature

One of the reasons electric sometimes seems to lose favour is the fact that electricity itself isn't clean. Many power stations themselves run on polluting fuels, and thus seem to defeat the whole purpose of the electric car. In this light, alternative fuel choices start to look more favourable, especially since they are more compatible with the

systems already in place.

An electric car is at best as clean as the power-supply station for the area where it is charged. However, with efforts underway to make the power generation stations pollution free, they cannot just be dismissed off-hand. For early adopters, electric cars are already available, even in India, with the Reva; a compact two-seater car which comes at an affordable price.

Electric cars use, quite unsurprisingly, electric motors which are powered by on-board batteries. One might wonder why it is so difficult to make electric cars, when the essential



Yes they exist!

Flying Cars

Flying cars have always been a dream, but don't expect them to look anything like the cars from *Back to the Future*. They are rather more like small aircraft that can

travel on roads. Examples are *Parajet Skycar* to be available soon for (£50,000 or around Rs. 40 lakh), and the X-Hawk, a personal helicopter of sorts available for US\$3 million (around Rs. 50crore) in 2010.

Amphibian cars

They are here today, although used more by the military. Still, amuse yourself with the thought that you could now avoid the traffic jam by directly cutting across that pesky river.

PreCrash systems

PreCrash systems can harden the breaks, tighten the seatbelt, and prepare the airbags, so that the approaching crash causes minimal injury

GPS tracking

GPS tracking can be infinitely useful in plotting a route to your destination, avoiding traffic jams and even recovering your car if it gets stolen



The Toyota RAV4 offers an enviable blend of power, economy and utility thanks to its Dual VVT-i engine

technology can be seen even in some of the cheapest toy-cars.

The energy required to run a car is considerable, and unlike a toy-car, an actual car needs to run longer, faster, and needs to carry more weight. The only way to do this is to add more batteries to the car, which has the unfortunate consequence of increasing the car's weight and thus requiring even more batteries to run! With the lead-acid batteries found in cars today, making an electric car is quite inefficient.

These, if used, will also need quite some time to charge and will need to be replaced occasionally. Using NiMH or Lithium-ion cells increases the range and life of the car; at a cost – a price 10 to 20 times as much!

Electric cars can also take advantage of concepts such as regenerative braking, where energy released by braking the car is used to help recharge the batteries. Energy obtained from driving the car on a downward slope can also be used to recharge the car. These technologies greatly increase the efficiency of the car; since the energy used here is otherwise wasted.

So the only thing that stands in the way of electric cars is the battery-pack. Since improvements in

batteries affect a wide range of devices, we are in luck, as most manufacturers are already hard at work trying to improve the life and recharge characteristics of batteries, and are busy driving down their cost.

Fuel cells

Fuel cells to the rescue! These marvellous devices are capable of producing electricity directly from the fuel without involving any messy combustion. The basic concept used here is the same as an electric car;

however instead of needing to recharge the car from an external source, the fuel cell produces the required electricity. As they can be refuelled instantly, no long periods of recharging are required. Fuel cells remove most of the disadvantages of electric cars.

Additionally, since they are essentially electric cars, they too can utilise regenerative braking and energy from driving on downward slopes. They remove the long periods of recharge, increase the energy density, and don't need occasional replacements. However the cost factor remains an inhibitor.

Fuel cells have already started to become a reality for consumer electronics; however cars represent

a bigger challenge due to their much greater energy requirements. As such, fuel cell cars are currently not production ready; however, with research being done by the FreedomCAR initiative, and CaFCP (California Fuel Cell Partnership), the performance and cost issues are sure to be resolved.

For the purpose of cars, the most commonly considered option is a hydrogen fuel cell. These run on hydrogen gas and produce only water as output, making them very environmentally safe. Even if an organic compound of hydrogen such as methane or ethanol is used, there are minimal by products.

Hybrid solutions

Electric cars are certainly wonderful, but when you're unable to pick up grandma because you forgot to charge the car last night, things get embarrassing. One important consideration with any new

technology is how compatible it is with the status quo. Electric cars are suddenly alien to most of our notions of a car.

Hybrid cars are a middle ground. As their name suggests, they form an evolutionary transition between electric- and fuel-powered vehicles. They typically contain a fuel engine along with electric motors. To make the concept even more attractive, the engine in the car could be additionally made to run on alternative fuels such as CNG/LPG, decreasing the environmental impact even further. They manage to give a much better mileage, and are also capable of using regenerative braking to their advantage. Since we have essentially two engines in the same car, the gasoline engine can be made smaller than otherwise required in a normal car of similar size.

Hybrid cars can either use the fuel engine exclusively, or can run on battery power, enabling the car to be charged and run for short distance on battery power alone. Hybrid cars are becoming quite popular nowadays, as they get cheaper and are more easily available. Government initiatives also exist in some countries for people who use hybrid cars.

Alternative fuels

Most people seem to want to defer the usage of alternative fuels, until the time when there is No Other Alternative. However, gasoline's end times are approaching, and the sooner the transition to the alternatives, the better. Delhi is already a front runner in this effort, with all public transportation already running on CNG.

AIR ENGINE

Internal combustion engines rely on the expansion of the exhaust gases produced after the air-fuel mixture is combusted. Air engines instead use the energy stored in the compressed air to run the engine. Many different mechanisms are in development, from turbines to rotary motors – no avenue has been left untouched for this cleanest of energy forms. The basic principle involves using the energy from the expanding air to drive the motion of the piston, or rotor or fin. This energy is relayed to the wheels to drive the car. Since compressed air contains far lesser energy than that produced from combustion, the car needs to be optimized with lower weight and drag.

Reva

REVA, the Indian electric car has more units produced than any other electric car. It has a top speed of 80kmph, and a range of 80kms on a full 8hr charge

Night vision

Many high-end cars feature night-vision for better and safer driving, enabling the driver to see a longer distance not only at night but also in foggy conditions

As long as there is combustion there will be some unwanted products but it is also not feasible to expect each and every car to turn on a dime and switch to electric or fuel-cell based systems. Alternative fuels require an easier transition, and that is their charm, to significantly reduce emissions while maintaining backwards compatibility. Many current cars can be modified to make them compatible with alternative fuels such as CNG, ethanol, and bio-fuels, and can in fact even be made to run in a dual-fuel mode, with the option to run it off either CNG or gasoline. Furthermore, engines can be specially designed to run on multiple fuels, automatically adjusting their characteristics to those appropriate for the current fuel mixture.

The very word alternative means there's more than one, and there is more than one

Compressed air engines have significant issues that need to be addressed before they enter the market. Such cars are required to be very light, and many fear that the safety of the car may be compromised as lighter, thinner, material will be required for the body. Refuelling and range are also issues. Don't expect to be able to fill up the tank with your trusty old foot pump; they require that the tank be filled up to a pressure of 4500 psi, or over 300 times the atmospheric pressure! Compressed air itself costs energy to make, thus the compressed air engine is only as clean as the energy used to compress the air.

Solar cars

These have oscillated between popularity and obscurity many times. To this day the fact remains that solar energy is just not feasible as a standalone source of energy for running



Hybrid cars such as this *Honda Insight* offer the best balance between fuel and electric

gasoline replacement out there. Although we seem to have settled with CNG today, that is not the end of it, and over time, better alternatives will come up. Hydrogen-powered internal combustion engines are quite possible, and since their end-product is water, the environmental impact is almost nil. Such cars are actively in development.

Air cars

What could possibly be more renewable and less polluting than air itself! Engines which can run on compressed air have been in the making since as far back as 1920, but recently this field has seen significant progress. In-fact TATA is even considering an AirEngine version of its upcoming Nano, and has tied with the Moteur Development International (MDI) in this effort.

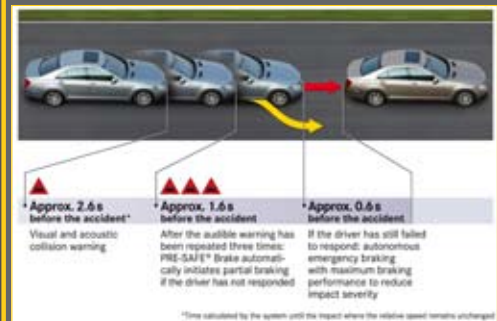
a car. Even the best commercial solutions use solar power as an additional source of energy. Solar energy by its very definition fails to be a fully competent energy source for cars.

A solar car shares the basic concept of an electric car, with additional constraints on the weight of the car body, and other components. To be practical they need a battery as well, to provide a constant power supply to the car even in conditions of low-light. The usual advantages of the electric car such as regenerative braking apply here as well. Some of the available solar technologies for cars are limited to improving the efficiency of electric, hybrid, or even normal cars, by recharging batteries while the car is parked under the sun.

The most popular use of fully solar cars today is in solar-car races, with cars

In cars we trust

The fractions of a second before a crash: Mercedes assistance systems automatically warn, support and apply the brakes if the danger of an accident is acute



*Time calculated by the system until the impact where the relative speed remains unchanged

PRE-SAFE®: Activation of the front belt tensioners in response to radar signals



Unavoidable collision at a junction
Activation of the PRE-SAFE® belt tensioners based on information from the close-range radar



Unavoidable collision with oncoming traffic
Activation of the PRE-SAFE® belt tensioners based on information from the close-range radar

Mercedes-Benz S-Class: BAS PLUS and the DISTRONIC PLUS proximity control assists the driver during emergency brake application. If the driver is distracted and therefore does not register the imminent danger of a rear-end collision, the PRE-SAFE brakes can intervene and automatically brake the car. They act like an "electronic crumple zone".

Mercedes-Benz S-Class: The anticipatory occupant protection system PRE-SAFE® is based in part on the results of real-life accident research. It recognises potentially dangerous situations and activates protective measures for the car's occupants. PRE-SAFE thus builds a link between active and passive safety.

License plates

In the future, license plates will be supplemented with RFID chips containing information about the car and its owners

RFID chips

Electronic toll collection, using smart cards and RFID chips has been implemented along the Delhi-Gurgaon highway—cars don't need to stop to pay toll

which look more like floating silver carpets. Solar cells are bound to get more efficient, and we may one day see a car that runs purely on solar energy. However, for now they are destined only to be conceptual contraptions.

Cognizant cars

Three out of every five drivers don't know how to drive properly, and the cars don't seem to mind. A day will come when cars, like children growing up, will realize that running into a tree might be counterproductive. Tomorrow's cars will need to be smart, maybe not as smart as KITT, but smart enough to know when more brakes are required than applied by the driver in-charge. Today's cars have as many as 50 microprocessors controlling various aspects of their workings – from managing the car's AC temperature and stereo volume, to controlling the rate of firing of the spark plugs. Throw in a couple of hundred more, and the car can be made aware of its location via GPS and aware of any surrounding cars, aware of traffic signals, and aware of the fact that the idiot behind the wheel is just too drunk to drive.

Braking assist

A large number of accidents are caused due to inadequate braking, when it is needed the most. Brake-assist systems can greatly decrease the chances of an accident, and otherwise decrease the impact of a collision. Although collapsible steering wells and air-bags assuage the blow when the accident happens, this technology takes the proactive step of decreasing the chance of an accident ever happening. Systems developed by Volvo and Daimler-Benz are intelligent enough to understand when the brakes are being applied in an emergency and will boost the power to the brakes so that the car stops in time. Volvo's CWAB (Collision Warning with Auto Brake) system has radar to detect possible collisions, and appropriately power up the brakes, so that sufficient braking is achieved. It can even respond with warning lights and sounds if the driver fails to respond in time, and will automatically brake to decrease collision speed even after the collision has become unavoidable.

Cruise control

Hopefully, by the time this technology hits mainstream cars, we would have forgotten about *Speed II: Cruise Control*, to not be put off by its name. Cars with Autonomous Cruise Control are capable of anything from automatically controlling the car's speed to completely unassisted driving. This one seems straight out of science fiction, but in fact is already available, and had been demonstrated as far back as 1995 by Mercedes-Benz with a specially designed S-Class car. Using lasers or radar, cars with Autonomous Cruise Control systems can locate and track other traffic on the streets, and appropriately change the speed of the car – slowing down in traffic and speeding up when the roads clear. They also use information about speed limits from an in-built GPS to ensure that the car always stays within driving limits.

Best of all, this is available today! If you're willing to shell out a few crores of course. Do not despair; over time these features will trickle down to the cars most people can afford, just like ABS (Anti-lock Braking System) did. The future is here! Really, we checked.

Assisted parking

How many times have you nicked someone's bumper while trying to parallel park? Afraid someone will catch you in the act one of these days? Assisted parking means never having to say sorry; it's like love, but less complicated. With assisted

parking systems, all you need to do is align the car near the parking position, and tell it where to park, and the car will park itself. Is this even important enough to implement? Why not park yourself? Parking is one of those few instances where we often require the car to go backwards, occasionally requiring third-party assistance in assuring us we are doing it right. A lot of time is wasted in parking procedures, and if this repetitive task can be left to the car,

so much the better. This may not seem essential, but

it surely is beneficial.

Current technologies aren't smart enough to locate a parking spot, and park automatically, they need some input from the user as to where to park. Fully-automated parking will surely be available someday, and society will be left with one less nuisance to joke about.

With the parking left to the car, the driving to the cruise control, and with braking assist to make ensure that you won't bash into anyone, the future will be a much safer place to drive. Who knows, passengers might even be recommended to pass out drunk before driving, ensuring that they don't mess with the controls?!

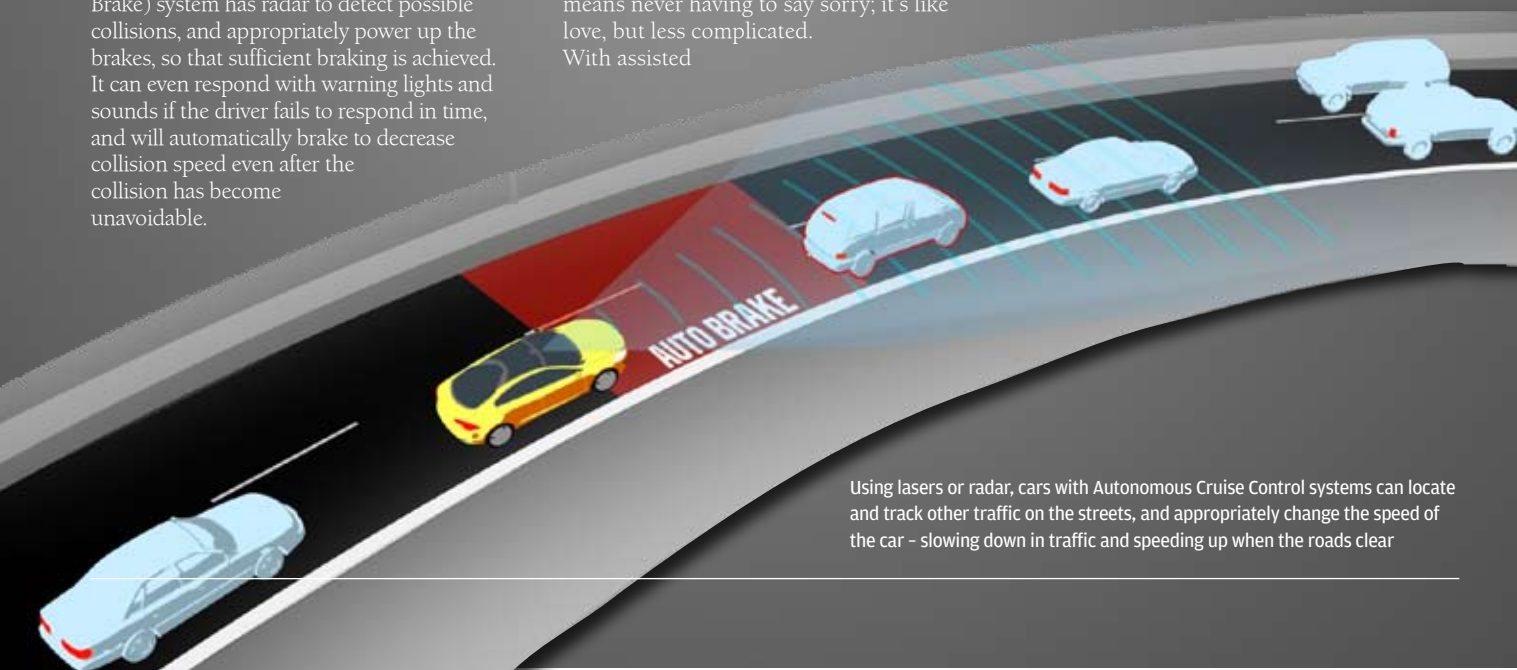
The shape of things to come

Now that we've paid attention to the inner beauty of cars to come, we can safely discuss that which we really care about the most – its looks! The fact is, looks matter. No matter how much you crave a car with muscle, you'd

NUCLEAR CARS!

OK this isn't really available, but back in 1958, when the word 'nuclear' was still cool, Ford unveiled a concept design of a car which would feature a Nuclear reactor for running the car. It never went into production, and was in fact never even built. Apparently, giving everyone a small nuclear reactor is a bad idea.

Using lasers or radar, cars with Autonomous Cruise Control systems can locate and track other traffic on the streets, and appropriately change the speed of the car – slowing down in traffic and speeding up when the roads clear



eCall

In European countries a system called eCall is in process of implementation by 2010. In case of an accident, the system will automatically place a call to the nearby emergency center

Artificial passenger

Artificial Passenger is a device invented by IBM to ensure that the drivers don't fall asleep (or get lonely!). It is capable of making conversations, asking questions, controlling the car stereo, even telling the driver to take a break and sleep

Feature



Assisted parking offered by the Lexus LS 600 is the ultimate in point, click, and forget: just select where you need to park using the dashboard and let the car do the rest!




Do androids dream of electric cars?

We have come a long way from the clunky, boxy monstrosities that our ancestors called cars. Cars are no longer a privilege of the privileged, more a convenient conveyance for the common man. We can dream of teleportation, but in all probability we will be driving our cars (or be driven by them!) for many, many years to come. Until better means become available, cars will get faster, better looking, lighter, cheaper and less polluting.

Today, we find ourselves in an uncomfortable time where our knowledge and thus our judgment would have us abandon the polluting monsters that ply the roads. Those who have the means and care enough, have already begun to switch to greener technologies, but they will need to get much cheaper if any kind of mass adoption is to be expected.

A few years ago, before computers, the internet, and GPS, a lot of today's car technologies would have been inconceivable. Who would have thought about intelligent cars back then? Or in fact any kind of inanimate intelligence. Intelligence is a property that we associate increasingly with devices as well as with humans these days.

It is quite likely that some of the technologies that we will see in the cars of tomorrow are based on technologies that we cannot yet imagine. What remains to be seen is whether our cars can get smarter, faster than we get dumber. 

still laugh at a Twin V8 Turbo engine powering a Maruti 800.

Over time you'll notice a trend that cars tend to get curvier, and generally more pleasing to the eye, ever new models come with at least one corner replaced by a curve. Companies spend large amounts of money to ensure the entire body of the car seems like one smooth unbroken surface, a technique called Class A surfacing. Not only does this make the cars more visually pleasing, but also more streamlined. So you see the curves have a purpose, as always. We are getting faster and faster cars, and the externals of the car are starting to matter more.

The concept of concept

If you open up any car magazine you are sure to find those car renderings which seem like squashed-down stealth aircraft, until you squint and see signs of wheels and a label somewhere saying 'Concept Model'. Are these cars destined only to live in our dreams? If you look at concept

car drawings from decades ago, they will look like the same wacky, contrived designs we see in concept cars today. The only difference is that today they are much closer to reality. Which is not saying much, since many of those designs are likely never to come out. Such assaults to our senses are best humoured only in car exhibitions and magazines. Hey, but a guy can drool, can't he?

Most of these cars are meant to show off a new philosophy of car design and will usually undergo a lot of changes before they are eventually released for purchase. This also helps the manufacturers garner early feedback from people before they commit to a new design which will cost millions. This doesn't mean that concepts never come to fruition, on rare occasions manufacturers have released concepts, such as the 2002 Pontiac Solstice which was released in 2006.



DREAM ELECTRIC

The Tesla Roadster

Here is another reason to go electric besides the usual excuse of saving-the-environment: The Tesla Roadster.

This petite, yet powerful, beast will take you from 0 to 100 KPH in under 4 seconds, while still maintaining its composure. You can burn the road at its top speed of 200 KPH, and still expect a mileage of 50 KPL, enough to put your neighbour's motorcycle to shame! Designed as a sports car, it gives some of the best performance characteristics for electric cars. On

a single charge, it can whisk you away as far as 375 Km thanks to its battery pack of 6,831 lithium ion cells, which Tesla refers to as its Energy Storage System. Even after all this it needs only 3 1/2 hours to charge! It has a smooth carbon fibre body, and a powerful 3-phase 4-pole electric motor capable of an impressive 285 hp (315 hp for the Sports version), and an efficiency of as much as 90 per cent.

This is the first car developed by Tesla Motors, which is a rather new company that focuses on

electric cars. The Tesla Roadster was a joint effort with Lotus Cars, which supplied some components and technology, and the car itself was assembled in a Lotus factory. The internals of the car (motor, electronics etc) were developed by Tesla Motors itself, based on technology licensed from AC Propulsion. Despite it's pure awesomeness, it comes at a somewhat reasonable (for a one of a kind electric powered sports car) price of \$98,000. Go book it today for your 40th birthday!



Mobile medkit
Signostics medical has developed a market-ready, portable ultrasound device



HDMI for PMPS
The next generation of PMPS might sport a mobile variation of the HDMI port



xYz
Rumours are floating of a Xbox Zune hybrid portable gaming device from Microsoft



UDPMD

The Ultimate Digit Portable Multifunction Device: we take you through the design of the portable device of our dreams...

Kshitij Sobti

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On the 100th anniversary of the Ultimate Digit Portable Multifunction Device we bring you the initial draft of the gadget as taken from the archives at the Digit Library on Trantor.

Encyclopedia Digit > Year 3245 PA > The Ultimate Digit Portable Multifunction Device
“... when it was discovered that Digit’s strict policy about “not spending 98% of your day fantasizing about cool devices” had been violated, the management decided to put the same to use. Thus the Ultimate Digit Portable Multifunction Device (UDPMD) was born.

After little deliberation the design was put to a test and became an instant success. Now having replaced almost every other portable device ever created...”

In the 21st century, the world has finally begun to shrink into our very pockets. Every aspect of our lives has now started to become available on the go. We have cellular phones to stay in touch with people, via voice and text, we have portable media players to keep us entertained, we have eBook readers to fit our entire library into

our pockets and we even have pocket PCs! The list is growing; the list is endless.

Amidst all this, a philosophical question begs asking: how many pockets can one have?

How many pockets?

Sometimes it seems that devices come intentionally crippled so that we need to buy more. Whether it be in form or function, some constraint or another forces

The world has finally begun to shrink into our very pockets.

Every aspect of our lives has now started to become available on the go...

us to go for another device, when one ought to have done the job.

This is why the UDPMD does everything. Or more precisely, can be made to do everything.

The reason computers have seeped into every field is because they are almost infinitely configurable. Whether it is playing your favorite games, or landing

the rover on Mars, the device in question always ends up being a computer. If you take into account every possible hardware accessory coupled with every software possible, computers can do virtually everything.

The UDPMD embraces the fact that every portable device is a computer, and opts to be fully expandable through hardware and software. It runs on open hardware, meaning that the core design of the system is not only known and published, but also unrestricted. It is however also standardized, so that modifications need to comply in order to be compatible.

Open hardware means that one has enough information to create any additions, modifications, and extensions for it, and doesn’t need to pay anyone for the privilege. This steps above merely having an SDK to make applications for the device, as now you can write your own operating systems instead of relying on the one provided by the vendor. Open hardware also means that every manufacturer can manufacture it, without requiring a license, ensuring that customers can benefit best from the competition.



Q-sound
Bluetooth solar-powered headphones for the deep ecology gadget freak



2GB Micro SD
Apacer has unveiled high capacity Micro-SD cards in 2GB and 1GB capacities



iPWR
The iPWR juices up your iPod or iPhone when the battery drains out

Tomorrow's Tech

This may lead you to wonder, how exactly will open standards help?

Why so open?

Having grown up surrounded by the mantra of the three Rs (Reduce Reuse Recycle), it seems odd that precious few devices are built around that concept: "Why can't I reuse my Sony mobile headphones with my new Nokia mobile? Despite the fact that almost all these phones now use Lithium Ion cells, why can't I put a Motorola battery in a Samsung phone? Or even use the same charger?"

Even in their most forgiving of moods we are treated like little kids by manufacturers; no options offered, with the assumption that we are too dumb to know what we would want if given freedom and choice.

Open standards means that anyone is free to implement them. Which means that every manufacturer which makes a charger, or a battery, or even a screen will have to comply with the same standard. Right now it is possible to get only unbranded third-party replacement parts, with fuzzy warranties and little or no reliability. With open standards even some of the smaller companies can start making components and parts for a mobile device.

Why can't we reuse our Sony mobile headphones with our new Nokia phone? Why can't we put a Motorola battery in a Samsung phone? Or even use the same charger?

The UDPMD is completely open, so anyone and everyone can make modules for it. The word standard is as important, because without standardization every manufacturer would start manufacturing their own custom versions and we'll end up in the same place we are now. With the UDPMD you can go to just any mobile store and buy a charger of any company and be sure that it'll work, you can buy any headphone or any battery. The true competition then would be about who makes a better component, not which device do we have to compromise the least with.

With a device as modular and open as the UDPMD, customization becomes easy and you no longer have to adapt to the device, but the device will adapt to you!

What's that module?

All portable devices have some sort of micro-controller which will perform most of the processing involved. A micro-controller is

NOKIA MORPH

If you were thinking that we went over the top with the UDPMD, take a look at the Nokia Morph concept.

They envision a device created from materials which can morph into different shapes depending on what purpose they are being used for at the moment.

This beautiful device can fold itself

for better pocket-ability, and unfurl into a landscape view so you can read your documents better.

The surface is nanostructured, and it can be made self-cleaning, self-preserving and solar-powered!

Plays right into our UDPMD plan doesn't it?!

essentially a small computer on a single chip, yet all this potential goes to waste as you are locked down to the features of the gadget you bought and the interface it comes with.

Any portable media player today should be able to play Matroska (a lesser known audio / video file format) files, the processor is capable, just not programmed to allow for it since it does not have a large enough user base. This is understandable, yet with an open system, the open source (or otherwise) developer can pick up the slack and add the functionality themselves.

This is true for hardware as well. When you buy a mobile, for example, you often pick the model in which you have to make the least compromises. Why should we need to make compromises? If the iPhone has an amazing touch screen, but you like Android OS, and love the cameras that Nokia mobiles have, you will have to pick based on what you are most willing to forgo.

This is especially cruel of the manufacturers since mostly, the incompatibility is created by them. If the technology exists, why shouldn't you have the best of all? Due to artificial restrictions we are unable to optimally use our favorite devices to the best they are capable of.

The UDPMD will suffer from no such birth defects. With open hardware specifications that allow for modules, we can have easily have a device which uses the best from each field. Each component is separately installable and upgradeable.

You can remove that old 2MP camera and place in a brand new 5MP one without needing to chuck away the whole device.

You can mix and match

your own configuration, much as you can do today with assembled computers. Take the basic processing module, throw in a camera module, add a simple GPS module, and some kind of storage, install software that is capable of utilizing them, and voila! You have your own digital camera. Add a GSM module and you have your own mobile camera phone with GPS! You can even install a hub to extend the number of modules you can use at a time. What's more you can add an additional GSM module to allow the same device to use two connections.

The possibilities are now endless. You can go for the best manufacturer for each component without compromising on the other. Or, since money is always the final hurdle, you need only compromise with that which is least essential. Or if you can't be bothered with all this and prefer the *they-give-I-take* system you can buy ready made configured devices, and if someday you want to upgrade that lousy 40MB internal memory with a 160GB HDD, that path is always open to you! Oh and did we mention open standards? That means you can reuse the same modules for your next mobile.

Recycling: Mother Earth Approved

Many devices have a microphone for recording, or a speaker for playing sounds, and a screen for displaying visuals. Why can't we reduce the number of repeated modules by reusing the common features, thus recycling the resources?

With the UDPMD everything is a module, so you can go ahead and use that amazing expensive camera module you bought while making a digicam, with your new and awesome





MiFi
An Atheros chip converts your mobile 3G handset into an instant Wi-Fi zone



GPSMap 620
The Garmin GPSMap 620 is one of the few GPS devices that works as well over the seas



Microprojection
Micron has developed a technology that allows portable devices to have embedded projectors

phone, it won't mind. And because we think of everything, we also included the facility to make module-packs, so you can have multiple "packs" of your own configurations for different purposes. On the way? Add the PMP module-pack and listen to your music. On a vacation? Use the digicam module. Lost? Use the GPM locator module-pack.

Some modules will even allow multiple devices to use the same components. So you can go ahead and buy that expensive bendable multi-touchscreen and use it for your camera, mobile and PMP at the same time. The advantages are obvious: you no longer need to spend money on the same thing over and over again, instead you can spend money buying a better product.

Now all our three Rs are satisfied too! We are reducing the quantity of the parts consumed since they can be reused across different gadgets and recycled for use in new gadgets.

One may ponder, with this cocktail of components, who do I go to when it all blows up?

NOKIA ECOSENSOR CONCEPT

How about some sensible electronics for a change? This concept phone tries to respect "The Three Rs" by making the mobiles out of recycled and bio-materials.

Oh and did we say it also monitors your health, the environment and weather while reducing energy consumption by utilizing alternative energy sources such as solar power?

This concept device consists of a wearable sensor which can be solar powered, and a mobile. The two work in

unison.

The sensor is capable of detecting hazardous environments, and weather conditions, and can monitor the wearer's health conditions.

The mobile itself is designed to minimize material usage, while using bio-materials and recycled materials.

Nokia intends to set things in motion in this direction, and has even conceptualized web services built around the data collected from such devices.

Where does the buck stop?

With so many different manufacturers involved in bringing you the final product of your dreams, who is to blame when something goes wrong? You might suspect that that unbranded camera module probably caused the phone to melt down but it could easily have been that expensive overpowered battery.

It as as much a headache for the

manufacturers to diagnose the cause of the error, wasting resources if it turns out they were never at fault anyway! Quite similar to the problem we have with assemblies PCs today. Every component needs to be shipped or taken to a different location for repair / replacement, and under different warranty terms. Too many cooks spoil the broth they say.

Will it be that much worse off than today?, when customer service pompously

Nokia seems to have a lot of concept ideas of their own, and also a big fan following who design what they feel are concept phones that Nokia should release. This E97 concept was designed by Fabien Nauroy, a French design student. Wouldn't we all love an E97?





PSP hits 50 mil

In the middle of May, PSP sales worldwide hit the astonishing 50 million sold mark



WalkmanX

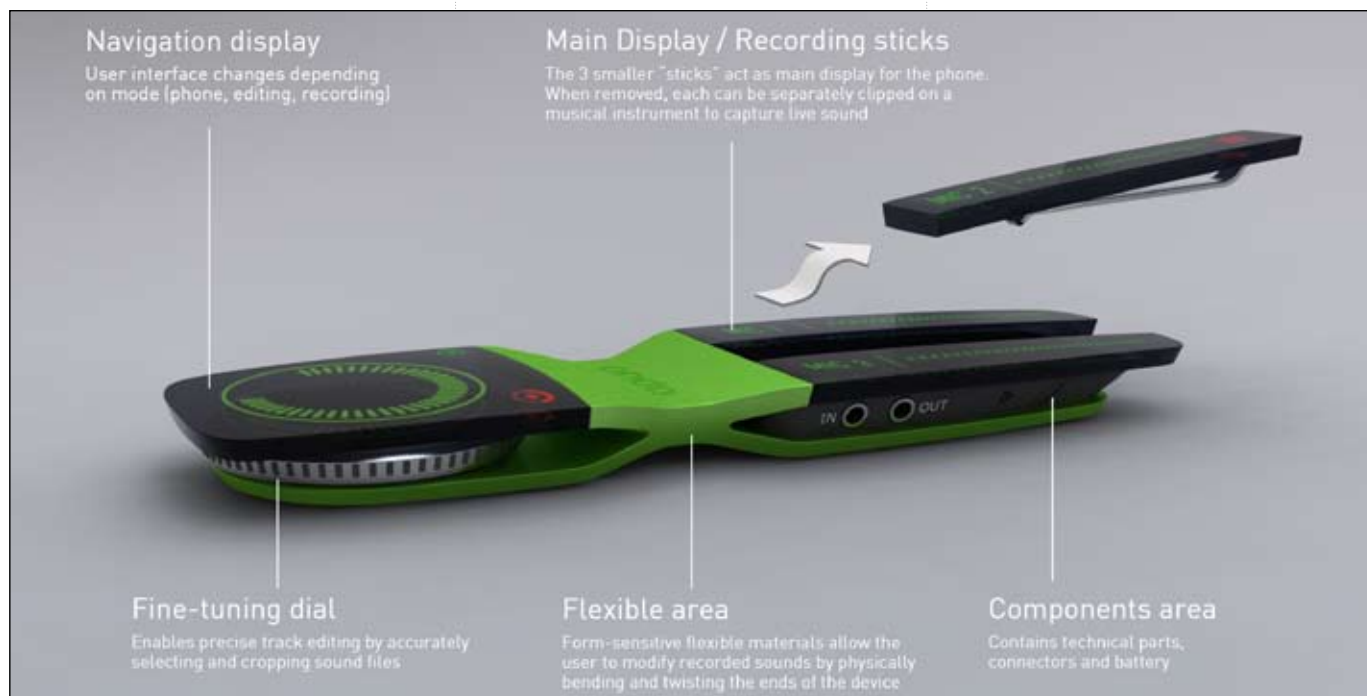
The highly anticipated X series Walkmen from Sony is finally here, in 16 and 32 GB versions



32GB NAND

Samsung has started shipping 32GB NAND chips; PMPs get more storage

Tomorrow's Tech



Ondo is a concept phone that is tailor-made for musicians. You can read more about the concept at <http://ondo-phone.eu>. The image above tells you everything you need to know about this dream gadget, but go to the site to really understand its prospects. Now all you have to do is master an instrument, and hope that someone makes the Ondo



explains why you are at fault for your devices predicament, with the authority of knowledge that they don't have and an interest that they don't share.

With branded models there will still be a single warranty provider, it is the customized models you will need to worry about. In all likelihood the people customizing their phone heavily will be well adept to handle themselves, they're the big boys who are doing it even right now even though daddy said no.

Being the materialistic creatures we are, what wall matter more probably is: what will it look like?

Cause looks matter

You may be a little worried right now that this might turn out looking a lot like one of the instruments SETI uses to search for life in space. Worry not, since we imagined the whole thing anyway, you bet we'd make it look as sexy as possible. Although it would be infinitely cool to carry around a chunky collection of circuit boards connected together with glue and tape, for many people this will be a deal-breaker.

In the UDPMD, the modularity extends to the exterior as well, so the outer looks of the device themselves are nearly free-

form. Although people would want their cameras to look like, well cameras, and have their mobiles look mobile-y, there is no restriction as far as the standards are concerned. The exterior just needs to be designed to house the core of the device and the modules.

Since the exterior is just another module it can even be interfaced with the device, making things even more interesting. With

You might have noticed that we haven't given you any pictures of the UDPMD. That's because we'd like you to use your imagination, and come up with concept art for it. Mail your designs to editor@thinkdigit.com, and we'll publish the best ones

research in smart materials which can change their shape and form fluidly, the possibilities are endless. Here you could see companies emerge that cater solely to the visual needs. You'll see more wacky designs and risky interfaces. Pure nerd joy.

This technology is a road-map, not a

destination; for any technology to be viable for a long time, it needs to be able to evolve.

Evolution

The world has a way of cruelly discarding anything it deems unworthy. Things which are more adaptable and open to change are the ones that survive the test of time. Evolution is a process which is especially unforgiving of technology. It's not over until the fat pig flies.

The UDPMD is the very epitome of adaptability and change. It is fully capable of integrating with the latest of technologies thanks to its modular design, and adopting them thanks to its open nature. Like the typewriters and calculators evolved into computers, as telegraph and telephones evolved into cellular phones, and as radios and gramophone records evolved into the Media players of today; so will the natural attrition of portable devices of today yield the UDPMD of tomorrow.⁴

Dark energy

The universe has it too; not just the Sith Lords, it apparently accounts for 74% of all the matter in the universe

Hubble revived

After a decade of faithful service, the hubble telescope died. It's back though, till 2010, thanks to some desperate repair work by NASA

Spaceyard

The Russian and European space agencies are planning to build a spaceship yard for future interplanetary travel

Nimish Chandiramani

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Einstein died an annoyed man. After he shot to international stardom with his theory of General Relativity, he had devoted his life to a “unified theory” that connected the two major forces in the universe – gravity and electromagnetism – but it only ended in frustration. But in the sixties, scientists came across a mathematical equation that promised to change everything we knew. String Theory says that everything – from quark to atom to human to planet – is fundamentally composed of little vibrating strings.

You're probably asking, “So what?”

The reason string theory is such a big deal is that if true, it successfully describes all four natural forces – gravity, electromagnetism, and strong and weak nuclear forces – with a mathematical elegance that other theories only

dream about. But before we understand string theory (and that's a relative term), we must understand why it needs to exist.

The story of gravity

When Newton described gravity, it made perfect mathematical sense. More importantly, it could be verified experimentally – scientists love it when that happens. Even so, Newton and his fellows couldn't figure out how gravity really worked. Do bodies just reach out and grab each other with invisible arms?

Enter Einstein. He saw the four dimensions – length, width, depth and time – as a fabric, capable of stretching and warping under influence. This influence, he said, came from the planets and stars. Imagine a large piece of cloth, stretched to firmness. If you were to toss a watermelon on it, it would create a sizable depression on the cloth. If you threw a tennis ball into the mix, it would not only create a smaller depression, it would start to roll

towards the watermelon. This is essentially how gravity works – stars and planets create their own depressions – called gravity wells – in space-time, and small objects either fall into these wells, or swirl around them as satellites.

While the world was still busy praising this new theory, Einstein wanted to take it one step further. Only a few years earlier, Maxwell Planck had proved that electricity and magnetism were just manifestations of the same force – electromagnetism. To Einstein, it seemed logical that electromagnetism and gravity were manifestations of something bigger, and set out to find out what that was. The problem, however, was that electromagnetism and gravity are vastly different.

Space oddity

We tend to think of gravity as this strong, anchoring force that's holding the universe together – because, after all, without gravity, everything will just float into nothingness.

In reality, though, gravity is one of the weakest forces in the universe. It may be strong enough to keep you in your chair, but it's too weak to pull you through the chair, towards the ground, to the center of the Earth. Or to prevent you from jumping, for that matter.

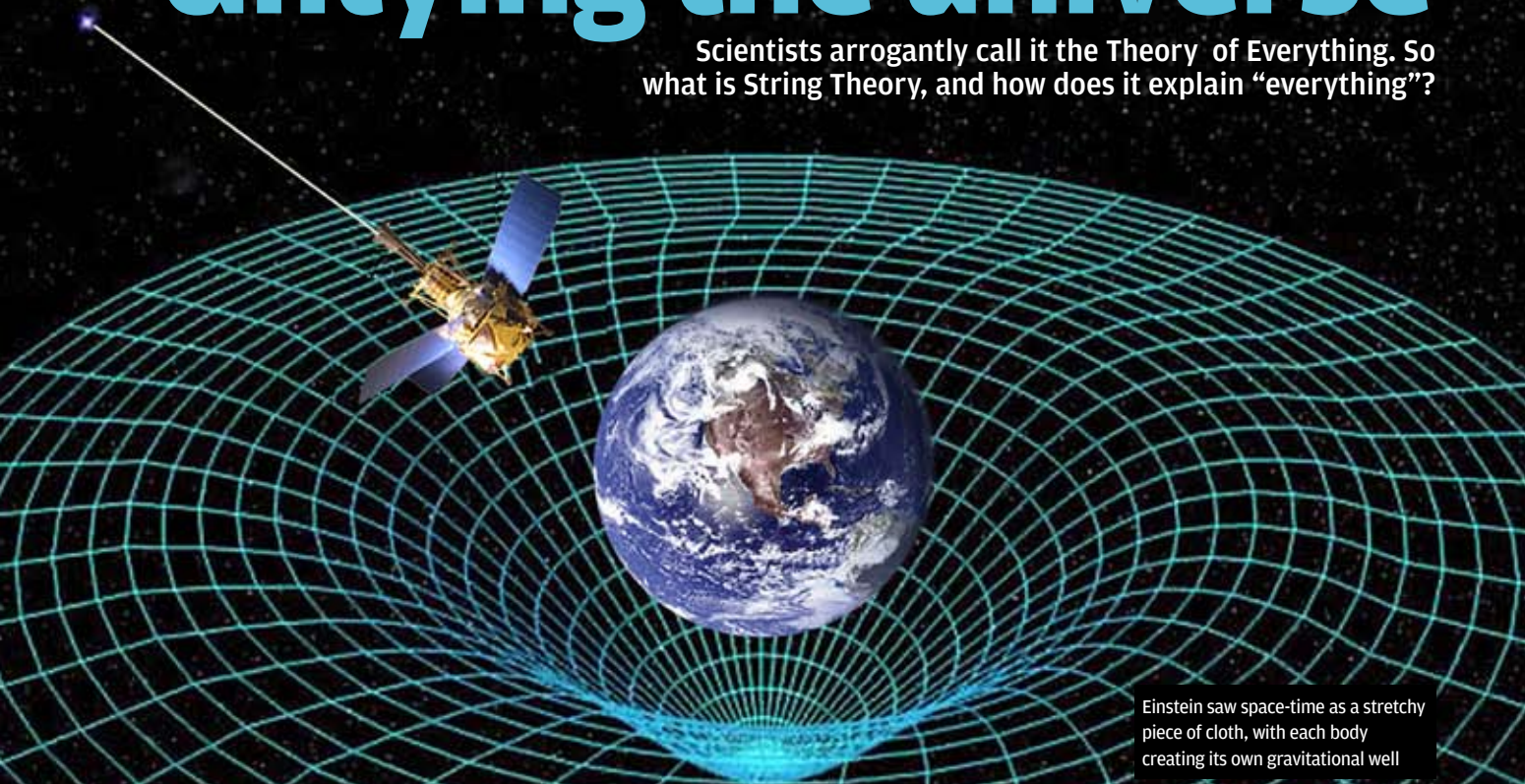
Let's understand this better.

You and your chair (and everything else) are made of atoms – protons and neutrons at the centre, with electrons orbiting around them. This outer shell of electrons is negatively charged, so when the atoms of your body come close to those of your chair, they repel each other. This repulsion – an electric force – is so strong that even if you turned the tallest, pointiest building in the world upside-down and made it cover only a square foot of ground, it'll never go through it. In fact, at the atomic level, gravity is so weak that scientists often disregard it in their calculations.

If gravity and electromagnetism come from the same place, it doesn't make

Untying the universe

Scientists arrogantly call it the Theory of Everything. So what is String Theory, and how does it explain “everything”?



Einstein saw space-time as a stretchy piece of cloth, with each body creating its own gravitational well



Feel like experimenting?

You can get a bunch of lab rats at <http://tinyurl.com/otozqv>

Sleeptalking computers

Scientists at UC San Diego are developing a computer that can partially operate without consuming any electricity

Plasma transistor

A group of mad scientists out to solve the energy crisis have fabricated a transistor out of ionized gas and electrons

How stuff works

sense that one is billions of billions of times weaker than the other. While Einstein puzzled over this, things got a bit worse...

Playing dice

As scientists delved deeper into the atom, they discovered two things: one, that the atom was made up of protons, neutrons and electrons and that the universe has two more major forces — the strong nuclear force, which holds protons and neutrons together in the atom, and the weak nuclear force, which makes atoms radioactive. Secondly, they discovered that at the atomic level, the universe changes completely.

At the subatomic — or quantum-level, the fabric of space-time isn't really a fabric at all. It's bumpy and frothy and it's called quantum foam. It contradicts everything Einstein had believed in — the universe as structured and rational and orderly.

In this quantum foam, there's no such thing as certainty — all events only have a probability. So if you're a little electron and you want to be in Mumbai, there's only a probability that you'll end up there — just like there's a probability you'll end up in Delhi, or Bangalore, or at the top of Everest. In fact, you'll

really end up everywhere, just in different universes — so you could be in Mumbai in this universe, but you're in Delhi in another. These crazy theories — among others form quantum mechanics. For all its bizarreness, quantum mechanics is surprisingly accurate. It explains the behaviour of the universe at the subatomic level, and any experiment that set out to verify any of its predictions has ended in success.

Unfortunately, quantum mechanics and general relativity were horribly incompatible. Quantum mechanics makes perfect sense at the subatomic scale, but doesn't apply to anything bigger. General Relativity, on the other hand, explains all the big stuff, but falls apart at the atomic scale. For the most part, though, this incompatibility didn't seem to cause a major impasse.

But then came the proposition of the black hole — the entire mass of a star, concentrated into a tiny, subatomic point; its gravitational field so strong that even light can't escape it. How do you treat such a formation? Do you apply the laws of quantum mechanics to it because it's so small, or do you use General Relativity because it's so heavy? The same

STRINGS IN THE QUANTUM WORLD

At the subatomic scale, space-time is foamy — so much so, that it's possible that in all that frothy chaos, the fabric of space-time may tear and repair itself on a regular basis.

Einstein's general relativity forbids this; it makes room for the possibility of tears (called wormholes) that exist as a feature of the universe itself — just like your t-shirt has three holes when you buy it — but space-time isn't supposed to rip at will. If it does rip, it may well be the end of the universe.

According to string theorists, however, these rips could exist, and it's the strings that are keeping all hell from breaking loose. As these strings travel through the universe, they're tracing out tubes, which form "bubbles" around these tears in space-time, effectively preventing them from doing any damage.

If space-time can rip at will, we might eventually be able to use these rips to teleport to and from wherever we want. It's a tiny possibility, but it's there, and that's cool enough.

problem applies to the Big Bang — general relativity can talk about what happened just after the Big Bang, but there's no way to talk about the instant of the Bang, when the entire universe was just a single point. So far, any attempt to integrate quantum mechanics with general relativity has resulted in nonsense.

But if quantum mechanics applies everywhere, and General Relativity applies everywhere, why don't they play well together? There had to be some way to unify the universe's forces...

Little giants

As scientists started smashing atoms together, they discovered that matter didn't end at protons and neutrons — these subatomic particles were made of even smaller particles, called quarks. Naturally, the scientists kept smashing, and unearthed a whole mess of particles — enough to develop the Standard Model of particle

other. Similarly, protons and neutrons exchange gluons to stick together, and bosons are the reason that atoms are radioactive. This model of the universe ties electromagnetism, the strong nuclear force, and the weak nuclear force together with a neat little bow. Even better, there's plenty of experimental evidence to suggest that this is, indeed, how the universe works.

But what of gravity? While the Standard Model explains so much, it still falls short of providing a plausible explanation for gravity.

That's where string theory comes in.

The crazy yarn

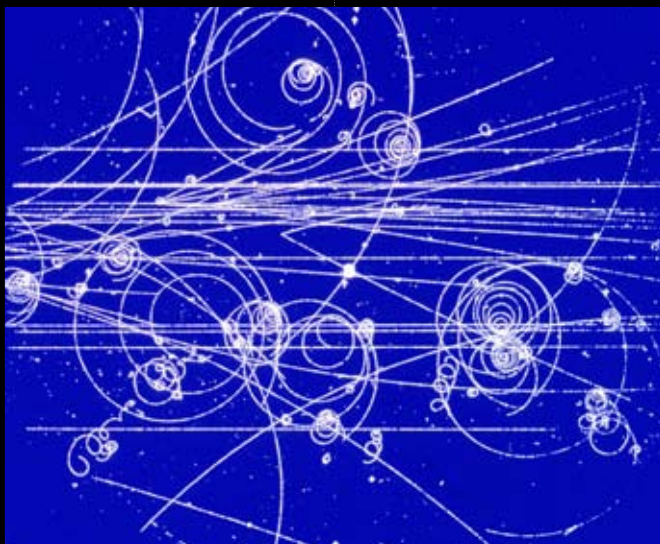
String Theory, as we mentioned before, says that even the most fundamental particle is made up of billions of little strings that can stretch, compress, and vibrate. Just like different vibrating guitar strings produce different sounds, the way these strings vibrate determines the nature of the particle they form.

The fabric of space-time isn't really a fabric at all. It's bumpy and frothy and it's called quantum foam

physics.

According to the Standard Model, the forces of the universe are all caused by an exchange of fundamental particles, called messenger particles — magnets are attracted to iron, for examples, because both are throwing photons at each

Most theoretical physicists took an instant dislike to this new theory. There wasn't — and isn't now — any way to prove these strings actually exist — in the world of science, that means that string theory is still more philosophy than science. Worse, it made some really



Inside the bubble chamber of an atom smasher, the fundamental particles of the universe make their existence known. Atoms break into smaller particles, which then follow the different paths you see here

Braneworld

The three physical dimensions plus time is known as Braneworld. String theory predicts any number of extra dimensions.

Space tourism

The Space Investment Summit 6 was held on May 27, to discuss the future prospects of space tourism

Fold the data as well

Scientists at Swinburne University showcased plans of DVDs that store data in 5 dimensions, allowing 2000 movies on one disc

bizarre predictions. Firstly, it suggested that massless particles could exist – and since even photons supposedly have mass, that's a disturbing thought. Secondly, it proposes that our universe has not four, but eleven distinct dimensions – a brain-melting thought on its own – which opens up the door for multiple universes.

In fact, these multiple dimensions and universes are essential for string theory to truly explain gravity.

'Branes and 'verses

It's hard enough to think of the universe as having four dimensions, much less eleven. String theorists suggest that we don't see these dimensions because they're either too small or too large to be observed.

To understand the first idea, imagine that you're a super-massive being, looking down at the Milky Way. To you, Earth is just a point, if that; it's one-dimensional. To us regular

shiny new LCD monitor.

The game's characters seem to be moving in three dimensions – they're hiding behind objects, rushing at you, and running away from you. Of course, they're not really moving in three dimensions – they're trapped inside the two dimensions of your screen. What the game's characters see as three-dimensional space, you see as an optical illusion. This might be what's happening to our universe – our four dimensions might just be someone else's optical illusion. With the possibility of extra dimensions, string theory says that it's possible that one string can stretch to form a huge membrane – or brane, in short – that encompasses our entire universe. So while we think we've got it made with four whole dimensions, we're still trapped inside a brane. And if one string can turn into a brane, so can others – each with its own universe. And just like the characters from your screen can't jump out into the world, we can't jump from brane to brane, even if they're just a millimetre apart.

And in all this weird wondrousness, we might have an explanation for gravity – or more specifically, why it's so weak.

Leaky universes

It might not be that gravity is a weak force, after all – it might be just as strong as electromagnetism, but something might be robbing it of its strength.

String theory talks of two types of strings. The first – the open-ended string – is tied to our brane by both its ends. If it wants to travel to another universe, too bad – it can't. The second, however, is a closed loop, like a rubber-band. It isn't confined to just one brane, it comes and goes as it pleases. These closed loops make up gravitons – the missing particle in the Standard Model. When bodies exchange gravitons, they are attracted to each other, producing gravity. But since gravitons are closed-loop strings, they're escaping into

BIG BANGING BRANES

If we are to accept that we're trapped in a four-dimensional brane in a larger universe with more dimensions, we might also have an explanation for the Big Bang. With all these branes floating about, it might be that another brane collided with ours, spewing all of its contents into ours.

But scientists aren't comfortable

other universes, weakening its influence in our universe.

And so, with the flighty graviton, string theory plugs a major hole in the Standard Model – it plausibly ties together all of nature's forces, becoming the Theory of Everything. But is this too good to be true?

The great test

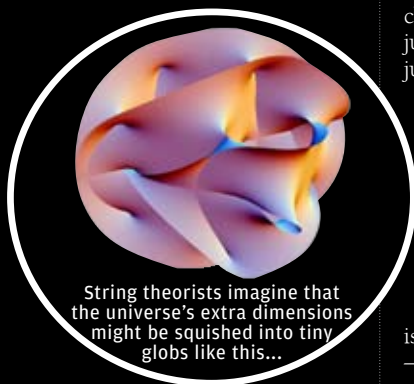
While string theory seems plausible, it's only plausible in the way that the existence of God is plausible. There's no way to prove either notion wrong – but that doesn't mean they are false. On the other hand, there's no way to prove them, either, so they aren't really true, either. According to string theory's critics, if it's

with this idea. First, like the rest of string theory, there's no way to prove this. Second, it implies that other universes existed before ours, and others before them. In essence, the universe doesn't really have an origin. And a universe without an origin is a universe that doesn't make sense at all.

we know today – also called M-theory – but it'll always have an embarrassingly fuzzy past.

A growing number of scientists, however, have faith in the theory – to them, it just makes too much sense to be wrong. Still, they need to figure out a way to test it, because that faith won't last forever. And that test might just show up in an experiment we already have high expectations from.

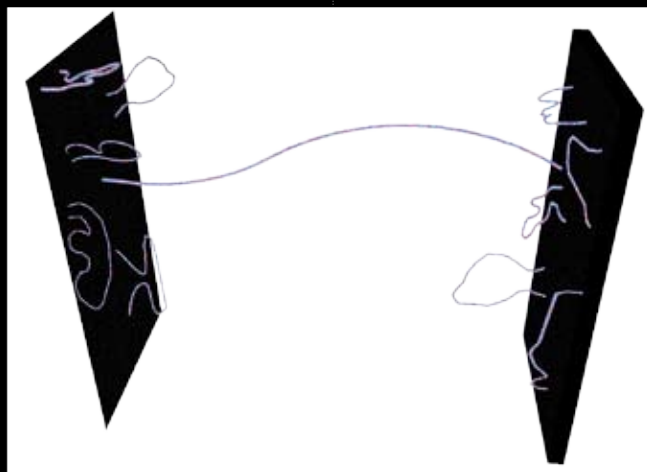
If string theory is correct, there's a small chance (0.5 percent, to be precise) that the Large Hadron Collider (LHC) will show us the proof. In its atom-smashing frenzy, the LHC might just manage to catch a glimpse of a graviton before it escapes to another dimension. It's a small probability, but it's



String theorists imagine that the universe's extra dimensions might be squished into tiny globes like this...

humans, though, it has a full three dimensions – we move back and forth, up and down, and left and right. It's as if our three dimensions have been squished into a single one of your dimensions. In the same way, the extra dimensions that string theory predicts might just be squished into tiny, subatomic spaces.

The second, more popular idea, is that these extra dimensions are so large that we can't notice them – just like we can't notice that the world is round from where we're standing. Imagine now that you're playing a game on your



...or stretched out into massive membranes that hold whole universes

not testable, it's not science. Case closed. It became even worse for string theory when it came out in five plausible forms. If there's supposed to be a single theory that explains the universe, how can it come in five flavours, each of which makes sense? It was a while before these five theories were integrated into the string theory

better than nothing. Even if the LHC doesn't spot a graviton, it'll do nothing to harm the theory.

For now, however, if we are to believe in string theory, we must remain content with the hope that there might some day be a way to prove or disprove it, and that there really is a single way to describe all the forces in the universe. **d**

Kshitij Sobti*kshitij.sobti@thinkdigit.com*

For those brave enough to start their own web site, things are getting easier. A plethora of open source web development tools, platforms, frameworks, applications and SDKs are now available to the user. One can start an entire online venture with no cost at all (except on the coffee consumed in multi-night coding marathons). Every aspect of the web development cycle can now be accomplished with some open source tool. Like

animals shooed away from the new social civilisation that seems to have conquered their jungle of the web, the geek must now search for new avenues of development. Enter the open source web. The developers are back, with a vengeance!

I, Developer

Although open source has greatly changed the landscape of computer applications, this change is mostly visible in the field of web applications. Apache is the most popular web server application, PHP one of the most popular

and widely used web application programming languages, and MySQL is one of the most popular data back-ends of the internet – all these three being open source. Once you have a nice juicy server with PHP and a database what do you do with it?

There are now some powerful and amazing open source web platforms available for use, so you don't even need to do a single line of coding to get it set up.

Well, reinventing the wheel is fun, but after you have thirty pieces of carved circular stones lying in your garage, you begin to realize

the futility of it all. With a nice open source framework / platform set up, you can now focus on the best parts; adding features no other web site has, and changing the very way people interact with it. Few web sites will use a framework out-of-the-box, as such there is also great demand for people with the knack to customise popular CMS frameworks such as Joomla and Drupal.

Localhost will see you

Testing and developing your web site on a hosted server is quite cumbersome. If you're a

#include Web

The web is opening up. All major web sites, and web applications now provide a way for developers to unleash their coding fury. By doing so, they ensure that their web site gets more applets, widgets and features, without requiring them to add any! It's a win-win situation



developer, you need to have a local server system set up to run your web application on your own computer before you unleash them onto the world. Setting up a local server is not only simple, it's also free!

For open source applications, typically you'd do your development in PHP and run it on an Apache server with the PHP module. Here, the Apache server is responsible for serving the content from your hard disk to the internet, and making it accessible. PHP does the processing bit, crunching numbers, making the web site more than just a collection of linked pages. Apache is then the HTTP web server with PHP being the server-side scripting language.

Most web sites will also require a data back end, to store anything that may need to be retrieved later on. Content management systems (CMSs) store the articles and user registrations; forums store user registrations and forum posts in the database, etc. The open source database server of choice is usually MySQL, where SQL stands for Structured Query Language. Here the data is accessed and modified by using commands written in the SQL syntax, which allows for complex modification of data in the database using simple English-like statements.

Setting these three up to work with each other can often be quite a pain for a n00b. To make things simple, there are many packages out there which set up all three for you in a single install, and configure them to work with each other, without requiring you to do any manual configuration. These packages known as AMP or Apache MySQL PHP packages are also free and open source, as are their individual components.

Note that an Apache Server running PHP with a MySQL database is not the only open source option. You will find a wide variety of free open source servers such as 'lighttpd' which as its name suggests is a lighter

server in use by web sites such as YouTube, **mininova.org**, **sourceforge.net**, and even Wikipedia. Many variants of Apache are also available since it is open source.

Instead of PHP one can use Perl, Python, Ruby, even JavaScript. However, PHP remains the most popular choice. Many web applications do exist which use alternatives to PHP. For example, Bricolage a CMS; Movable Type, a blogging platform; and TWiki, a wiki application all use Perl, some CMSs such as Plone and Django use Python. You are by no means limited. Since Perl, Python and Ruby are all open source, you can go as far as to develop your own custom version to suit your needs!

Databases also have a plethora of choices available besides MySQL. PostgreSQL is another popular alternative, which offers more features at a performance cost. Even besides these two popular ones there are many, many more which are perhaps not as commonly used. MySQL is the most popular open source database you will find, and it is extensively supported by most if not all web applications. Most are only compatible with MySQL and as such will not work on other variants, unless they offer a feature and usage parity. Of course, if you want to go far enough, you're a developer right? You can always make your own plugin!

Managing content

For almost anything that you want to develop, you are sure to find a framework or application that almost, if not completely, fits your needs. Looking to create a web site for creating and sharing documents, try

'opengoo'. Want to make a community social web site check out 'Elgg'. These are some of the more obscure example of web applications, one of the most common uses

is content management. Content Management Systems or CMSs come with support for extensions in the form of plug-ins or modules, any kind of add-ons really. When developing a web site that deals with large amounts of content, it is impossible

to simply keep uploading connected HTML documents. You need to use a CMS that can categorise and tag the content, and present it to the user in a way that presents a clear way of navigation. The default configuration that these come in is unlikely to be suitable

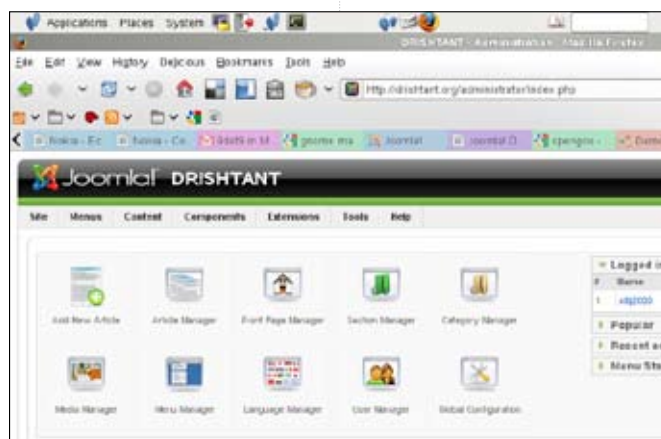
Joomla

This is a very popular CMS, thanks to a huge active community of plug-in developers and theme designers. Joomla allows you to put content in different sections which can be further divided into categories. It has an administration backend where you can configure all settings for core features and installed extensions.

Joomla is very extensible, and supports different types of add-ons which serve different purposes.

Plug-ins: these add features to the site which affect how each page is processed. Such as automatically creating links from wikitag, adding new content editors, or searching content. Plugins are a simple way to add functionality.

Modules: these are like widgets which can be displayed in different sections of the page. For example one could install a polling module to add a poll facility to the website, or add a chatting module to allow people to chat with each other on the site.



Joomla is a popular content management system

except in the most basic of circumstances. However, most CMSs will come with an easy way to create extensions, themes and the like, and it is quite likely that someone has already created the perfect earrings to put on your Mona Lisa.

What are these CMSs like? Let's take two popular examples — Joomla and Drupal.

Components: components are major additions to Joomla. They can sometimes be as complicated as Joomla itself! Adding features such as an image gallery, or a forum, or blogs is something that can be accomplished by the use of components. Major additions to Joomla's core functionality can be made only via components.



Blogging Grandma dies

Spain's most celebrated blogger, a 97 year old by the name of Maria Amelia Lopez, who started blogging when she was 95 passed away on the 22 of May. Her blog can be read at amis95.blogspot.com

Firefox OS

Plans are afoot to implement more thoroughly what Google Chrome has started – to create an entire operating system built on a browser

Languages: languages are simple extensions which map different sentences to their equivalents in other languages, allowing your web site to be accessible to more people.

Templates: these allow you to completely change the look of the site. Templates are the pieces of code which finally decide what kind of content should go where, so more than just the looks, they decide how a person interacts with the site.

Drupal

Another popular CMS which competes with Joomla, Drupal differs quite a bit. Architecturally, it is more of a framework for building CMS applications than a CMS itself. However, even out-of-the-box, it is sufficient to create a web site.

Drupal has a layers-based approach – data, modules, blocks, users, and templates, each extendable. It is a collection of interconnected features which can be put together depending on your requirement. It supports the addition of modules, which could do anything from display a simple text editor for entering content, to add a complex podcasting platform.

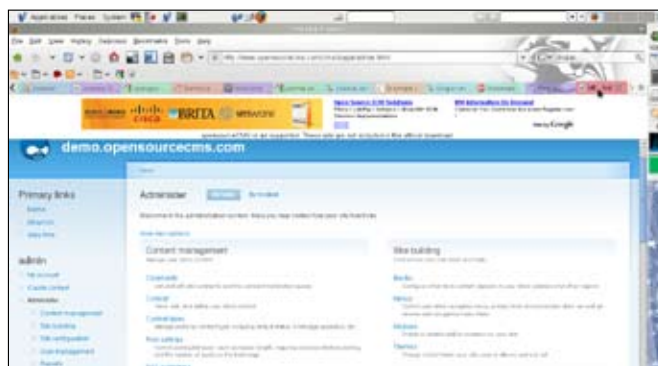
Drupal is often criticised for its weaker support for visual customisation with themes (equivalent to templates in Joomla). A lot of work is being put into Drupal to make it even more powerful in this respect.

Taxonomy: instead of having a rigid section-category system, Drupal allows you to create your own categorisation system using taxonomy. You can create custom systems of tagging or categorising content, and have single pieces of content belong to multiple categories.

Multiple site setups: a single installation of Drupal can be used to manage multiple web sites.

Inbuilt forum and comment support: while Joomla requires add-ons for these functionalities, Drupal comes with them integrated.

Depending on what suits you best, you can choose either one (or one of the many other CMSs available) and build on it with ready-made or custom extensions. However, if your purpose is to simply have a



Drupal offers a robust front-end to administer its various modules

custom blogging system, or a customised forum, you are better off starting there. Most of the popular blogging platforms that you'll encounter such as Wordpress, or Movable Type are open source, and support their own mechanisms for extensions and themes.

The backend isn't everything. You may need to develop some content that will be for the users' computers, such as Flash content, animations and images.

You will need to create a front-end that users can interact with easily. A fast responsive web site will be useless if it isn't sufficiently engaging. Creating a rich interface with JavaScript and AJAX requires no special tools. However, Flash content can be trickier. You will be pleased to know that an open source solution is available from Adobe!

Adobe offers a full, free and open source Flex SDK which it offers as a programming environment for the development of Flash applications. Unlike Flash, it isn't very intuitive as an animation tool, as it requires everything to be coded. For developing web applications, however, it works.

Creating a unique online experience for your visitor is a tough job indeed, and going for an existing solution makes the job a bit easier. You can continue to customise the web site to your liking

and leave updates to the core functionality and security patches to the developers of the platform. If you feel generous of course you are free to join in and help them out.

API-ing around

Does it seem like too much of a hassle to start your own venture? Then build upon others'. Many major web sites today support a way for users to extend the functionality of the site on their

own. Like a clever buffet system: all the features are laid out for you and all the blame falls on you if you only go for the meat and potatoes.

Orkut, Facebook and MySpace all now allow you to develop applications for their sites.

Orkut runs the open source OpenSocial platform for developing social internet applications. Facebook and MySpace also offer extensive documentation about their APIs, allowing you not only to build applications on their web site, but also to build applications on your own web site which integrate with information from these sites. One can also build desktop applications using information from these sites to make their applications more socially aware.

After learning the basics of their API, you can start developing applications that will run on Orkut, MySpace or Facebook servers. Depending on how useful or fun your application

is, you can become quite a web hero. Considering that some of the popular applications involve throwing toiletries at each other, we think you'll do fine.

Conclusion


Think you're done? Really? What about mail? What about FTP access? Do you really want to send newsletters with attached floppies via the Indian postal system?

When you really develop a web site, it is likely going to evolve as you gain more popularity and resources. It is best to keep that in mind, and make the platform as extendable as possible. You may not need many mail facilities right now, but maybe in the future. You may not need an FTP server to distribute files, but you never know.

You will be pleased to know that there is a plethora of options available in the open source segment for all these needs. In fact, if you have Linux installed, quite a few of these features may already be installed on your system, and the rest will be available on your installation CD. Linux is particularly good for running a server (even while testing) as it is robust and stable and comes with all the server functionality out of the box.

Besides an HTTP server, and a database server, you may additionally need:

- An FTP server: for allowing efficient downloads of files.
- A POP / IMAP and SMTP server: if you need to provide in-house email facility to users of the web site.
- A DNS server: if you want to host the entire server infrastructure on your own terms, you will need your own DNS servers to resolve name requests in your domain.

Some of the greatest and largest web sites have emerged from some of the simplest ideas, whether it's merely posting what you're doing right now or making long URLs shorter. Go ahead, hitch your wagon to the stars, who knows your web site may someday become the best for remote encoding of media files for parallel distribution via multiple channels. 





Bound together by the web

Meet up with friends and keep in touch...

Rossi Fernandes
rossi.fernandes@thinkdigit.com

The internet's vast spread has made the world a smaller place. People have forgotten postal mail completely by now. Communicating over the internet is much simpler, quicker and is much more reliable than traditional mail. The speed of delivery is one of the advantages of communicating over the internet. While emails are very quick, real instant messengers deliver messages instantaneously, or at least as soon as the other party comes online. Services have sprung up since the very beginning of the internet. At first, there was something called IRC, which then gave way to instant messengers. ICQ was one of the first services that gave the user an identity in the form of a UIN (Unified Identification Number).

The dependence on service providers for your instant messaging needs is perfectly fine. They are, for the most part reliable, but what if you wanted your own service? Having your own service has its own advantages. It gives you additional flexibility and virtually unlimited ability to add extra functions that you might need.

The oldest and the best – IRC

IRC (Internet Relay Chat) was one of the earliest ways of communicating across the internet. The main advantage of IRC is the ability to converse with many people at the same time. Some of the instant messaging services have group

chat features but they are nowhere as advanced as IRC. IRC works mainly on group chat. The first thing you do is join an IRC channel filled with people. Private messages can also be sent the same way as instant messages. It was developed in 1988 and has been used for all kinds of purposes other than conversations between users at home.

IRC works like any other instant messenger. It runs on a server program that users connect to using IRC clients. mIRC, Hydra IRC, XChat are examples of IRC clients. Multiple servers are usually interconnected over the internet to create a network. Users can connect to any of the servers to join the network. If one goes down, there are still others that users can connect to.

For the sake of keeping everything organised, there are channels set up so that people with a common topic to chat about can join a particular channel. So, you might find a channel dedicated to playing the guitar or 3D modelling or programming, or any other hobby for that matter. Users can also join many channels at the same time. Modern day IRC clients also allow users to join multiple servers.

Why is all of this of any importance to us? Well, Digit will soon be setting up its own IRC server and channels. We will have an IRC server very soon and a channel set up so that you can chat with each other and with us. We'll show you how to connect to this server a little later.

The IRC community is huge and has continued to exist even while various instant messenger services have come and gone. Every good online community today has an IRC channel on an IRC server some place or the other. It lets users chat on a particular topic in ways that might not always be possible on a forum. People come closer by participating in other activities as well, such as games. For many, it's almost like a social network and people often stay on the channel all through the day. They aren't necessarily in front of the PC all the time but their IRC clients are always connected.

Setting up the IRC server

Like any other open protocol, the IRC server isn't developed by a single firm or development group. There are many of them for each platform. For the sake of this demonstration, we'll be using InspIRCd. The great thing about InspIRCd is that it's available for Linux as well as

Inspire IRC can be downloaded from www.inspircd.org, and installation should not cause any problems. Just select all the default options and complete the installation. Most of the settings for the server are done to the configuration file. In Windows, the file is stored in the InspIRCd\conf folder under the path where you installed the application.

The IRC daemon starts with an interface that gives you basic control over the system. If you try to start the server by clicking the Start button, InspIRCd will show an error message. The server comes with a default configuration file. In this case it's called `inspircd.conf.example`. Make a copy of it and rename it to `inspircd.conf`. You may have to use Wordpad, or a better text editor such as EditPad Lite, to edit this file in order to avoid word wrapping issues that might arise with Notepad.

Scroll down to DIE/RESTART CONFIGURATION and add a password to the line. The die password is the one required to shut the server down and the restart password is for restarting the server. Replace the _____ with the passwords.

```
<power diepass="_____  
" restartpass="_____  
" pause="2">
```

Next, move to the server information tag. This tag contains the server name, it's description and the network to which it belongs. This is the text that shows up when the user connects to your server. Fill in the details for your server.



The InspIRCd control panel running

Windows. It's also really simple to set up. Most IRC server daemons run in a very similar manner, so you can use IRC server daemons of your choice.



```
<server name="_____
"_____
description="_____
"_____
network="_____
">
```

The next few lines contain information on the server administrator. If you are the administrator for the server, you must enter in the necessary details here. You'll also find space to enter operator information a little down in the configuration file. Operators are next in the hierarchy after administrators.

```
<admin name="_____
"_____
nick="_____
"_____
email="_____
">
```

The developers of Inspire IRCd have put in a line towards the end of the configuration to make sure that the user goes through the configuration file thoroughly.

Delete the line
<die value="No,
i wasnt joking. You
should probably edit
your config *PROPERLY*
and try again.">

We suggest that you go through the entire configuration to be sure of all the settings. We've only mentioned the necessary changes for the server to start. Once you are done with this step, close the Inspire IRCd window and restart the application. Click on the Start button and the server should turn on.

Connecting to the IRC server

Now that the IRC server is up and running, we'll show you to how to connect to it. If you run the server, you'll also have to join it to be able to chat with others. There are even more IRC clients than there are server applications. mIRC is the most popular one, but it's a commercial program. There are equally good free applications such

as HydraIRC (www.hydrairc.com) and XChat for Windows (<http://www.silverex.org/news/>). Firefox even has a plugin called Chatzilla (<https://addons.mozilla.org/en-US/firefox/addon/16/>) and Opera has had a built-in IRC client for sometime now. We find it better to use dedicated IRC clients rather than browsers for chatting. People tend to close their browsers every time they are done browsing and many people prefer to keep their IRC clients open through the day. For this reason, we want a light, dedicated IRC client, and so we'll use XChat.

Setting up XChat

Download and install XChat. Click on XChat > Network List. Enter a nickname and a backup nickname. The backup nickname will be used if someone is using your nick or if your connection timed out leaving your primary nick on the server.

Adding server connection details

Click on the Add button to add a new server to the list. Give a name for the network. Click on the Edit button. The field for servers has a default server setup. Click on the Edit button and enter the IP address or domain name of the IRC server. This should be the IP given by your ISP and not your local network IP. One of the simplest ways to find the right address is to visit a site such as www.whatismyip.com. If you are

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The server list on XChat

using the IRC service on the network, the PC name or the fixed IP address will both work as well.

Entering the channel name into XChat

Click on the Connect button to join the server. When you have connected to the server, XChat will throw up a window asking you to enter the channel you want to connect to. Enter the



Adding server connection details

relevant channel name. If you aren't prompted by your IRC client, you can join the channel by typing /join #channelname.

If you're travelling or are on a PC without an IRC client, then sites like Mibbit (www.mibbit.net) will let you connect to IRC servers. Simply enter a nickname, select the server address and connect to the channel you want to go to.

Getting on IRC from your mobile phone

Modern mobile phones running powerful operating systems can also run IRC clients. A few of them are available for every mobile platform. For Windows Mobile, the two known free ones are Pocket IRC (www.pocketirc.com) and zsIRC (www.zsirc.com). For the Symbian platform, there are applications such as mIRCGGI (<http://mirggi.net>). For those who use phones that only have a Java environment, there's jmIRC (<http://jmirc.sourceforge.net>). jmIRC runs on almost every handset with J2ME



jmIRC runs on almost every handset with J2ME

Connecting to IRC servers is done in a similar manner – the server address and port are entered. The channel is connected using the /join command once you are connected to the server. If there are problems connecting to the server, the command to do that is /server irc.the_server_name.com.

Start your instant messenger service

Google Talk is run on XMPP (Extensible Messaging and Presence Protocol) which is an open communication standard and protocol. It's actually pretty easy to create your own instant messaging network and we'll show you how. One of the great things about using your own instant messaging service is the flexibility to add or modify features as you wish.

Like IRC servers, there are plenty of XMPP server programs. We'll be using one called OpenFire. It's simple to use and one reason for this is that it uses its own internal database. This means that you don't have to setup a separate SQL database to store information on all your users. There's no need even to install a web server to control the features on the web interface.

Installation of OpenFire is also one of its great features. It comes in a ZIP file and requires no installation whatsoever. OpenFire can be downloaded from www.igniterealtime.org. Download the installation for your operating system. If you don't have a recent JRE (Java Runtime Environment) installed, then choose the larger download that comes packed with JRE. We'll be using the Windows version.

Unzip the file into a suitable folder on your hard drive, then run the \bin\openfire executable. This application is simply an interface for the service that runs in the background. Click on Start to start the server. Ensure that you have your firewall setup to give way to OpenFire. If you don't, users won't be able to connect to your server.

When you have OpenFire running, users using Jabber clients will be able to connect and register accounts on your server. To control the server, you need to access the web interface. Click on the Launch Admin button on the OpenFire application. The application is pre-installed, so the only steps remaining are the ones to configure the server.

The first step requires you



Selecting the kind of database for the users

to enter the language you will be using for the interface. The next step is the domain name for your server followed by the step for choosing the database type. If you have an SQL server

already, you can choose the standard database connection option. The embedded database uses an internal database and requires no further configuration. When the last steps are complete, it's recommended that you restart the server.

Administrating the server

Once the server comes back up, we'll need to setup some of the features for the server. All of the tweaking of the server is to be done using the same web interface – this is accessed using your browser.



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 Join us at one of the
BOOTCAMPs or
 interactive **SEMINARS.**

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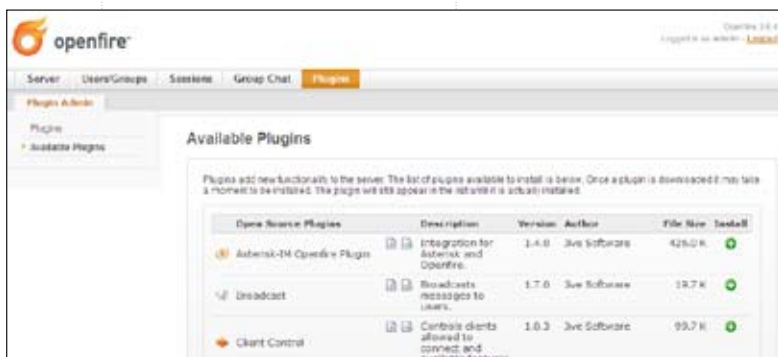
The default port for OpenFire is set to 9090, so the URL to access the interface is http://your_IP_or_domain:9090.

Login with the username admin and password admin. The interface is roughly split into five sections with sub menus within it.

Server: Everything to do with the OpenFire server is managed from this menu. Everything from updating the server to backing up the user database and setting up offline message storage can be done from here.

Users/Groups: User and group registration can be managed from here. If you disable open user registration, then the users and groups can be created by the administrator from this menu. So if you have a group of friends you only want on your server, you can add them from here.

Sessions: This menu



The list of plugins available on OpenFire

contains all the information about logged in users. The administrator can disconnect users and also send real-time alert messages from here.

Group Chat: The group chat menu allows conferences to be created. Group conferencing is something that most services have left disabled. Conferences are exactly like chat rooms on IRC. In this menu, existing conferences can be deleted and restrictions can be put on them so only certain authorized users can connect to it.

Plugins: The ability to add plugins is another interesting feature of OpenFire. The available plugins menu gives you a list of those available. Installing plugins is as simple as clicking the + icon next to the plugin that you want.

Google Talk / ICQ / MSN / Yahoo through your own service!

One of the plugins that OpenFire has available is a bridge that lets a user connect to other instant messenger services. Next, click on Server > Gateways. Here, click the check boxes of the protocols that you want to enable. Click on Tests to see if the OpenFire server can communicate with the protocols. The permissions link allows you to choose if only users of a specific group can connect to the servers. The Options link has the server address and port. You might have to make changes for IRC to specify the servers you want to connect to. The registrations link on the left panel allows you to add new accounts. Click on Add Registration and enter the information for your accounts.

Connecting to your Jabber server

The great thing about using your own open instant messaging chat service is that you allow users to use any of the clients available. Miranda and Pidgin are two free applications that support XMPP



Add gateways and registrations to OpenFire

and at the same time are also all-in-one messengers. XMPP's site has a big list of recommended clients – <http://xmpp.org/software/clients.shtml>.

Install one of the clients. We'll use Pidgin for now. Unlike other online messengers, XMPP allows users to create accounts directly through the client. If this is the first time you are running Pidgin, then you will see the Accounts window show up first. If you don't, click on Accounts > Manage accounts. Click the Add button.

Set the protocol to XMPP and enter a nickname that you want to create on the server. Enter the domain and the resource. Click on Add new account and then enter all the required data. Click OK. You will get a confirmation of the account creation.

Enable the account that you have created and you will be able to connect to the XMPP server. If you have set the server to use particular kinds of encrypted passwords or any changes to the ports, use the same settings for the client.



Digsby

Digsby is a free all-in-one instant messenger with social networking services support



Peeko chat

Peeko Chat is a chat addon for Firefox that lets you chat with others members on a particular site

Talking with the world!

There isn't any better way to communicate than to just talk and that's something that almost every instant messaging services allows you to do. Group voice conversations aren't always present in these applications, though. Some services which supported group voice chats shut down the feature after misuse of the service.

Programs such as Ventrilo and Teamspeak are developed specifically for voice chat. They are used a lot amongst gamers, but they make excellent sense if you want to have a large group conversation.

Of the two, Teamspeak allows more advanced features and detailed customization of the service. The software is

Software resources

mIRC
(www.mirc.com)
HydraIRC
(www.hydrairc.com)
XChat
(www.xchat.org, www.silverex.org)
Hybrid IRC
(www.ircd-hybrid.org)
Inspire IRCd
(www.inspircd.org)
BewareIRCd
(<http://ircd.bircd.org>)
UnrealIRCd
(www.unrealircd.com)
OpenFire
(www.igniterealtime.org/projects/openfire/)
Mibbit
(www.mibbit.com)
XAMPP
(www.xampp.com)
Teamspeak
(www.goteteamspeak.com)
Ventrilo
(www.ventrilo.com)

completely free to use and there are no limitations whatsoever. It's even possible to experience considerably better quality than with a telephone line. Download and install the server and client for Teamspeak from the site – www.goteteamspeak.com. Those connecting to your server will only need to install the client.

Teamspeak's server allows a lot of control over the bandwidth and permissions given to every user. Settings can be put in place to keep bandwidth requirements to a minimum. The minimum



Modifying TeamSpeak server information details

bandwidth that Teamspeak needs to host a server for a single user is somewhere around 2 kB/s. Most connections today have at least 15 to 20 kB/s upload speeds, and this can easily handle a server for some seven to ten users.

The installation wizard will display a user name and password for the administrator and super administrator. Note these for future reference as they will be required to control the server. Once the software is installed, run the server application. Right-click on the system tray icon and click on Administration. Use the superadmin account and login to the account.

Setting up Teamspeak

First, select the server that you want to configure. Do this by clicking on Servers and then on Select. Teamspeak lets you run multiple voice chat servers on a single server application. Click on add server to do this. Once you select your server, you can view and change all the server settings by clicking



The connection window lets you store details of multiple servers

on the Server settings link on the left.

Here, you can change the server name and most importantly, enable or disable codecs. The SuperAdmin manager and User manager link allows you to add and manage users. The permissions can be changed from the Server permissions sub-section in

Come chat with us on the Digit IRC server!

We now have our own IRC server and a channel for all you guys to mingle on.
Server address: irc.thinkdigit.com

Port: 6667

Channel name: #Digit

the same menu on the left. The user manager allows registered users to be created. By default, Teamspeak allows anonymous users to connect. Just like the hierarchy of IRC server administrators, there are channel admins and operators in Teamspeak. Each of them has limited rights allotted.

The permission names are self-explanatory, and disabling or enabling them can be done by simply selecting or deselecting the checkbox. Just click Save at the end when all the changes have been made.

Connecting and talking with people

You can connect to a Teamspeak server using an anonymous account or using a registered account. Either way, you have to click on Connection > Quick Connect. Enter the


server address of the server, a nickname and the authentication information if you have any. Click on Connect and you should connect to the server.

If you click on Connection > Connect, you get the option of saving the server information for future use. You can directly come to this menu and double click on the server of your choice to connect. This window will also allow you to list all the servers available on the internet.

If you are a channel operator or a superadmin, you get the rights to create a channel and change its settings. You can even move users from one channel to another by dragging and dropping nicknames between channels. This is great when you have more than one group, and you do not want members of one group hearing the discussions of other groups.

The whole concept of connecting to chat servers, be it voice or text-based, isn't only for communicating. It's become a way of life for many. There's fierce discussions on IRC and there are many online communities thriving on it. It's one of the most interactive ways to learn new things.

Staying idle on IRC channels is a way of constantly keeping track of what goes on on the server. People don't necessarily have to be chatting all day.

It just happens that in a crowded room, you have some people talking about something or the other all the time. This kind of conversation and bonding has been present on the internet and people have been doing this for almost two decades now. Hope to see you all on the Digit server soon... 

Windows 7

Microsoft has been working on the much anticipated Windows 7 and the RC (Release Candidate) build is finally out. The initial reaction from online communities so far has been a lot better than it was for Vista. This OS is superior to XP and Vista in many ways. Vista wasn't popular mainly because of the high system requirements. Windows 7 feels like a more optimised version of Vista and it has many well thought of features. It's so light that you can just about manage to run it with 512 or 768 MB of RAM with some of the visual effects turned off. You can find it on this month's DVD. You can burn yourself a copy and get a license key from Microsoft's Windows site.

In this section, we'll be going through some of the major changes and additions that have been put in Windows 7. We'll also give you tips on using these features on the way.

Moving order of applications in the taskbar

There are more changes done to the taskbar in Windows 7 than just the thickness. It lets you change the sequence of applications running in the taskbar. Changing the order is as simple as moving tabs in browsers such as Firefox and Opera. Simply left-click and drag the icon in the taskbar, and watch it slide into place. Another interesting feature is when you try moving the icon upwards, it opens the right-click menu.

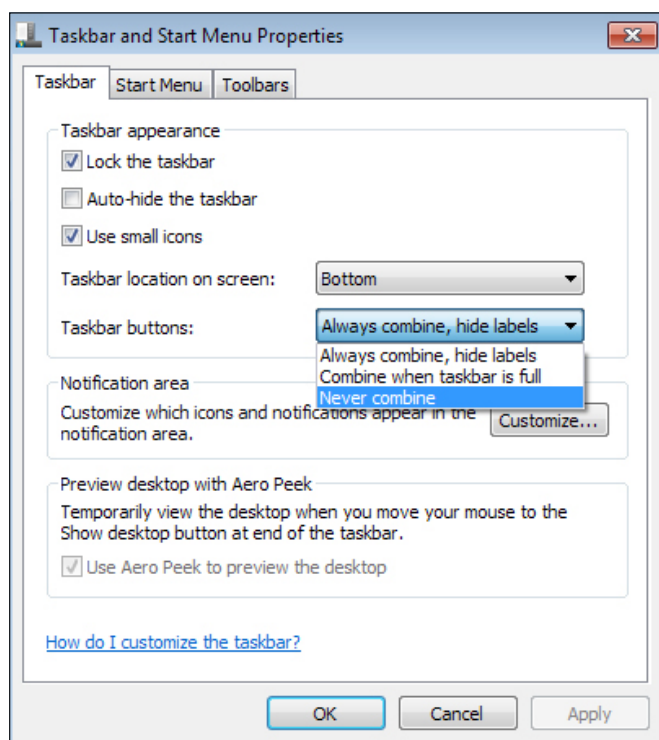
Grouping of active applications

Vista already had this feature – multiple instances of applications were grouped into a single icon to save taskbar space. In Windows 7, the icons are more distinguishable. You no longer have to click; you can simply move your mouse over the icon and a real-time preview of each of the instances will appear. The window can be closed by middle-clicking on the preview. If you like to have the application name appear along with the icon, right-click on the taskbar and click on



TIPS

Windows 7	41	XFE	45
digikam.....	44	Kexi	47



Disabling grouping of applications in the taskbar

Properties. Choose the Never combine option from the menu.

Shortcuts for window operations

Managing windows is also much simpler with Windows 7. You no longer have to use the window controls such as minimise or maximise on the top right. Windows can be minimised using the Windows key + Down arrow and maximised by pressing Windows key + Up

arrow. Windows key + left/right arrow keys fit the expanded window to the left or right side of the screen. This is particularly useful for widescreen users. It lets you fit two windows side by side accurately without having to use the Tile horizontally features from the taskbar.

If you try resizing a window using the corner right up to the bottom of the screen, Window 7 lets you scale it vertically by drawing a faint outline. Dragging the window by the

titlebar and moving it towards either end of the screen will automatically resize to take up half the screen and leave the other half for another application.

Adding additional sources into Documents, Music, etc

Initially, Windows only allowed a single My Documents folder, so users would have to move all of their music and pictures into the specified folders. The other way was to move the target destination of the specific folder to the location on your hard drive.

Windows 7 lets you add as many paths as you want for either of the predefined folders. Simply click on the Start button and right-click on one of the folders – Documents, Pictures, Music and then click on Properties. Click on the Include a folder button and add the paths you want and remove the ones you don't by clicking Remove.

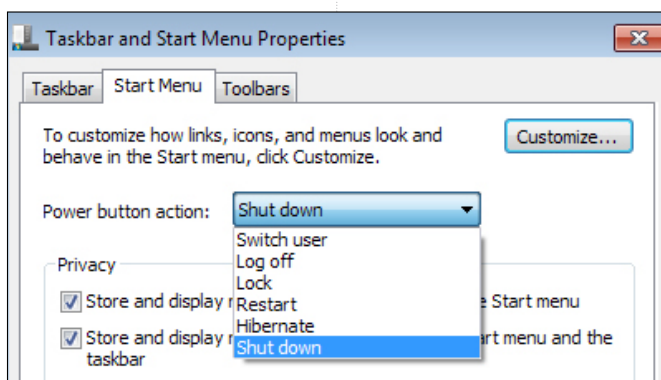
Pinning applications to the taskbar

The Windows 7 taskbar has become a very powerful part of the OS. You can now pin applications to the taskbar just like you could to the Start menu. Even after applications are closed, the icon still remains. It's an easy way to quickly access applications as well as run multiple instances of it.

Many pinned applications also act like a Quick launch menu. Active applications are displayed in this same menu, but differently.

Changing the power button's default function

Everytime you click on the Start button and then head to shutting down the computer, there's always a single button there. Windows 7 now lets you choose the default action for that particular button. Right-click on the Start button on the bottom left of the screen, and click on Properties. Click on the dropdown for Power button action and choose the action. Click OK to save the setting.



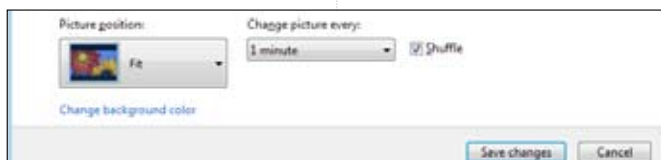
Setting the default action for the usual shutdown button

Quick access to frequently used folders

Windows 7 monitors the folders that you frequently access. This list can be accessed by right-clicking on the Windows Explorer icon in the taskbar. If you want a specific folder to be placed permanently in this list, you can do this by moving the mouse pointer to the right end of the location till a Pin to this list icon appears.

Constantly changing wallpapers

We love collecting wallpapers. There are so many of them online, but none of us use every single wallpaper that we download. Some of the other operating systems have an option that changes the wallpaper randomly for you. Windows 7 now has this feature too. Right-click on the desktop and click on Personalize. Click on Desktop Background at the bottom of the screen. Click on the Browse button next to the Pick location drop down menu to choose the location of your wallpapers. Click on Browse again to add more locations to the same list. Next, check the boxes of all the wallpapers you want to cycle through. Choose a frequency



Automatic cycling of wallpapers

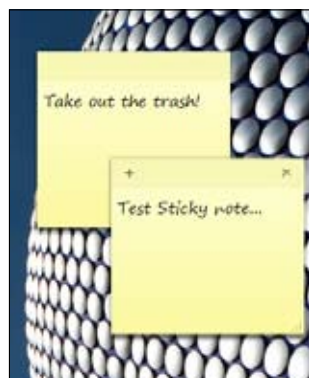
for the wallpaper change by clicking the dropdown menu below. Click Save Change.

Quick preview mode in Windows Explorer

Quick preview is a feature found only in few file managers. Windows 7 has incorporated a similar feature that lets Windows Explorer to display a preview of a file on the side. The shortcut to enable the quick preview pane is [Alt] + [P]. Press this key combination again to disable it. This feature only works with the formats supported by Windows 7.

Sticky Notes in Windows 7

The Sticky notes feature helps the user keep track of tasks that he needs to do. The Sticky Notes application is hidden



Sticky Notes help keep track of work

away under the Accessories sub-menu. Notes are left on your desktop. Notes are added by clicking the + icon on the top left of the stick note window and closed using the close icon.

Running applications with troubleshooting mode

Every time a new OS is developed, there is a good chance that some of the applications that ran fine on previous versions might not work on the new one. This might be the case with Windows 7. There is a way around this. Right-click on the application that you are facing problems with, and click on Troubleshoot compatibility. Windows 7 will detect the problems if any and then run the application in a compatibility mode. If the application works, you can save the settings for that application so that it will be run using the same settings the next time.

Spawning a command prompt in a folder

Opening a command prompt in home folder for your account and then navigating using DOS commands to the exact location you want to be in has been always an annoying thing. Windows 7 can open a command prompt right where you need. Open Windows Explorer and browse to the location you want to open the command prompt. Click on the File menu while holding the [Shift] key down and click on Open command window here. If the menu isn't visible, you'll need to press the [Alt] key first.

Running applications using a different user account

If you need to run an application with rights of a different user, you can do this easily in Windows 7. This may come handy when you need administrator rights to run a particular application. Instead of logging out and logging back into the administrator account, you can now hold

down the [Shift] key while right-clicking on an application and then click on Run as administrator. If you want to run the application as any other user, click on Run as other different user. You'll need to enter the username and password for that account.

Getting back the Vista style taskbar

While the taskbar in Windows 7 has undergone a major change, not everyone is happy with the large size. For some, it might seem like a waste of vertical desktop space. The older and more compact taskbar from Vista can be enabled in a few clicks. Right-click on the taskbar and click Properties. Deselect the Use small icons checkbox to get a more compact taskbar. Click OK.

Capturing screenshots in Windows 7

Windows 7 has a dedicated tool for capturing screenshots called the Snipping Tool. It can be found in the Accessories menu and it lets you capture a particular area of the desktop. Run the application and drag a box around the area you want to capture. After the capture is complete, you can use a pen or a highlighter to mark important areas on the screen. This is much quicker way of doing things than the traditional way which included capturing a window and then cropping out the area in an image editor.

Show the desktop feature

For those who still haven't got used to the Windows key +



The Show Desktop button now is located next to the system tray

[D] shortcut used to hide the desktop momentarily, there has been a Show desktop icon on the Quicklaunch bar. With Windows 7 and the Quick launch not visible anymore, the show desktop function is available as a small bar on the extreme bottom right corner of the screen.

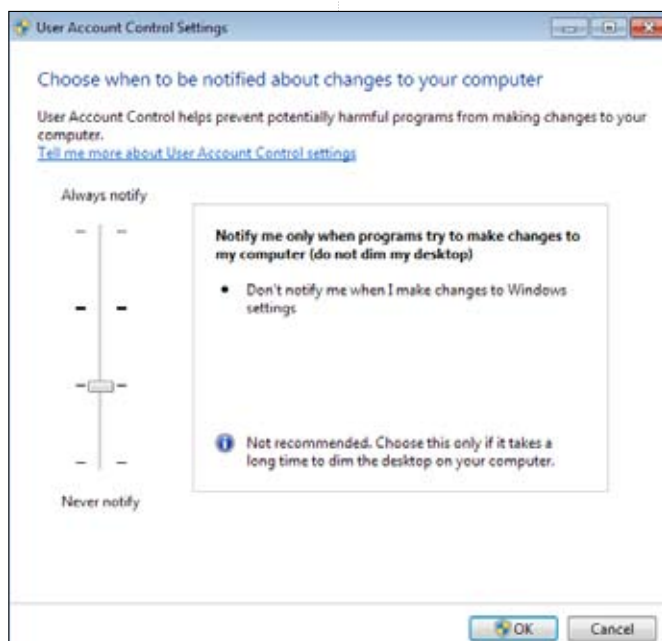
Toning down the UAC

The UAC on Vista was one of the most annoying features that would popup every now and then while certain

moving it around quickly. All the other windows immediately minimise.

Checking for memory problems

No longer do you have to download a third-party application and create a bootable disk to check for memory problems. Windows 7 comes with an inbuilt tool that just needs a reboot to work. It's called Windows Memory Diagnostic and can be found under the Administrative tools



User Account Control Settings now has a slider to change level of strictness

operations were being executed. Users fed up with it turned it off. Windows 7 still has a UAC for security reasons, but it can be reduced to only warn you of absolutely vital operations and for every silly action. The UAC level can be changed by going to going to System and Security under the Control Panel. Look for the Change User Accounts Controls settings link and make the change by moving the sliding down.

Shake the rest away!

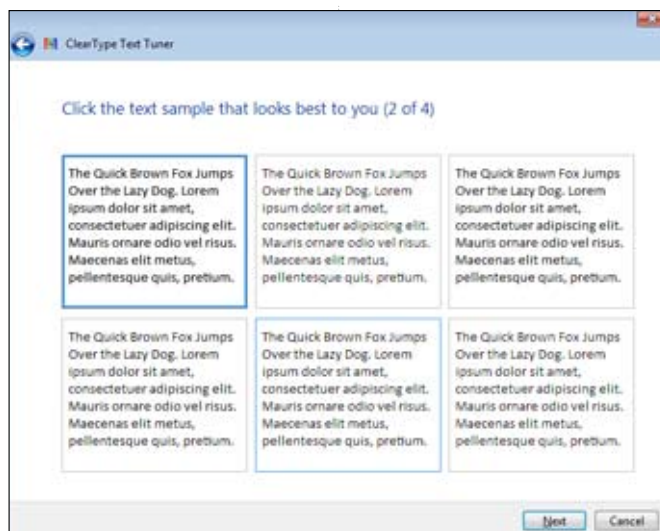
If you have many windows open and for some reason, you want them all minimised except for the one you are currently using, you can do this by clicking on the title bar of the application and

section in the Control Panel.

Run it and it will prompt you. You can reboot immediately or the scan can be set run on the next reboot. The scan takes a while. Press [Esc] at any moment to stop the scan and continue booting into Windows. If there are any errors, you know there are issues with your memory. This is a great tool run if your Windows has been facing random crashes and blue screens.

Built-in cleartype tuner

Windows has built-in cleartype fonts which make text look more rounded. It's visually more appealing than



The built-in ClearType tuning application

standard fonts and is highly recommended for LCD users. Not everyone likes the default look of cleartype fonts and some amount of tweaking is required. The cleartype tuner was available only through Microsoft's site on a web browser. Windows 7 has this utility built into the OS. You can find it under Control Panel > Appearance and Personalization. Click on checkbox to turn on Cleartype and follow the steps to complete the tuning.

Including new folder into libraries

Windows 7's set of pre-defined folders for Documents, Pictures,

Music are called libraries. These folders automatically show up in every dialog box when you try to open or save a file. We talked about adding new folders to each of these separate library folders. It's also possible to add new sections into these libraries. This is a particularly useful feature as it reduces the time and steps it would normally take to access a particular folder.

To include a new folder in the library, right-click on the folder in Windows Explorer. Next, click on Include in library > Create new library.



Adding multiple folders to a library folder

Gadget placement in Windows 7

One of the new features that Vista brought was the sidebar which was used to house gadgets. There is a huge gallery of such gadgets on Microsoft's web site. The sidebar application by itself consumed resources as well as desktop space. Windows 7 now lets you place gadgets anywhere on the desktop. Right-click on the desktop and click on Gadgets. Drag and drop the gadget you want to anywhere on the desktop.

Enabling Windows XP virtualisation mode

Windows 7 has support for a Windows XP virtual machine which basically

means you can run Windows XP within Windows 7. You will need a processor that supports virtualization though. If you have one, boot into the BIOS and turn on the feature for your processor. You should also have sufficient memory on your system for it to work well. Once you've made the change in the BIOS, boot into Windows and download the Windows XP virtual machine add on from <http://www.microsoft.com/windows/virtual-pc/download.aspx>.

This mode lets you run Windows XP applications on Windows 7 and also a copy of Windows XP within it. For most practical purposes, it's better than running a dual-boot setup.

Windows 7's resource monitor

The Windows 7 resource monitor is a powerful tool that gives detailed information on every single process and application running on the computer. Click on Start > All Programs > Accessories > System Tools > Resource monitor to access it.

There are tabs for statistics and details on CPU, memory, disk and network. The network tab is particularly useful. It gives a detail list of connections being made by every application and the bandwidth being used. If it all seems too confusing to keep track of, click on the checkbox next to the application to filter it out.

Switching back to the bare XP theme

Although Windows 7 has been optimised a lot, the default Aero theme slow down older systems. Using a basic theme like the one on Windows XP is a good idea. It helps bring down memory consumption by a lot. Some even claim that the memory consumption can be brought down to around 300 MB with no applications running. Change the mode by right-clicking on the desktop and

then on Personalize. Choose the Windows Classic Theme. To optimise things a little more, you can also turn off all the unnecessary visual effects. To do this, press the Windows key + [Pause]. Then, click on Advanced system settings. Now, click on the Setting button under Performance and click the checkbox for Adjust for best performance.

Setting up backups

Many laptop and desktop manufacturers have a separate partition in their PCs and laptops that is used to store a copy of the Windows OS. This comes in handy if your PC is infected by a virus or your OS crashes. This backup lets you quickly get your PC up and running. Windows 7 has a built-in backup utility that stores an image on a backup partition, an external hard drive or even on a network share.

To create a disk backup, click on Start > Control Panel > System and Security > Back up your computer. Click on Create a system image from the left panel. Choose where you want to save the backup and then click on Next. Just make sure that the drive has enough space to store the data. Choose the partitions you want to backup in the next step.

If you want to select folders to backup instead of an entire partition, click on Set up backup instead. Select the location where you want to back up the data, then click the radio button that lets you choose the folders you want to backup. Select the folders and finally proceed to the final steps. You can even schedule automatic backups at a fixed time.

Quick sharing of resources

Security being one of the biggest concerns, Microsoft has implemented strict security features and in the process, had made sharing folders complicated. The home group feature of Windows 7 makes sharing files in a small home

network much easier than before. The feature is only available when you set your network setup as a Home network.

Go to Control Panel > Network and Internet > Homegroup. Join a homegroup if there's one that exists already. You'll be asked to enter a password. Once you're connected to a homegroup, you'll be able to see other PCs on the homegroup in Windows Explorer. By default, Windows 7 shares the library folders for music, videos, etc. For home groups to work, PCs need to be running Windows 7 with IPv6 support enabled in their network settings.

digiKam

digiKam is an application to manage your images and photos and also allows users to edit and batch process images to change format or add extra effects. It's available for Windows as well as Linux. However, here we are going to discuss the Linux version.

Setting up digiKam

First you need to setup the digiKam default folder. To do so, go to Settings and select Configure digiKam. Under Album settings, you can add the folder path where you want digiKam to search for folders and premade

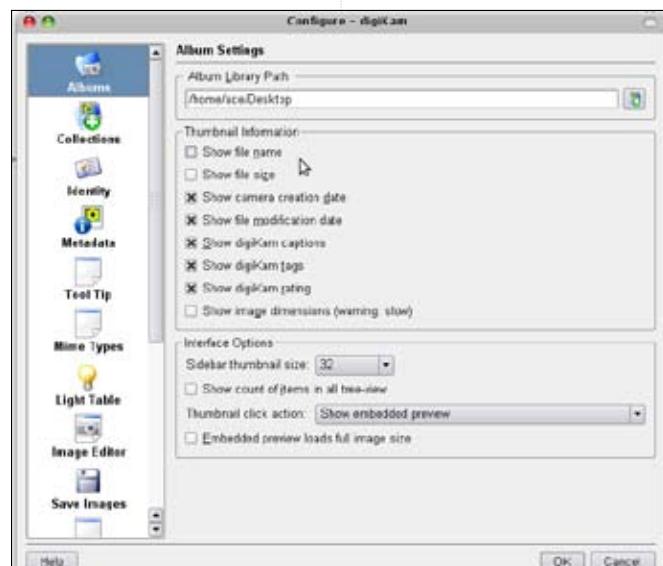
albums. You can also configure thumbnails in this window. You can sort your albums according to collections; preset collections are available, but you can modify them under Collections in the configure window.

Customise shortcuts

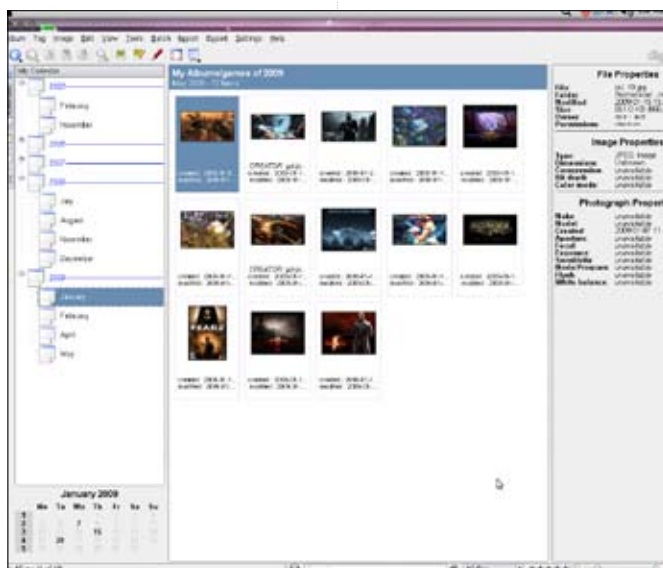
You might not use all the shortcuts in digiKam, but at the same time, might want to use certain key combinations that are in use by other functions so to change these shortcuts go to Settings and select Configure Shortcuts. You can even add numbers or alphabets as shortcuts to certain functions.

Viewing Images according to date

The digiKam application allows you to view images according to when they were created. Even if there are images in an album which have been downloaded, you can separate them according to the date they were created and uploaded to the net. There is a small tool bar located on the extreme left of the screen. By default, the Albums tab is selected. Below that is the Calendar tab. Here you will see a My Calendar window with the year displayed. On expanding one of the years, you will see months. Click on any month to see the images created in that month. A small calendar



Set the default album folder for digiKam



Sort images according to dates

is also displayed with the dates of the images highlighted for a quick reference. If you click on the highlighted date, only the images that were created or downloaded on that date will be displayed.

Adding tags to photos

digiKam allows you to tag your photos so that you can filter your albums based on these. To do this, right-click on that photo and select Assign Tag and then Add New Tag. Here, you can add the tag title as well as a thumbnail image. The title will be displayed at the bottom of each photo that has this tag. To tag multiple photos in an album, just click and drag or [Ctrl] + click the photos that you want to tag. Right-click a selected photo and select Assign Tag and then select the tag you have already created or just create a new one. Multiple tags can be assigned to a single photo in the same way.

To filter photos based on

their tags, click on the Tag Filters tab located on the extreme right tool bar of digiKam. To select a certain tag, just click on the check box of that tag and you will only see photos with that tag.

To remove a tag from a photo, right-click the photo and select Remove Tag and then click on the tag.

Image editing

Editing photos is another feature that digiKam has to offer. To edit a photo, right-click on the photo and select Edit. A separate Image Editor window will open with the photo in it.

To Auto-correct a photo, go to Color and select Auto-Correction from the menu bar. A shortcut to this is [Ctrl] + [Shift] + [B]. Here, you have a choice between Auto Levels, Normalize, Equalize, Stretch Contrast and Auto Exposure.

To adjust the brightness, contrast and gamma of the



Add textures to your images

photo go to Color on the menu bar and select Brightness/Contrast/Gamma. A window similar to the Auto-correct window will open, but here you will get to adjust your settings.

The Color menu also allows you to adjust the Hue, Saturation, Lightness, Colour Balance, Levels, White Balance and Curves settings in a very similar manner.

To Invert the colors in the photo either use the shortcut [Ctrl] + [I] or go to Color and select Invert from the menu bar.

To adjust the Blur, Sharpness and to reduce Red Eye as well as Noise you need to go to the Enhance option in the Menubar.

The Transform option allows you to rotate, flip, resize, aspect ratio crop, shear, rotate and even change the perspective view.

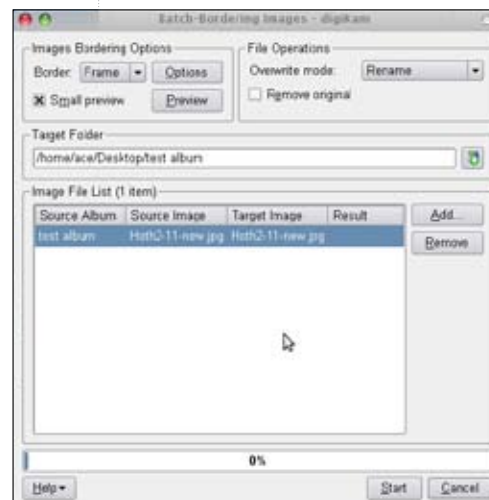
Under the Decorate option in the menubar you can add Textures, Borders, Text and Superimpose Templates to a photo.

Filters such as Raindrops, Infrared, Film, Oil Paint, Emboss, Distortion Effects, Film Grain, Blur and even Charcoal can be applied to the photo to give it added effects.

Batch Processes

digiKam allows you to batch process images and not only to change the format of the image, but it even allows you to add borders, change the colour and add image

effects and filters. You can also rename, recompress, resize and use batch to convert RAW files. To add borders to a number of photos go to Batch on the menu bar and select border images. Next choose the type of border you want to add to the images. You can also change the colour and width of the border as well as the bevel effect if there is any. Either type in or select the target folder where you want your bordered images to be saved. Lastly, click the Add button to select the photos or images that you want

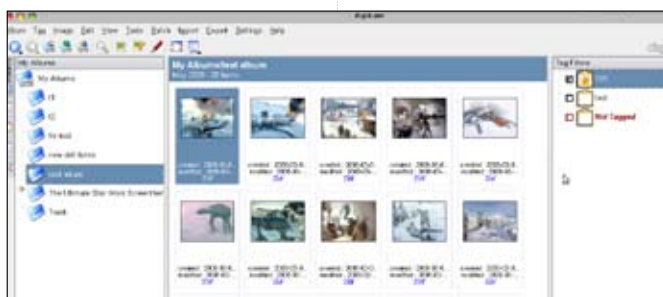


Use the batch process feature to work with many photos at the same time

a border added to and click on the Start button. The steps are the same for the other batch options as well.

Xfe

Xfe is the acronym for X File Explorer. There are other file explorers like Nautilus or Rox, but the difference between



Add tags to images to help filter them

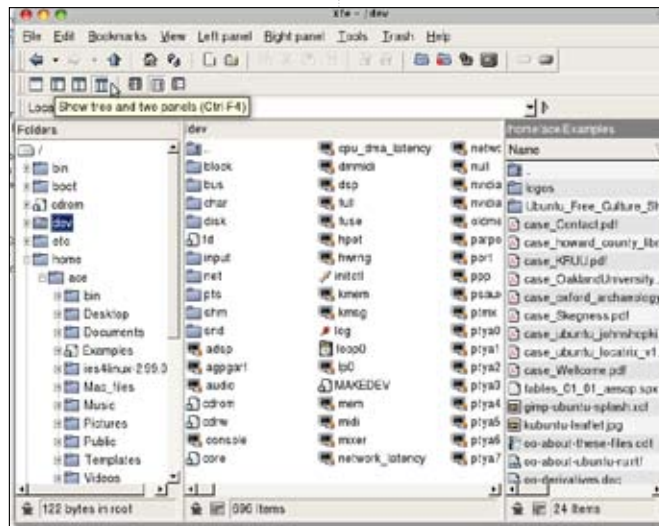


them and Xfe is that this one is extremely light on the system. It does not exhaust system resources and will benefit even low-end computers. Xfe has taken a very simple approach towards file management. You will find it in this month's Digit DVD. Alternatively, you can download it through the command line: `sudo apt-get install xfe`.

To start up Xfe, you don't need to go to Accessories or even the System menu. All you need to do is fire up a terminal and type Xfe and you will be greeted with the Xfe window. Remember not to close this terminal as Xfe will also close. By default, this file browser will be at the Username in the Home folder.

Changing appearance of Xfe

The layout of Xfe is similar to a Windows Explorer screen with the folders on the left side and the files on the right. To change this appearance you can click on the Show One Panel button on the Panel tool bar. This will only show the files window and will remove the folders list on the left. On clicking the Show Two Panels buttons, the screen will be split up into two file explorers within the same window. If you click on Show Tree and Two Panels you will get the Folders tree back on the left with two explorer

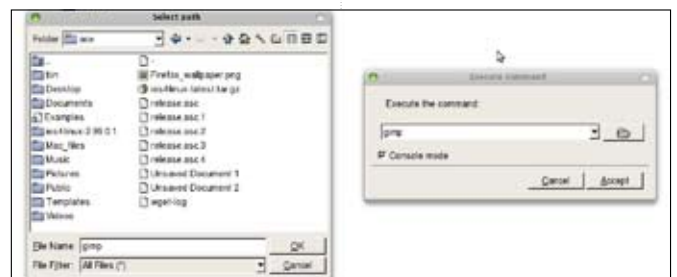


Adjust the panel views to your convenience

windows within Xfe. For quick switching between these panel views, you can also use [Ctrl]+[F1] for One Panel view, [Ctrl]+[F2] for Tree and Panel view, [Ctrl]+[F3] for Two Panel view and [Ctrl]+[F4] for Tree and Two Panel View. You could also go to View in the menu bar and select between the Panel options there. To switch between the Panels you need to press [Ctrl]+[Tab].

On the Panels tool bar, you can also set the file view options and switch between Big Icons, Small Icons and Full File List. Big and Small icons only show you the name of the file but with Full file list you also get to see the Size, Type,

Extension, Modified Date, User, Group and Permissions along with the File name. Press [F10] to switch to big icons, [F11] for small icons and [F12] for the full file list. Alternatively, you can go



You can execute commands from Xfe itself

to Panel in the menu bar and select between big, small and full file list.

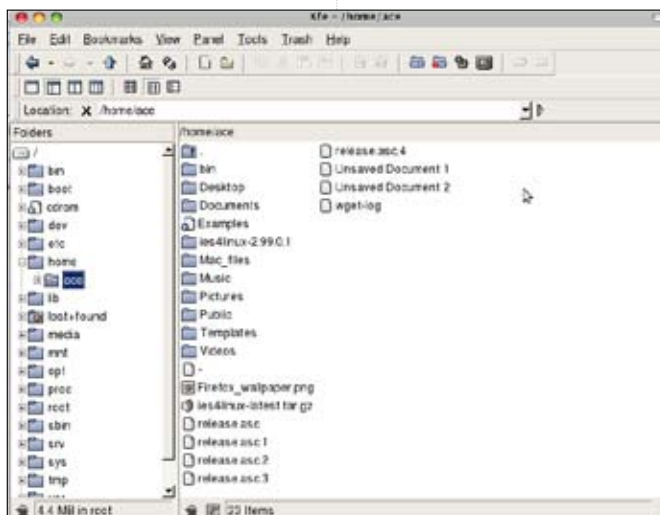
By default, Xfe arranges files in rows. To change to a Column layout go to Panel in the menu bar and select Columns. Rows give you a horizontal scroll approach, whereas Columns will give you a vertical scroll through files.

To open another Xfe window, you can just click on the Launch Xfe button on the general tool bar or you can press [F3]. Xfe also allows you to launch a root Xfe window. To do so, click on the Launch Xfe as root button on the General Tool bar or you can press [Shift]+[F3] for quick access. You will be prompted to enter your root password at this

time and once entered, Xfe will launch in root mode.

Starting up a terminal and command

When you have Xfe open, and you need to start a terminal you can do so directly from Xfe itself. Click on the terminal button located on the general tool bar. You can also press [Ctrl]+[T] to start a terminal. To execute or run a command, there's no need to close or minimise Xfe. Just click on the execute command button on the General toolbar or just press [Ctrl]+[E] and the execute command box will open. Just type in the command or select the path of the file that you want to run by clicking on the browse button next to the input line. To choose to start with a command log, just check the console mode option on the execute command screen



The main window of Xfe

Viewing hidden files and setting filters

To view hidden folders press [Ctrl]+[F5]. There is a small icon on the bottom left of the Tree Panel that displays your folders which will turn White in colour when you choose to reveal folders. This action will not show hidden files, for hidden files either go to Panel from the Menu bar and then select Hidden files or you can use the shortcut - [Ctrl]+[F6]. You will also see the small icon located on the bottom left corner of the file window blink this time when you choose to reveal hidden folders.

To search for particular file extensions, Xfe allows you to set filters so that you don't

need to go through all the files to find that particular XLS or DOC files. Go to Panel on the Menu bar and select Filter. Next, enter the extension you are looking for and click on Accept. Now, when you browse through files and folders, only the extension that has been put into the filter will be displayed and not all the files.

Adding bookmarks

If you plan to use Xfe as the default file browser then you can also add bookmarks within it. So if you want to access a file deep within a folder, there will be a bookmark ready for it. To add a bookmark, first go to the folder you want to bookmark. Then go to bookmarks on the menu bar and select Add Bookmark. [Ctrl]+[B] is a shortcut to bookmark the folders visited.

Emptying trash

Not all Linux distros have trash cans displayed on the desktop where you can empty trash. Xfe has its own Trash, so when you delete a file while using Xfe that particular file goes to the trash can. To access this trash can, either press [Ctrl]+[F8] or you could go to Trash on the menu bar and then Select Go to Trash. To empty the trash, can you can go to trash and then select Empty Trash Can or you can directly do it by pressing [Ctrl]+[Del].

Kexi

Kexi is a Relations Database Management software which is the Linux equivalent to Microsoft Access. Kexi allows you to create forms, queries and tables and input data into them and allows you to store this information as a relational database. Creating forms with a custom interface will now be possible using this software.

Creating a table

To start a new project, you either go to File and then select New from the menu bar or you can just use the shortcut [Ctrl]+[N].

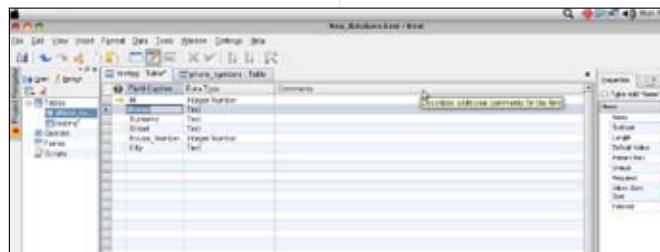
The Kexi interface has different tool bars. On the left of the screen, you have the Project Navigator's Panel where you can quickly browse between tables, queries, scripts and forms. With the Project Navigator's Pane, you can also create new tables, queries and forms. To do so, you need to right-click on Tables and then select Create Object: Table. The same procedure can be followed for Queries, Forms and Scripts. Alternatively, you can create a new table by going to Insert on the menu bar and then click on Table, Query, Form or Script.

Once you have created a new table, you will see a page full of rows and columns. On the right, there is a properties window which will display the properties of each cell selected. This is called the Property Editor pane.

Table designing

To start off, the table designer window has some fixed columns. The first column is the primary key column. Next to that is the field caption where your data pertaining to the relative field will be entered. After that is the data type where you can choose the appropriate data type for your field. These data types can be selected from a drop down combo box menu. For example, if you add 'Name' to the field caption then the corresponding data type would be Text. The last column here is the comments column where any extra information related to the field can be added so that people can understand that field better.

If you want to create a field with images then the data type should be set to Object.



The Table Designing window in Kexi



Switch to Data view to input data

When typing in the field caption columns, field names should not start with numbers, they can start with letters or an underscore sign '_'. The underscore sign should also be used in the field name instead of using spaces or dashes. When you have a field name such as house_number, then the corresponding data type should be "Integer Number". You can quickly access the drop down menu by hitting [F4] or even by using [Alt]+Down Arrow. If you have a field corresponding to phone_number, the data type should be set as Text instead of Integer Number as special characters will be used for area codes.

Entering data

Once you have your basic table field setup, you can start filling in the data. To get to the data entry mode, you need to click on the switch to data view button on the tool bar menu. You can also go to View and then select Data view from the menu bar. A quick way to switch to the Data view window is by pressing the [F6] key. If you want to go back to the Design view then you just need to press the [F7] key.

If you have set the data type of the field to Object then in the Data view window you will get a drop down from where you can add the image by

selecting Insert From File. A small thumbnail of the image will be added to the table.

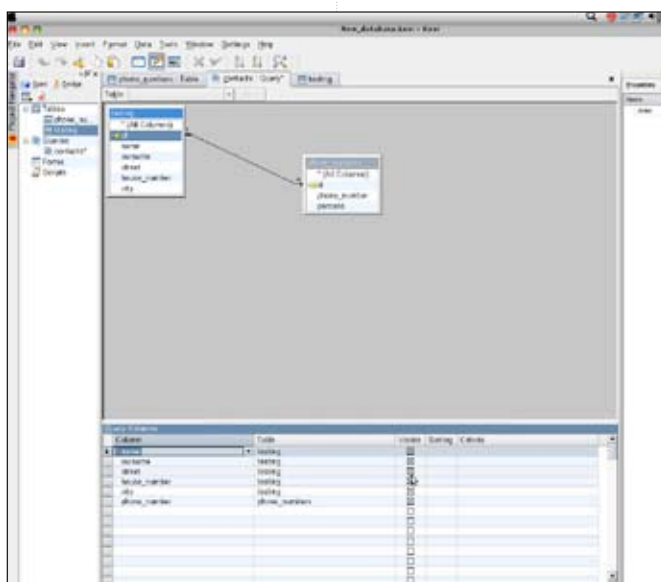
In the Data view mode, your columns will now be set to what you have entered as the Field Caption and you can start filling in the data. The Primary Key will automatically be assigned to each new entry in the table.

Just press [Enter] or [F2] to fill text into the cell. If you press [Esc], whatever changes you have made within the cell will not be saved. [Shift]+[Enter] will save all the changes you have made to the row that is currently being edited. By pressing [Del], only the text within the cell will get erased, but if you want to erase the entire row you need to press [Ctrl]+[Del].

Designing queries

Kexi allows you to create database queries and link multiple tables to these queries so that you can filter or limit the incoming data to a set of particular rows and columns. To create a new Query right-click on Queries in the Project Navigator's pane and select Create Object: Query. Now in the Queries window, there will be a drop down menu from which you can select the tables that have been created. Once selected, click the Add button. Multiple tables can be opened in the Queries window this way.

To add relation links between two tables you have to drag and drop the id field from one table and drag and drop it into the id field of another table. This will link both those fields together. To delete a link between two tables you need to first select the line that links the two



Creating a link between two tables

together, then right-click and select the Delete option.

To add the fields from the tables to the query column all you have to do is double-click each of the fields from the tables that you have open. If you want a particular field to remain hidden, you can just click on the cross related to that field in under the Visible column. To save this query design, you need to click on the Save button located below the menu bar or press [Ctrl]+[S] or you could go to File and then select Save from the menu bar.

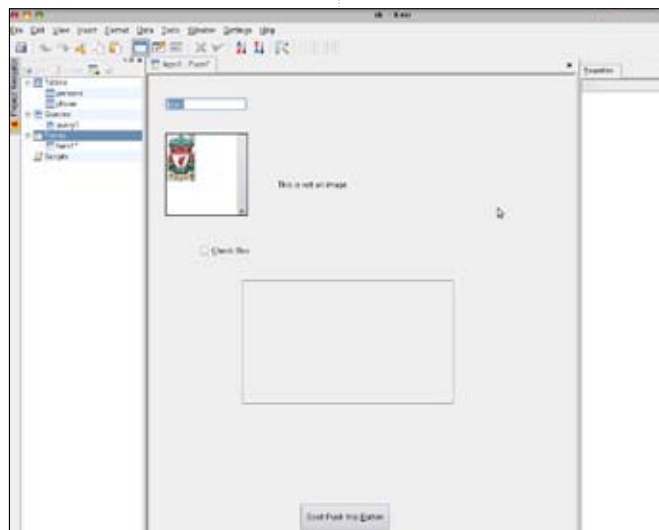


Designing forms

Forms are another way of easy data entry along with a user interface that will help speed up the process. With Kexi, you can use widgets to insert text or images into the form. These widgets can then be bound to a table or a query. To create a new form, right click on Forms in the Project Navigator pane and select Create Object: Form. The form design window will open up and next to it will be the Property Editor window with three tabs – Properties, Data Source and Widgets.

To add a text box click on the Text Box button located on the tool bar. Click anywhere on the grid to place the text box. The text box can also

be resized by clicking and dragging. To add text into the box just click inside and start typing. To fix this text box to Grid or to Fit you need to right-click the box and select Adjust Widget Size. The Property Editor on the right has more options which will allow you to change the colour of the background and text, change the font and size of the font. To link this widget to an already prepared table or query column you need to click on the Data Source tab in the Property Editor. Next select the table or query from the drop down menu and then select one of the fields. Once



Designing a form using Kexi

done, you can check this by switching over to the Data view and moving between the rows on the bottom.

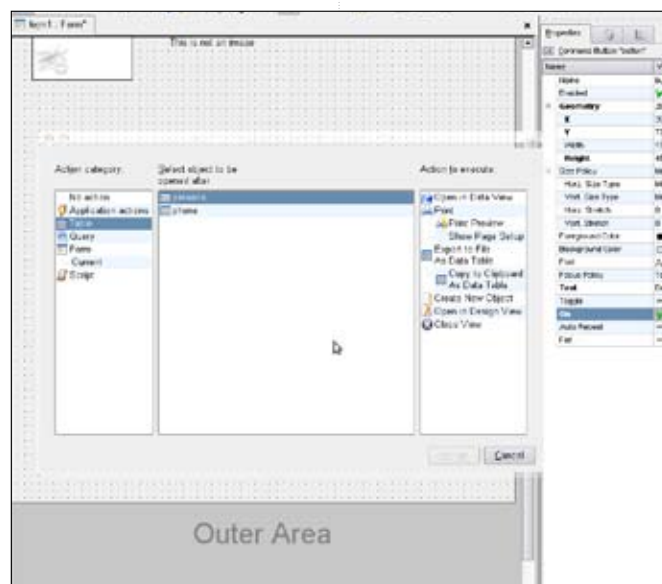
The procedure to add images is also the same, only difference here is that you will need to start by clicking on the Image Box button. If you have an object field in either a table or query column then you can also link the column with the images to the image box inserted into the form. Click on Data Source and select the correct field from the drop down menu to do so.

To add Labels anywhere in the form, you need to just

click on the Label button in the tool bar and then click anywhere on the grid. Changing the colour of the text is again possible through the Properties tab.

Similarly you can also add check boxes to your form by pressing Check Box from the tool bar.

If you want your form to have a frame you need to click on the Frame button on the tool bar and click and drag on the grid in the desired area. Frame Width and Frame Shadow options in the Property Editor will allow you to change the idth of the frame or even to add a few effects such as a



Adding an action to the button in the form

Shadow. The Frame Shape option has some preset shapes that you can select from.

To add a Command Button to the form, click on the button with OK on it from the tool bar and click and drag on the design grid to adjust the size of the button.

To add an action to this button, right click the button in the design view and select Assign Action. Here you can set an action to any of the tables, query columns or even forms created. Actions such as exporting, copying of tables or even closing views can be selected. To test this out you just need to go to the Data view and click on the Command Button created to perform the action. **d**



Windows 7
is all set to launch by the
end of 2009



Symantec
recently launched Norton
Utilities 2009



LG
launches 5.9-mm thick
LED TVs

Q&A

Your Questions, Our Answers

All your computer niggles and nags are dealt with here!

Don't know what's wrong!

I don't know what's wrong with my external hard disk. I found many folders hidden within folders. I haven't created these folders nor have I got them from the internet. The folders are created again when I transfer videos from my computer to my external drive. When I checked the folder properties, it says that it consumes 22 GB of space, but there isn't any change in the remaining space. I cannot delete the folders either. Every time I try, it says that it is in use and cannot be executed. I want to delete this folder, but I don't want to format my hard disk. Can you help me? I've captured a screenshot of the folder's content.

Ashish Mathew

The problem you have is due to a virus or worm. You might have caught this from the internet or an infected flash drive. The only way you can delete a folder without removing the virus is to use an application called Unlocker (<http://ccollomb.free.fr/unlocker/>). Once you've installed it, right-click

on the folder in Windows Explorer and click on Unlocker. You can then kill all the processes that are accessing the folder. Then, quickly delete the folder. You still have to remove the virus causing all the trouble. Install a good antivirus program or run an online virus scan from a site such as Trend Micro HouseCall (<http://housecall.trendmicro.com>) or BitDefender Online Scanner (www.bitdefender.com/scan8/ie.html)

Dial-up Internet not working properly

My PC uses an Intel Pentium 4 processor and an internal modem for my MTNL internet connection. Often, I'm unable to connect to the internet. However, at times it works just fine. What could be the problem and how do I rectify it? I have Windows XP.

Rajesh Seth

The problem could lie in a number of places. The internet connection itself might be at fault if there is a disturbance in your telephone line. In this case, inform the service provider about it, asking them to fix it. Also, update the

modem drivers from the manufacturer's site.

Should I be upgrading?

I want to upgrade my PC. The configuration I now have is an AMD Athlon 64 3500+, a Gigabyte GA-K8N51GMF motherboard, Hitachi SATA2 160GB HDD, 512 MB x 2 dual-channel DDR 400 and Samsung DVD writer.

I read my motherboard manual and it says that the board supports Athlon 64 x2 dual-core processors. If I change my processor and increase my memory to 2 GB, how much of a performance improvement can I expect? Secondly, what is the fastest processor compatible with my motherboard. Also, how much do I have to pay for the memory and processor? Is upgrading a wise idea or not?

Mandeep Singh Sandhu

Your motherboard supports 939-pin AMD processors, so you should be able to use any of the 939-pin Athlon X2 processors. Some of the newer AMD Athlon x2 processors and all of the Phenom line of processors use the new AM2 socket. The

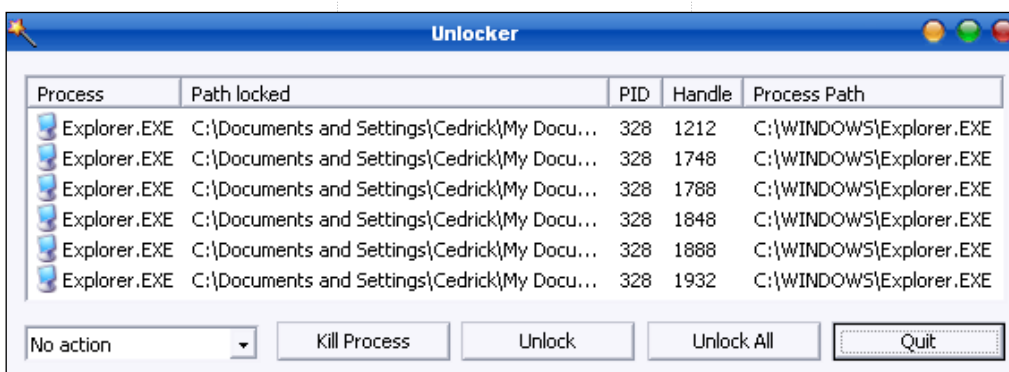
Athlon x2 4800+ is the fastest processor available in the 939-pin configuration. The dual-core 4800+ will give you a substantial performance jump, but it depends on why you need the performance. Your new configuration after upgrading will still be rather outdated, so spending a lot on it isn't recommended. Finding the 939-pin processors might be difficult as well, so we can't give you an accurate price for it. DDR1 RAM that you would need is also more expensive than DDR2 RAM. We suggest going in for a new setup altogether. If you just need a little boost in performance, don't spend more than Rs. 4,000 to Rs. 5,000 on the upgrade.

Keep getting NTLDR errors on bootup

My computer keeps telling me that NTLDR is missing. I also get a message saying that my computer is beginning to dump data. When I restart, it says NTLDR is missing.

I have been fixing this problem by calling the computer guy, but after a few days, the same problem returns. I have called the computer person some 5 to 6 times in the past few months. He comes and formats my system every time to fix the problem. In the May issue, I saw your QnA column in which I got the answer for the NTLDR problem. The computer repair person said that he had fixed my problem using the same method. After this, I face the same problem again after just a few days. I really don't know how to get rid of this problem.

If you continue to face this problem, it might be because the file NTLDR



Unlocker allows locked files to be moved or deleted



Apple
releases 10.5.7 update to
improve security



Apple
is one of the largest
customer of NVIDIA's Ion



A newer, larger version
of Amazon's book reader
- Kindle DX was released

is either getting deleted or corrupted. Make sure you have no viruses on your drive and you haven't deleted the NTLDR file from the root of your C partition. Run a disk check of your hard drive to make sure there are no bad sectors or similar problems. Click on Start > Run. Type cmd then, then click OK. Type CHKDSK C: to run the disk check utility on the C partition.

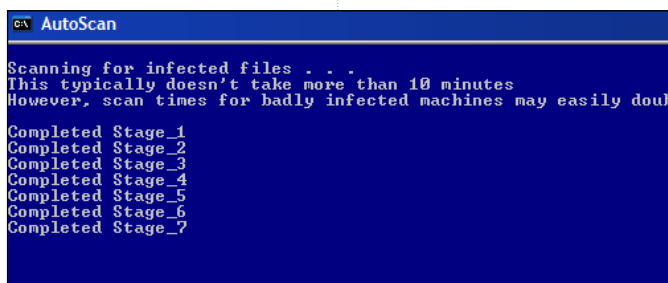
Problems accessing partitions

I'm facing a problem with my PC. I have Windows XP SP2. When I access my hard drive partition, it does not open but it shows the following message:

Windows cannot find RECYCLER\S-2-8-33-100003480-100010198-100001647-6101.COM. Make sure you typed the name correctly, and then try again. To search for a file, click the Start button, and then click Search.

When I right-click on it and click on Open, it shows the error - "Access is denied". When I right-click in Explorer and click on Explore, it opens up properly. Is this a virus problem?

My PC has an Intel Pentium 4 processor and 512 MB of RAM.
Rajshekhhar Sirimala



Combofix scanning for viruses

That is definitely a virus. Install an antivirus program to remove it from the disk. Using a virus removal tool such as Combofix (www.combofix.org) can remove most of the commonly found viruses. Maintain caution when accessing

flash drives; these viruses propagate through them.

PC keeps losing track of time

I have a problem with my broadband internet connection. My contact can see me online on Skype, but I cannot. I can talk with him on Skype and also hear him. What is the problem?

Rajesh Kumar

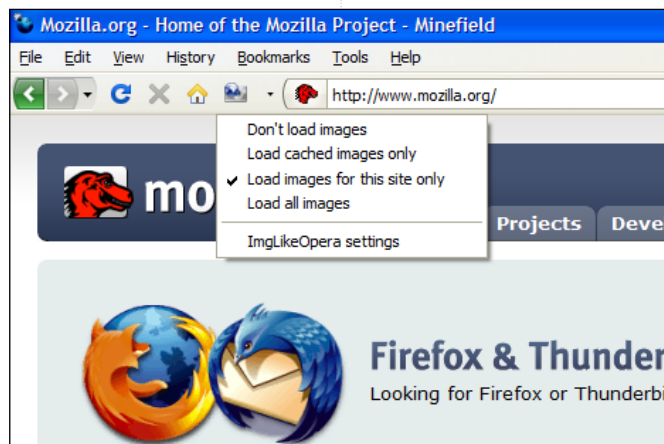
Skype, like other instant messengers, has an invisible mode which allows you to be online, but not visible to people in your contact list. This helps in avoiding attention if you are busy. Skype works on the basis of P2P connections, so the problem could also be on Skype's end or your connection. Turn off any firewalls or make provisions for Skype to work with it.

Getting insufficient speeds from the connection

I have a Dell Studio 1555 laptop with an in-built modem. I'm currently using a BSNL 256 kbps broadband plan using the modem provided with it, but when I download, the speed doesn't go beyond 20 kB/s. Should I purchase an external modem?

Harsh Gupta

A 256 kbps connection should technically give you around 30 kB/s. It is unlikely that you have an ADSL connection. Every ADSL2 modem in the market today can do up to 2 Mbps, so the problem isn't necessarily with your modem if you



ImgLikeOpera can be set to stop loading of images in webpages

have an external one. You might be referring to your LAN port or you might have an internal 56kbps modem. Either way, it might a faulty line, network congestion problem or even a problem on your ISP's end. You should contact your ISP and lodge a complaint.

Browsing with limited downloads

I have an internet connection, but with a gigabyte download limit. I want to surf longer with this limit like in Opera Mobile. Please help me.

Aditya Vhad

One of the easiest ways to reduce bandwidth consumption is to disable images while browsing. Opera lets you do this by clicking on a button in the toolbar for a tab. You can disable images entirely by clicking on Tools > Preferences. Then, click on the Web Pages tab and choose No Images from the dropdown menu for Images. Click OK. If you use Firefox, install a plugin such as ImgLikeOpera (<https://addons.mozilla.org/en-US/firefox/addon/1672>).

Splitting vocals from a music track

I need to split vocals from a music track very often. I have found applications that claim to do this, but none of

them work satisfactorily. Does anyone know a better way?
amitash from Think Digit Forum

I recommend using AV Music Morpher.

Disc_Junkie from Digit Forum

Converting CHM files to PDF

Does anyone know of cheap or free software to convert a CHM file to PDF? CHM files take too long to load. I have a text book in CHM file format. It's around in 200 MB in size, so switching between pages takes a long time and sometimes even locks up my system. Please suggest a simple program which converts CHM to PDF.

mayneu from Digit Forum

Converting it to PDF will not necessarily give you a significant file size reduction, and you may still end up with a large file. On Linux, there is a simple tool called chm2pdf. You give it the file name and it spews out a close-to-perfect PDF.

QwertyManiac from Digit Forum

Try www.chm-to-pdf.com
Pagal_Dude from Digit Forum

Downloading flash content on Opera

I recently started using Opera and I like it so far. There is one problem though. In Firefox, I used Flashgot and Free Download Manager to download flash videos. How do I get the same functionality and features in Opera?



Shinoda Plasma demonstratd a 145-inch curved plasma display



NEC
launches the new USB 3.0 Controller



Sony
launches three new dSLRs - Alpha A230, A330 and the A380

Q&A

☀ You can try Flash Panel for Opera at <http://vvsite.com.ua/?fl=0&i=15>. Click the link for the English version of the page.
sakumar79 from Digit Forum

🌸 Unable to play VCDs on my laptop.

I am facing a peculiar issue playing VCDs on my laptop. When I load the VCDs, they show up as DAT files and I change the extension to AVI to play the videos in the VLC player. This is annoying as the video quality after changing the extension is poor.

The OS is Windows XP Professional, Version 2002, SP3. How do I fix this problem?
sekhmet3 from Digit Forum

- ☀ 1. First change the extension of the file to AVI. It won't degrade the video quality.
2. Try using Media Player Classic to play the video.
3. VLC also plays DAT files. I guess you have some codec

☀ There is no need to hunt for motherboard drivers. Drivers for your chipset should be built into Ubuntu. Only download drivers for your onboard graphics chip from Intel's site.
Cool G5 from Digit Forum

🌸 Schedule wake up and hibernate for Data One connection

1. I want to wake my laptop from hibernate mode at 2:10 am every morning and hibernate again at 7:50 am.
2. I also want to start my modem Nokia Siemens C2110 for BSNL Data One. Will the laptop turn it off when it hibernates?
3. If I keep the modem turned on when the laptop is in hibernate mode, will there be any data flow. I mean will I be charged?

lahratla from Digit Forum

- ☀ 1. Install Auto Power On and Shut Down by lifsoft (www.lifsoft.com)



Auto Power On and Shut Down can be used to schedule tasks

problem. Try installing it again.
Krazy Bluez from Digit Forum

🌸 Drivers for Ubuntu?

I plan to use Ubuntu 9.04 as my operating system very soon. My problem is that I can't find drivers for my motherboard. My Biostar motherboard runs on Intel's G31 chipset. I have searched Biostar's web site, but there are no drivers for Linux. Where can I find drivers for Ubuntu?

jayavardhanarao from Digit Forum

- lifsoft.com)**
2. Put it in PPPoE mode, and then use a batch file to connect.
 3. No, you will not be charged.
- dheeraj_kumar from Digit Forum**

☀ A simple solution is to use Free Download Manager (with PPPoE) which supports configurable tasks. You can set it to connect at a specified time, disconnect or shut down at a specified time or on completion of all downloads. Besides, it's also an excellent tool for managing downloads and even

downloading torrents. All you have to do is keep the laptop on till 2 am. You can still put it on power-save mode, which should be enough for downloading as well.

yogeshm.007 from Digit Forum

🌸 Problems recovering encrypted data

I have Windows XP SP2. I encrypted my "My Documents" folder on my C partition. Then, I copied the files from "My Documents" to a folder in my E: as a backup. I wanted to format my C partition and reinstall Windows XP on it. I forgot to decrypt my backup data so now I cannot access these files.

Here's what I can do. I can view the file size and properties and also the encryption certificate, but it says that it cannot find the private key. I have tried EFS recovery software, but this did not work as it just searched for deleted encryption certificates. Since I formatted and reinstalled XP, none are found matching the ones applied on those files.

The thing is that my computer name, account name and even my password are exactly the same as my earlier installation, hence it at least allows me to view the certificate on the files.

Does anyone know any way to recover my data?

maverickrohan from Digit Forum

☀ I had tried Advanced EFS Recovery Pro recently. There are few things required to make it work.

1. You must have its original certificate. You should have it saved on either a floppy or other medium when you first encrypted it.

2. You must use the same hard-drive that you used with EFS, as this software will search for the certificate and key.

Forget attempting it if your original hard drive is corrupted.

mynajib from Digit Forum

🌸 IDE cable problem!

I have only one IDE port on my motherboard, but I have a hard

disk and a DVD writer that I need to connect. A typical IDE cable has three connectors, right? I plug in one end into the motherboard, one to the hard disk and the other for the DVD writer. The problem is that the hard disk works if writer isn't plugged in. The writer works if the hard disk isn't plugged in. Both of the devices don't work if I plug them in together. They aren't detected by the BIOS. The jumper pins are left empty with no jumpers set on both the hard drive and the DVD writer. I need to know which one should be set to master and slave.

dheeraj_kumar from Digit Forum

☀ You did not mention which HDD and DVD-writer models you have. Jumper settings may be different for different models, but this is the way it is on most models.

HDD: Master - jumper on the two left-most pins, i.e. closest to the IDE connector.

Slave - no jumper.

Cable Select - jumper on the two pins second from the left.

Optical drives:

Master - jumper on the right-hand-side pins.

Slave - no jumper or jumper on the middle two pins.

Cable Select - jumper on the right-hand-side pins.

Your problem - with no jumper at all, the two drives are both set as slave and this might confuse the BIOS.

There is no hard and fast rule as to which drive must set as master and which one as slave, but it is usual to set the hard disk as master and the optical drive as slave.

If both drives are configured for Cable Select, one drive will be automatically set as master and the other as slave. The drive at the end of the IDE cable automatically becomes master, and the drive in the middle of the cable becomes the slave.

To use Cable Select, you have to use an 80-conductor IDE cable, not the 40-wire type. There's a special type of 40-wire cable that can be used as Cable Select.

pimpom on Digit Forum

Mind your business... on the cloud



Kshitij Sobti

kshitij.sobti@thinkdigit.com

Recently, we have seen a huge expansion of so-called cloud services, with terms such as SaaS, PaaS, IaaS thrown around seemingly just for the sake of it. For almost any computer need you might have, there now exists an online service that will make your job easier. By letting the cloud do all your messy work, you can now run the entire infrastructure of your business online, and manage it from a simple netbook!

Getting cloudy

As long as you have a device with full internet capability, for most simple purposes you no longer need any other software installed. You can now do your research on Wikipedia, edit and create documents on Google Docs, and email it to whomever you want. This is all old news by now, things have gotten much more interesting.

Cloud services utilise grid computing to distribute computing resources over a

wide network (a cloud) and in this process become more scalable and stable. As you are no longer relying on just a single system, chances of downtime are decreased, and system errors are much less catastrophic. By virtualizing the resources and abstracting them, the end-user's experience is much like using any other service, they need not concern themselves with how much resources are coming from where, only that they are available.

Business needs are bound to grow with time as your customer base and services improve, and this is where the cloud is best equipped. Most cloud services allow you to scale your resources at any time, often without needing any downtime. What this means for you is that you no longer need to pay large sums of money for a hosting plan which you may only fully utilize once or twice a year during some special events. Instead you can seamlessly scale your service for the duration of the peak, and thus pay extra only in that duration.

Cloudy services

Two of the forefront services in the cloud arena are the Amazon Web Services, and Rackspace Mosso. They both provide some similar services, but with slightly different approaches.

Amazon web services

Amazon, probably the most famous provider of cloud services such as Amazon EC2 (Elastic Compute Cloud) and S3 (Simple Storage Service) charges users based on how much resources they use instead of having separate pricing blocks.

Simple Storage Service (S3):

The S3 service gives you unlimited online storage capacity, and charges you only for how much data is actually stored on their server, and how much is uploaded or downloaded.

S3 charges you as little as \$0.15 (Rs. 7.50) per GB per month of space used, \$0.10 (Rs. 5.00) for 1GB data transfer. This means that for storing 10GB of data you will have to pay as little as Rs. 75 a month, with a one time charge of Rs.

50 for when you upload the data the first time. There are additional charges for the number of read write and list requests but they are quite marginal.

It comes with a powerful Access Control System, which allows you to limit access only to specified credentials. You can allow set public read permissions (or even write permissions), allowing you to distribute your files with ease. It can also optionally create torrents of your uploaded files, allowing you to save on distribution costs by letting the users provide some bandwidth.

The data in S3 is organised as buckets. You can create multiple buckets to store your files, and connect to them using your access credentials. The data in these buckets is stored in the form of keys instead of a usual folder and file hierarchy.

Many services have popped up since S3, a popular one being Dropbox.

Elastic Compute Cloud (EC2):

The EC2 service allows you to run a virtual machine on Amazon infrastructure, while giving you fine-grained control of the processing capacity, memory etc., all of which are factored in while calculating the pricing. EC2 charges depend on the operating system and software used by the virtual machine, and the resources allocated to it. So you are paying for exactly the processing and software you use.

There is a plethora of options available to deploy, as Amazon Machine Images (AMI). These are pre-configured (or not) virtual operating system images which can be launched at will. When you launch an EC2 instance, you get SSH terminal access to it, enabling you to remotely configure the system, to install or uninstall any software. It's like renting a computer in some guy's basement all across the other side of the world.

You are charged on a hourly basis based on how much data is received from and sent to the server instance. They even offer virtual machines which come

pre-installed with commercial software from vendors such as Microsoft, Oracle, and IBM, with a higher hourly charge.

Add-ons to this service are also available for a more customised experience:

- **Elastic Block Store:** For adding storage volumes to your EC2 instance. These cost on a per-GB basis, and on how many data operations are performed. These can also be set to be backed up to Amazon S3 at the standard costs.
- **Elastic IP Address:** Assigns a static IP address to your instance, if you need to to host your web site.
- **CloudWatch and Auto Scaling:** This service monitors your This service can be set up to automatically launch additional instances of your server whenever demand increases, and shut them down if demand goes down, thus saving on costs.
- **Elastic Load Balancing:** Automatically distributed requests across your running instances to balance the load.

These services aren't for an amateur! The Amazon S3 service for example, will give you no means by itself to access your files. All you get when you sign up are your access credentials, which are long complicated alphanumeric sequences contrived beyond remembrance. They do provide loads of developer documentation for creating software to access the service, and sample code to help you get started. You are by no means helpless, as people have been kind enough to create code for you to integrate these services, often seamlessly into your work-flow.

Rackspace

Another strong contender in this area is Rackspace's Mosso services. They provide three Cloud services – Cloud Sites, Cloud Storage and Cloud Servers.

Cloud Sites:

With cloud sites, your entire server is hosted by a pool of virtualized servers. The minimum package gives you 50 GB storage space, 500 GB bandwidth, and 10,000 compute cycles a month (equivalent to a 2.8 GHz processor).

This minimum package costs a whopping \$100! However, they offer no restrictions on how many sites you host on the platform, or how many databases and email accounts you create, so you can even 'sub-let' the unused capacity to run your clients web sites. Excess usage charges are in the order of \$0.50/GB for storage, \$0.25/GB for bandwidth and \$0.01 for each additional compute cycle.

Unlike Amazon EC2, this is a ready-to-use product, and requires no further set-up or costs to enable load-distribution or automatic scaling. As such it is much more suitable for hosting purposes.

Cloud files:

This is an alternative to Amazon S3. The facilities are quite similar, with similar pricing structures and design.

Unlike Amazon S3, Mosso provides an online interface for accessing your content, and infact does not charge for bandwidth used from their own control panel.

It's raining clouds

A list of cloud services

Google Docs
ZoHo Suite
box.net
HD Cloud
Sun Grid
Microsoft Azure

Cloud servers:

This is more on terms with the Amazon EC2 service, but stands out enough to be a force of its own.

Cloud servers gives a much more fine-grained control over the server configuration, with a minimum configuration server with storage of 10GB and 256MB memory available for as little as \$0.015! On the other hand the minimum configuration available in EC2 costs 10 times as much.

A penny saved?

The best thing about these services (except Cloud Sites) is that there is no minimum fee at all! For zero use there is zero payment. Even landlines cost more. So you can sign up today, and you won't be charged a single paise till you upload that first byte, or launch that first server instance.

Cloud storage services cannot replace the storage provided by a web hosting provider. These storage services are better optimized for media files and downloadables. By running your core system through a web-hosting provider, and integrating media from these services, you stand to save much more.

Unlimited hosting accounts may seem attractive, but the level of service and availability provided by cloud services is substantially better. Unlimited bandwidth is unfeasible, and usually one of the service provider's other constraints kick in at exactly the wrong time. There is no such thing as a free lunch, and the recipient of one is sure to be skeptical of where exactly the lunch has been that it's free in the first place.

Since cloud services are pay-as-you-go, you get the same level of service and

speed whether you are hosting a multi-terabyte media web site, or a 1GB backup. The broadband and storage are truly unlimited, because you are paying for them.

If you can't afford \$100 a month for your next venture, Cloud Sites will be off the table. The alternatives EC2 and Cloud Servers are, raw products, which need intense cooking with a development team in order to be feasible. If you need a simple solution with minimal development involved, these services too will seem unnecessarily contrived.

A penny earned

The true advantage of cloud hosting appears only for those who have demand cycles that vary considerably. In cases where the minimal package required will be insufficient during higher loads and will attract large fines, and the maximal package will cost considerable more. With a normal hosting provider, singular aspects of the hosting package cannot be scaled individually. If you need lower storage space, but considerably higher bandwidth, you are out of luck. Here offloading some of your heavier files to the cloud stands to be much more efficient.

Finally to take full advantage of the emerging clouds, it is best to consider all aspects of your hosting configuration. Run benchmarks, how much do you use at your peak? Does the hosting provide sufficient speed for downloads? How much do you have to pay for exceeded bandwidth?

As always it is best to take a middle path if unsure. You have a hammer, don't make everything into a nail. In all likelihood there are much cheaper places to host your awesome blog. For simple purposes, it is quite an overkill. Whether the cloud works out for you or not in the end depends on your required mixture of performance and cost. **4**

MOSSO / AMAZON S3 RATE COMPARE

Operation	Mosso Cost	Cost
Storage	\$0.15	\$0.15
Data Transfer IN	\$0.08	\$0.10
Data Transfer OUT	\$0.22	\$0.17
Requests: PUT, COPY, POST, or LIST (per 1,000)	\$0.00	\$0.01
Requests: GET, etc. (per 10,000)	\$0.00	\$0.01

Find out why
your business
can't afford to
take **twitter**
as just another
passing fad to take
cyberspace
by storm

twitter

for your Business

Aditya Madanapalle
aditya.madanapalle@thinkdigit.com

The Twitter phenomenon

Twitter.com is a free social networking service that began operations in 2006. The service allows users to post short (140 character) updates. The service is like a short message service over the web, which allows users to keep friends and family in the loop. Once you sign up, you get a customisable page. You can post to this page from your mobile phone, the internet, or any one of the myriad tools available for the purpose. You can "follow" other people who use twitter, and have their posts show up on your page too, which is called a "stream". Twitter encourages you to post *What are you doing now?*, which gives an element of immediate, and real-time updates about people. Twitter can be seen as a social networking site at heart, but its users have transcended the roots of the service. It is the most used social networking site for business purposes, far ahead of the closest competitors, Facebook and Myspace. Twitter has gained an

identity for itself, and can be compared on many counts, to the phenomenon of blogging.

The first blogs brought with them a whole bunch of blogging related lingo and terms. The same is true for Twitter. A Twitter post is called a *tweet*, Twitter users are *tweeple*, and the sum of all tweeple and tweets make up the *tweetosphere*. The blogosphere faced a flurry of harsh criticism,

for being a waste of time, for being blatantly useless, and for being just another tech-age fad. Twitter faces much of the same criticism. There are a whole bunch of dead or orphaned blogs, and the same is already true for Twitter. Respectable people refused to take blogs seriously for the first few years they were around. However, a new class of people, and a strong community emerged from the blogging phenomenon. Those who used the service for its benefits, those who defined the rules, and those who capitalised on the service became the success stories of the blogosphere. The same can be said about Twitter too. Although the service may appear bland, meandering, and foolish in the eyes of many, rest assured that there will be those that will use it for their benefit. Twitter, like blogger, is a new space, and a new medium. Many businesses are finding it a powerful platform to interact with their customers.

Why your business needs Twitter

The question really is, if you have a business, why do you need to use Twitter? If

you have a business, chances are, that you have customers that are talking about your product, your brand, or your business on Twitter. A search on Twitter of your business should turn up a number of opinions, insights, and issues that your customers have with your business. We headed out to <http://search.twitter.com/> and searched for this magazine. We came across reports of

when our forums were down, of what kind of content we carry in our magazine, and how users could not use certain kinds of content on our DVD. All of this was legitimate and valuable feedback. Twitter lets you know in real-time, what people are talking about your business. Follow those who talk about your business, or your costumers, and you get to gauge the mood of your audience, what is occupying them, and what they need.

Next, you can look at what people are talking about your competition. Check out their faults, their weaknesses, and what needs they are not fulfilling. Not only do these searches show you what to capitalise on, you get a deeper understanding about your market. Twitter is, at the end of the day a social networking site. People will tweet about the boring things they think no one is interested in. **Twitter.com** considers the cumulative data of all its users as an asset, and any smart business will consider the information with the same value attached to it.

Twitter starts becoming really useful, when a company actively gets into

the tweetosphere instead of passively reading it. Giving something back to the community, entering into the spirit of the endeavour, and participating in the tweetosphere can have a number of benefits for a business, as many CEOs have already found out. Twitter has a sizable number of users to direct traffic to the company's web site. Twitter gives the company a face and a personality, making the company itself a tangible entity that customers can interact with. This brings the customers and the business closer together, and both stand to benefit.

If you are unsure of which direction to take your business in, or how your customers will react to a certain approach, Twitter is a great place to get that feedback. Twitter can be used to seed thoughts and ideas, generate buzz about events, and stay tuned to the pulse of your market, or your audience.

If this impressive list does not convince you to get your business on Twitter, perhaps this will – chances are, that your competition is thinking of, or is already active, on Twitter.

Setting up a Twitter account

To set up a twitter page for your business, all you have to do is sign up for a handle at www.twitter.com. A handle is akin to a username, but can be used in a variety of ways. You can be followed by tweeple, or customers can choose to get updates from your business on their mobile phones. If it is a small company, the name of the company will do fine as the handle. Alternatively, if you want to keep it more personal, you can choose to use your own name as the handle, but still use the account as a proxy Twitter account for the company. If it is a large company, it is customary in the tweetosphere to use the first-name-at-company format – adityaatdigit, for example. A number of employees dealing

with different processes in the company can sign into Twitter in this way (more on this later). Once you sign into Twitter, it is a good idea to add an image to the profile. It is irritating to follow a faceless Twitter account. The logo of the company works great, but an image of the individual tweeting works even better. The next step is to personalise the look of the Twitter page for the company. Go to http://twitter.com/account/profile_settings and click on Change background image. Twitter offers a whole range of background images to choose from, but it is better to create and use a background image from the company. It also makes sense to change the

SMART TIPS

Hashtags are a great way to generate and track buzz. Hashtags can be used within a post to refer to a particular event, or trend associated with the company. A good example is "#digitcarnival". Using hash tags allows those searching for the event to arrive at your feed, and for your company to track those talking about your event. Be careful though, overusing hash tags can kill your account.

background colours to match the logo of the company, or to use colours associated with the brand. Navigate to Change design colors, and a colour wheel appears for background, text, links, sidebar and sidebar border.

Twitter by default gives you a set of followers. Disable all of these, as they are not relevant to your business. You can follow people later on, as you figure out genuine accounts you are interested in, customers, employees or other accounts that make sense to your business, and add value to your stream. Now you have a Twitter account, and you are good to go. Now comes the difficult part, the long haul. Be prepared to take this seriously, and go through with it.

Tweeting for your business

Before you start tweeting, you have to understand the medium. This is not a place for harsh or brutal marketing practices. If say, you are an online store, it is a good idea to tweet links to products and offers, but you should offer something more. A Twitter feed that has only promotions, is not different from spam, and such accounts are disabled sooner or later. You have to get close and personal with your readers and customers. You have to add some sort of value to your feed – doing it all in 140 characters or less might seem a little daunting, but it has been done before. Tweet about the behind-the-scenes activity of the company, the immediate steps that the business is taking, and do it regularly. Discuss the general market scenario, the general direction of the market, and your opinions on a range of subjects. Keep in mind that the Twitter page is a brand-building exercise, not a tool for increasing the sales or generating traffic immediately. Imagine the organisation to be a person, or a single entity, who needs to update his friends about what he is upto – then proceed with the tweeting. If you are delegating the work of maintaining the Twitter account to an employee, or a number of employees, lay out a clear set of rules and guidelines.

This allows for coherence, and maintains a standard for the account. After a few months, it makes sense to have a long term plan in mind, to outline the direction of the account for some weeks or months into the future. When possible, offer something of extra value to those who follow your company on Twitter.

The nature of the tweets depends on the kind of business, and the scale of the operations. For companies or businesses that run out of blogs or web sites, Twitter is a tool that simply has to be used. The updates can vary from the status of the servers, to previews of upcoming content. Twitter can also nicely

accessorise your web page or blog, with a widget that syndicates recent tweets. Small or home businesses can keep an ear to the ground by using twitter, throw ideas around, let people know of upcoming plans and basically interact with a virtual community of their target market. SMBs are in a great position to exploit the real-time feedback that Twitter offers. This feedback is direct from the target market, and is not filtered in any way. Twitter makes it easy to pick up trends, and fads in the target market, and respond to them. Your constant updates makes customers feel that your company is active, alive and constantly working at doing a better job. Particularly at this level, Twitter is about enhancing the image of your company more than anything else.

Large businesses can divide their Twitter feeds in a number of ways. There can be a Twitter account for a particular product or a line of products. These accounts can offer promotional offers, discounts or freebies to participants or followers. This gets more people into the loop, more followers, and in the long run, more loyalty. Different processes within a company can update their status, and current direction within a company. A publication house can separate Twitter accounts for the editorial team, the PR team, and those who maintain the website. Such accounts, more than anything else familiarize the organization with the audience, and gives a face to the company. Alternatively, individual employees can append atcompany to their first names, and tweet about their personal activities, and involvement in the company. All these approaches are great for generating interest in the products of the company, and keeping the buzz about the company and its activities alive within the internet and out of it.


Tools for Twitter

There are a whole range of tools to help your business use Twitter better. *Tweetdeck* is a great tool for those who want to tap into Twitter to listen to the chatter. It allows you to follow a range of updates across social networking sites, including Facebook to have a look at what people are talking about you or your business. Just head over to <http://www.tweetdeck.com> and create a new account. Arrange the columns, sit back, and watch in real-time all the buzz your company is creating.



Head over to <http://search.twitter.com/> and key in your company name to find out what people are tweeting about your business.

TweetLater (www.tweetlater.com) is a great tool for those who have a plan for their Twitter accounts. You can key in Twitter updates with a time-delay. This also lets you stay active 24x7, giving the illusion that your business is always on. In case you have tight schedules, or leaving somewhere for a holiday, *TweetLater* is a great way to keep your account active. The best thing about *TweetLater* is that your use of it is in stealth, there is no way people will come to know if you are using it or not. The only thing missing is an automatic response to those who message you.

Now that you have your focus group, you can go ahead and study them. *Strawpoll* (<http://strawpollnow.com>) is a simple to use and free service that lets you setup polls. Embed these polls within tweets, and you have answers to those knotty questions that you want from your customers. 



Java app store
Sun plans to implement the biggest application store on the internet around Java



Yahoo! quits
Yahoo!'s own Java store shuts shop, like its other mysteriously disappearing projects



MS at JavaOne
Microsoft is giving a keynote address at JavaOne, a cheeky move considering the infamous 1990 fallout

The BlueJ Way

Somewhere between *I want to learn Java* and *I know Java*, there is the uncertain period of *Object-oriented Programming makes no sense*. And through those tough times, BlueJ can help you visualise your objects

Nimish Chandiramani
readersletters@thinkdigit.com

Most programmers will tell you that once you've understood the basics of object-oriented programming (OOP), you're set—you'll be ready to tackle any programming language, and master it with ease. And if you're learning Java, BlueJ makes that task much easier. It lets you see the structure of your classes and objects, just like when you're planning your code. It's all Java, but the concepts you'll learn with BlueJ carry forth to all object-oriented languages (and we aren't going to do any advanced Java programming in this article, so the code should be easy to follow).

And now, on to it.

Objects and classes

In the world of OOP, everything is an object. Simply put, the code equivalent of a real-world object. And like real-world objects, these programming objects have properties (information about them), and behaviours (stuff they do). If you're using a web application, for example, it sees you as an object called `yourUserName`, which has a bunch of properties that represent you—a name, an email address, and

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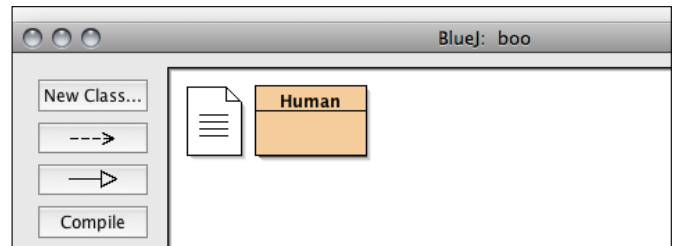
Download BlueJ at www.bluej.org. You'll need Java installed to run it—get that from <http://www.java.com/en/download/index.jsp>. If you're running on Linux or Mac OS X, you've likely already got Java installed.

so on—and another bunch of behaviours—log out, purchase, and other such activities.

A class is the blueprint on which the object is based. In the above example, `yourUserName` is an object, but it's based on a class called `User`, which says that all user objects must have a name and email address, and should have the default behaviours of purchasing stuff and logging out. So if someone else logs on to the site, they are represented by an object called `someoneElseUserName`, which has the same properties and behaviour as `yourUserName`, just different information.

Doing it in BlueJ

Fire up BlueJ, and choose `File > New Project`. Select a directory to save it in, and you'll now see a blank window that's waiting for you to do something. Right-click anywhere in this window and choose `New Class`. Enter a name for this class—`Human`, for example (for we can play



It's a boy!

on `Human` and select `new Human()`. You'll be asked to name your new human, and once you click OK, you'll see this new human appear at the bottom of the window.

When you're done admiring your handiwork, right-click on the `Human` and choose `Remove`.

Properties and behaviour

Now that you know how to create classes, you can start adding properties (called fields in Java) and behaviour to them. Double-click on the `Human` class to see its code. First, let's begin with adding a field for `Humans`. Towards the beginning of the code,

The "public" means that `Age` can be accessed (and thus modified) by any other function, even if it isn't in the `Human` class. That done, you can now focus on the `Human`'s methods.

Every class has a constructor—a function that runs when an object of that class is created—which shares its name with the class. BlueJ's default constructor just sets the value of `x` to 0, so let's make that less boring:

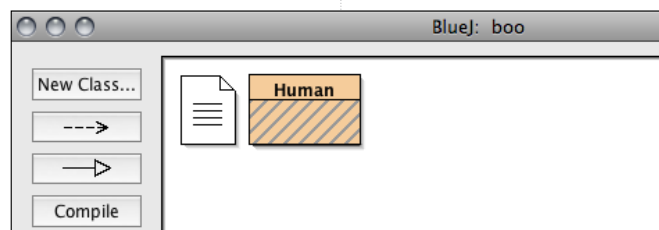
```
public Human ()
{
    //just born
    Age = 0;

    // cry baby cry
    System.out.println
("WAAAAAAAAAH!");
}
```

Now, every time you create a new `Human`, it'll cry into a terminal window. Let's also replace the default `sampleMethod` with something more appropriate:

```
public void
saySomething(String
something)
{
    // first words
    System.out.
println(something);
}
```

And now, you're ready to test these behaviours in the wild. Compile your project, and create a new `Human` as before.



You've now got a basic blueprint for your `Human`

God here)—and hit `[Enter]`. You'll now see a little orange box called `Human`, which represents the class.

Before you create your first `Human` object, hit the `Compile` button to compile the code, which turns it into an application. Now right-click

you'll see "private int x;". This declares an integer `x`, but because it's "private", it can only be used by functions within the class. Let's add an age to the `Human` class:

```
public int Age;
```




Duke

You've seen him around, but don't recognize him over the coffee icon, he's the Java mascot



Greenfoot

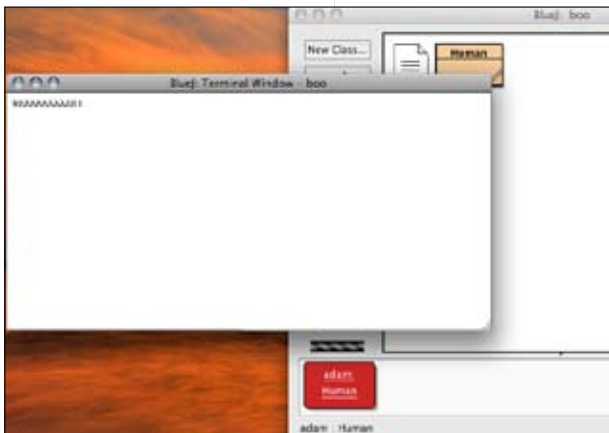
If you like BlueJ, be sure to check out Greenfoot, another educational Java dev environment



Learn Java

Interested in more code? Head over to www.javaworld.com

Developer Corner



This birth is easier than most

You'll now see your Human's first wail in the BlueJ terminal.

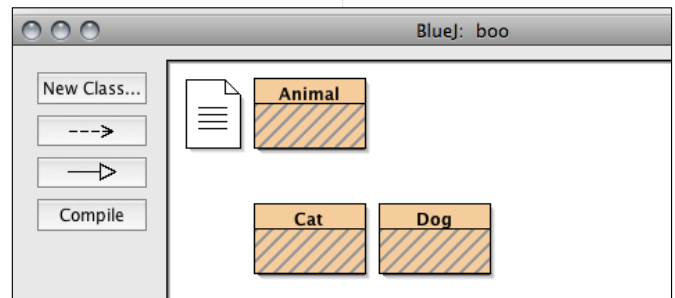
To see the properties of this Human, double-click on it.

To have the Human say something, right-click on it and choose void saySomething(String something). In the dialog, type in what you want the object to say, enclosed in double quotes.

As you get better with Java, you can create and modify the fields and methods as you please. Meanwhile...

Inheritance

Classes don't need to be the Ultimate Definition of Everything. In fact, classes are supposed to be generic, and if there are any specific properties or methods you need in a class, you create sub-classes that inherit from the original class. All animals, for example, have a certain number of legs (two, four, and so on), and they all walk. But dogs bark, and cats meow, and yet, they're both animals. In programming, we



Getting the classes ready

create one class for animals with all the properties and methods that are the same across all animals, and separate classes for dogs and cats, with all the properties that are specific only to them. In BlueJ, it's just like creating any other class.

Once you've created the classes in BlueJ, getting Dog and Cat to inherit from Animal is easy enough: click on the Insert and Inheritance Relation button (the solid arrow), click on Dog first, then click on Animal. You'll see an arrow pointing from Dog to Animal. Repeat this for every class needs to inherit from Animal. Now, when you create a new Dog (for example), you'll be able to run the methods from Dog and Animal.

The abstract class

When you're creating generic classes like Animal, you don't really want to create objects of that class—instead, you want other class to inherit from it, and create objects from those, instead. In such situations, you create abstract classes, which you can't create objects from, but can still inherit from.

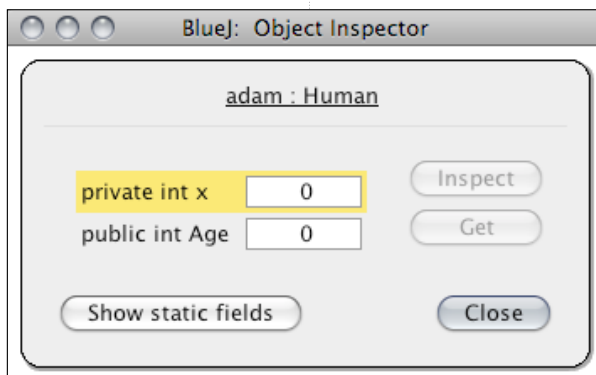
When you create a class in BlueJ, choose the Abstract Class option to create an abstract class. If you're going to turn an already existing class into an abstract class, go to the editor and change the definition from:

```
public class Animal
```

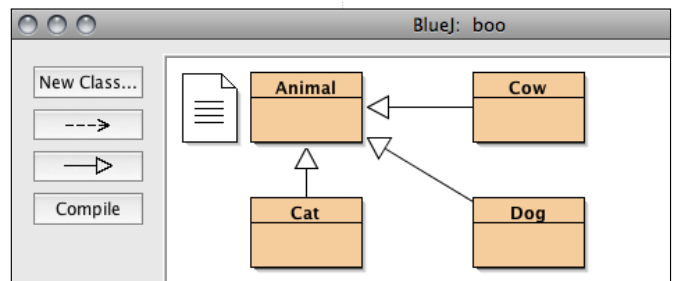
 to:

```
public abstract class Animal
```

And now, all you have to do is have BlueJ around while you're learning Java.



You can see your Human's properties in the Object Inspector



Dogs will inherit all the "qualities" of Animals

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I've found Jabra and Plantronics handsfree units to be really neat in terms of comfort, build quality, voice clarity and ergonomics

your ear. Some sets are sleek and will have the main body fit tuck securely behind your ear. Others have the main unit protruding from the earpiece. Irrespective of the design the unit should feel comfortable in your ear before buying a unit make sure to try it or if you cannot do that at least take a close look at it. If the earpiece region appears too large for your ears you may have a problem with its fitting and in such cases you'll be in discomfort – not worth it. Newer models have silicone earbuds that gently fit inside your ear and being soft can partially take its shape. These are more comfortable. Also look at the battery rating especially in case you need to use the headset for long hours. I've found Jabra and Plantronics handsfree units to be really neat in terms of comfort, build quality, voice clarity and ergonomics. Nokia's BT handsfree units are also pretty good although not as attractive looking as the other two brands.

For those interested in music look at stereo headsets. The Genius BT-02N is a foldable, supra-aural stereo Bluetooth headset that can be used for music and calls. Its got a lot of features tied into a single button and there are buttons for changing volume. However its priced a bit steeply – Rs 5,200 is expensive even for a stereo BT headset. Nokia has a few BT handsfree units that can double as mono headsets. The BH-101 is their basic model and supports BT 2.0 and EDR although A2DP is lacking therefore this is for taking calls only. Its priced well at Rs 1,090 and is compatible with a host of headsets. Nokia's BH-209 was also on display. The features are similar but this one is slightly sleeker and is priced at Rs 1,350. The Nokia BH-600 was also on display. Priced at Rs 2,600 this one has an armature that sits behind the ear making for a snug fit.

Mobile phone accessories

With our cellphone comparison happening we decided to take a look at all the other stuff a user could buy for his shiny new smartphone or PDA phone.

One of the widest used accessories is the wireless handsfree unit simply referred to as a Bluetooth handsfree. There is a slight distinction between a headset and a handsfree unit. A handsfree unit is something with a microphone built into it in addition to the earpiece to allow one to take and receive calls. Handsfree units often have call receive/reject and volume buttons on them. A headset typically refers to earphones

whether wired to wireless. A handsfree unit is very useful when you are engaged in any activity that requires use of both hands, for example a crowded bus, a local train, driving your car or riding a bike. In such cases its not always possible or recommended to reach for your cellphone in the even of receiving a call but the handsfree unit allows you to talk without ever needing to touch your phone. While wired sets are bundled with most cellphones, wireless Bluetooth handsfree units are hot at the moment. One of the most important things to consider when buying a Bluetooth headset is its compactness – you don't want something bulky sitting on

In terms of technology there are a host of compliances that both Bluetooth handsfree units and headsets should support. Ideally look for a device that supports Bluetooth 2.1 or 2.0. The former is the latest revision and supports even easier pairing and lower power consumption that increases talk time and stand by time. EDR (Enhanced Data Rate) should also be supported and this speeds up file transfers. Look for Handsfree Profile 1.5 (HFP 1.5) compliance. A2DP 1.0 (Advanced Audio Distribution Profile) is a must because it allows high quality music streaming from one Bluetooth device to another.

Its got the same feature list but uses inbuilt circuitry for noise reduction. Jabra has an even larger range of models and I came across their entry-level BT-125 and BT250V models. Both models have an armature going behind the ear although I found the earpieces to be slightly uncomfortable – a pity no padding material was used on the earbud although the BT250V does have a silicone tip that protrudes into your ear canal. Priced at Rs 1,630 and 1,500 respectively these models are fairly attractive looking BT 2.0 and EDR. Another very simple looking model, the Jabra BT-2050 was priced at Rs 2,250. It supports BT 2.0 but doesn't support either EDR or

A2DP. The BT-5020 was also on display for Rs 3,600. This unit supports pairing with two devices, useful for those who use more than one cellphone. It's a good choice for someone looking for a feature rich handsfree unit but once again I felt the earpiece was a little too hard and uncomfortable. The Plantronics Discovery-925 was a super sexy BT handsfree that stood out because of its unique looks. The earpiece itself is quite small while the mouthpiece is designed as a slim extension. Priced at Rs 6,700 it allows connections with two BT devices and comes with three sizes of ear tips. This would be my choice if I were shopping for a quality handsfree unit to use with both my cellphones.

Some cellphone users do a lot of emailing and also work with a lot of documents. Most cellphones other than the PDA-based BlackBerry and WM based devices (that have full QWERTY keypads) are not meant typing out more than a long SMS and are therefore not ideal for typing longer emails and such. If you are one such user you may need a full QWERTY keypad. And I'm not talking about full-size desktop keyboards that are impossible to cart around. Sadly there are very few options when it comes to compact QWERTY keypads – it seems people hardly buy them and prefer to send mails with their cramped cellphone keypads. I came across a couple of options. One was this compact keyboard of Chinese origin. Priced at Rs 3,500 this keyboard has

small but well laid out keys with good key spacing. Unfortunately feedback is not intuitive and overall it takes time to get used to the smaller keys, especially if you are familiar with desktop and notebook PC keyboards. The next device I came across was very neat. Priced at an astronomical Rs 10,000 I would definitely not buy one myself but the idea is novel and neat. It's a Bluetooth device that can project a virtual keyboard on any solid, non-transparent surface. This is a superb choice for someone who has a high-end PDA phone and wants a near-to-full-size keyboard to use with it. I tried the device, it worked

flawlessly with my N95 8 GB and although its overkill for SMSing, its wonderful for typing out long emails.

I was also looking for protection cases and covers. Jewel cases are available from Rs 50 bucks onward and you can pick one up from street side vendors. Better quality cases available in Croma and Reliance Digital will set you back by up to Rs 500 but will last longer. They also do not have the problem of the plastic getting scuffed and scratched thereby giving a very dirty, translucent appearance. Soft silicone covers are also available and while some people think them ugly, nobody can deny these protect your valuable

handset in case of a drop. Silicone covers are available for different phone models and in different colours and are priced at anywhere between Rs 60 and Rs 400. The better quality cases weather better, I've had bad experiences with some of the cheaper local ones where the silicone becomes gooey in the monsoons and it sticks to the insides of the pocket not to mention on the body of the phone. If you have a touchscreen phone or even a non-touchscreen phone with a large display you may want

to protect the screen with a screen protector as well. Screen guards are also available and depending on you're the screen size the price varies between Rs 50 and Rs 150.

However, there are a couple of good brands available in places like Croma and priced at Rs 350 or so for an N95 8 GB they make good sense since the top shiny surface does not fleck after a few months of heavy use like it does with ordinary screen guards.

I also saw a couple of Zagg screen guards for the iPhone and iPod Touch. These are the best your money can buy and really have a clear, shiny surface and the clarity is as good as not having anything on your screen. Priced at Rs 900, I would definitely buy this for my iPod Touch and plan on doing so when my current scratch guard is wasted.

One of the easiest things to buy for your cellphone is memory. Flash memory is dirt-cheap at the moment and regardless of the form factor of memory utilised by your phone you'll find something cheap. I suggest buying the largest possible capacity. If your phone supports it invest in an 8 GB or a 16 GB card. Expect to pay around Rs 950 on average for an 8 GB card while a 16 GB card will cost you around Rs 1,800. Sony's MS Pro/Pro Duo cards are expensive however and the premium you pay for using this memory can be as high as 200%. There are also cheap Li-ion battery rechargers available – very useful for those having more than one battery. Such chargers are priced at Rs 150 – 250 and work for a variety of Li-ion batteries. The only issue is reliability and I've found that one needs to be a little lucky when buying one of these.

I also came across some speakers built for cellphones. Sold by brands like Nokia and Sony Ericsson as accessories to extend the volume range of your cellphones puny loudspeaker especially when listening to music. The Sony Ericsson MPS-70 is priced at Rs 1,500 and is a pretty sweet deal. They offer acceptable sound quality for the price and are compact enough to be carried in a pouch. Nokia's MD-6 was also available. This speaker system is pretty neat and at first glance looks like the body of a torch. The two speakers are joint by a hinge, when opened you can see the two speakers sitting against each other. **[1]**



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Voice search

A new Yahoo! app for iPhones allows users to search and surf using a voice interface



Freneq

Mozilla has launched an alpha version of a Windows Mobile browser, Freneq

13.4 Million

The number of people in the United States who watched videos on their mobile phones in Q1. Up from 8.8 million last year.

Q I have AMD Athlon X2 4400+ CPU, Gigabyte GA-M61SME-S2 motherboard. My PCs PSU is CIL-Odyssey 450W. I want to add a ATI Radeon 4850 or 4830 or NVIDIA GeForce GTS 250 graphics card. Can I do this? Is there is any performance drop of a graphic card because of a PSU? Will these cards be bottlenecked with my CPU and board. I want to play *F.E.A.R. 2* and *Crysis* at maximum resolutions (1600 x 1200). Another problem with my processor is that it heats up to 90 or 100 degrees centigrade when I play games like *NFS Prostreet* and *Carbon*.

Savender Moondi

A Firstly, your CPU will get fried if you do nothing. Probably the contact between the CPU and its heatsink isn't proper or the fan could have died. Please get this checked ASAP. Also your motherboard is a value option and while its not going to bottleneck your performance your CPU most definitely will. I suggest an upgrade to a Core 2 Duo at least. You could pick up a good P45 motherboard for around Rs. 8,000. A Core 2 Duo E8400 will set you back by another Rs. 8,000 bucks. Next, upgrade to 4 GB of DDR2 RAM. This will cost you around Rs. 3,500. Then buy a GTS 250 graphics card for Rs 10,000. If you can spend up to Rs 14,000 the GeForce GTX 260 will really do the trick.

Q I have the following - CPU: Core 2 quad q9550, motherboard: ASUS P5QE, RAM: 2 x 2 GB Corsair 800 MHz DDR2, HDD: WD 1 TB, PSU: Corsair TX 650, cabinet: CM 690, monitor: Acer AL1916. I'm extremely confused between a HD 4870x2 and an NVIDIA GTX 295 and my budget is Rs 35,000.

Gopal Chatterjee

A I recommend the NVIDIA GTX 295. It's within your budget. Look for brands like ZOTAC, EVGA, ASUS, Gigabyte or XFX. And please upgrade that monitor to at least a 22-inch and possibly a 24-inch for the best experience.

Q I want to buy an LCD monitor in the range of 22 inches or above for gaming. Please

suggest one. My budget is Rs. 25,000.

Archit Arora

A I recommend Dell's UltraSharp 2209WA, its an IPS panel and will give you great colours and contrast, expect to pay around Rs 20,000 for this one. In the 24-inch category there are only TN panels, although if you do want something look for options from BenQ, LG and Samsung. These will be well within your budget.

Q I have the following configuration: Processor : Intel Core 2 Quad 8200; Motherboard : Asus DG-31; RAM : 2 x 2 GB DDR2 Corsair XMS; Hard Disk : Seagate 500GB; Graphics card : Palit 9600GT 1GB Sonic; SMPS : Zebronic 500W; Cabinet : Zebronic.

Currently I have an LG 700E (CRT monitor) with a maximum resolution of 1280 x 1204. I am basically building it for gaming and running software like Maya, 3D Max, etc. What will be a better option - Intel Core 2 Duo 7400 or Intel Core 2 Quad 8200? My budget is Rs. 30,000.

Mikoo Dutta

A I recommend sticking with the quad core if you are working on 3D animation packages. I also recommend upgrading to a better monitor in the long run. Go for a 22-inch LCD. The Palit 9600 GT is a good choice and stick with 4 GB of RAM. The rest of the configuration is fine.

Q I want to buy a laptop. It'll be used for programming, music and gaming. I've been looking at the Dell Studio 15 (after configuring it as needed). Will it be able to run games like *Crysis*? What are my other options? My budget is Rs.55,000.

Viky Singhal

A First of all forget playing *Crysis* at decent resolutions on a notebook in that price - its not going to happen. Dell's Studio 15

is a good option for that price although you may want to spend around Rs 15,000 more and get the Studio XPS 16 with a better configuration.

Q My current handset is Motorola C168, which is three years old. I want to buy a new smartphone (budget around Rs. 8K-9K)

My requirements are:

1. I'm not a music lover, so Walkman or XPressMusic is not required. Normal mp3 player is enough.

2. I like to click pictures, so preferably 3.2 MegaPixel Camera, but even 2.0 MegaPixel Camera would be fine.

3. Important - Wireless Connectivity through GPRS, 3G etc, as I'm planning to use it for wireless internet.

4. Most Important - I know Java quite well, and I'm planning to learn J2ME in these summer holidays. So, I want to develop J2ME applications for my mobile.

Trivikram Kamat

A I recommend Sony Ericsson's K810. It's got a good camera, the processor is snappy and it is a 3G handset. In short, its got all the goodies you want. And the sound quality is pretty good even though you don't especially need it.

Q I am a frequent reader of Digit for the past 2 years. I have read all the issues till date. I need to buy a Graphic Card. I have the following configuration: ASUS P5GC-MX FSB1333 motherboard, RAM - Transcend 1GB Ram x 2 (DDR2 667), CPU - Intel Core 2 Duo E4500 @2.20 GHZ. I use Windows Vista SP2 32bit. Do I need a graphics card to play games like *NFS ProStreet*? My budget is Rs 2,500

Samyak Jain

A I'd say buy a GeForce 8400 GS with 128 MB of RAM and you will be able to just about play *ProStreet*. If you want to really have fun you may want to

look at a GeForce 9600 GT. This card will cost you around Rs 6,000 but its totally worth it.

Q I want to purchase headphones within Rs. 1,000. I was thinking bout buying the Sennheiser MX360 which has a price tag of Rs. 690 and is well within my budget. I also liked the iBall DJ900 which costs Rs.900. I would want an all round performer for listening mainly to rock bands. The iBall is also a sound isolating set. Which pair would deliver more bass? Which would deliver clearer highs?

Aditya Mukherjee

A I have not tested either of these headphones so I cannot comment. But in lieu of the Sennheiser MX 360 that are simply earbuds I can recommend the Creative EP 630 and EP 830. Both of these are excellent at noise isolation and I find them quite comfortable. The EP630 is priced at around Rs 850 while the EP830 is priced at Rs 1,200. The difference between the two is mostly cosmetic although the EP 830 seem to have a slightly more rigid connecting cable.

Q I want to buy a decent video player PMP with nice music playback. I am unable to decide which one. Should I go for Cowons D2+ for more storage space, as I can expand the memory. Or should I go for a larger screen but less storage space? If I should go for a bigger screen for good movie player should I go for S9 or Apple's i-Touch? All of them are in my budget.

Rachna Vidyarthi

A Your choice all depends on whether you want it primarily for music or video. The Cowon D2+ is a good option for both music and video but it has a small screen. Its music quality is terrific. Apple's iPod Touch is also superb at both music and video with a larger, crisp screen but the problem of proprietary video formats persists. I would recommend Cowon's A3 if you want a great video PMP. If you want a music based PMP I'd recommend the 8 GB Cowon D2+. You can add a 32 GB SD card later. **A**

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■ ULTRA HIGH-END PC / GAMING RIG = RS. 2,27,000

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- ZEBRONICS ANTIBIOTIC / RS. 2,100
- COOLERMASTER 690 / RS. 4,400
- COOLERMASTER STACKER RC 832 / RS. 14,500

POWER

- VIP 350 WATTS / RS. 850
- CORSAIR TX 650 / RS. 6,500
- CORSAIR HX 1000 / RS. 13,500

GRAPHICS CARD

- NONE
- PALIT RADEON HD 18100
- ZOTAC GEFORCE GTX 285 X 2 (SLI) - 58,000

MOTHERBOARD

- ASUS NVIDIA 7025 M2N68-AM / RS. 2,250
- ABIT IP35-E RS. 5,300
- INTEL DX58SO / RS. 16,000

SPEAKER

- NONE
- ALTEC LANSING MX 5021 / RS. 6,500
- LOGITECH Z5500 / RS. 14,000

MOUSE

- LOGITECH 3 BUTTON SCROLL / RS. 300
- LOGITECH MX518 / RS. 1,300
- RAZER DEATHADDER / RS. 2,500

KEYBOARD

- Logitech Multimedia / Rs. 400
- Logitech G15 / Rs. 4,000
- Logitech G15 / Rs. 4,000

SOUND CARD

- None / NA
- ASUS Xonar DX / Rs. 3,700
- Creative X-Fi Titanium / Rs. 12,000

CPU

- AMD ATHLON XP 6000+ / RS. 2,850
- INTEL CORE 2 DUO E8400 / RS. 8,200
- INTEL CORE I7 940 / RS. 26,000

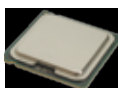
RAM

- 2x2 GB DDR2 800 MHz (Kingston Value) / Rs. 1,350
- 2x2 GB x 2 DDR2 800 MHz (Corsair XMS2) / Rs. 3,600
- 2 GB x 3 DDR3 1600 MHz OCZ Platinum XTC / Rs. 18,000



Digital Cameras

Model	Price	Sensor	Optical Zoom	LCD Screen Size
Canon Powershot A740	Rs. 6,399	7.1 MP	3.4x	2.5-inches
Canon SX10Is	Rs. 24,500	10 MP	20x	2.5-inches
FujiFilm FinePix J120	Rs. 8,250	10 MP	5x	3.0-inches
Kodak C140	Rs. 5,499	8 MP	3x	2.4-inches
Nikon Coolpix L19	Rs. 7,200	8 MP	3.6x	4.7-inches
Nikon S22	Rs. 9,500	10 MP	3x	2.5-inches
Olympus FE25	Rs. 6,990	10 MP	3x	2.4-inches
Panasonic F55	Rs. 8,999	10 MP	4x	2.5-inches
Sony S950	Rs. 8,800	10 MP	4x	2.7-inches
Sony H10	Rs. 15,660	8.1 MP	10x	3.0-inches



Flash Drives

Model	Market Price	Size
Corsair Flash Voyager	Rs. 575	4 GB
iBall USB Drive	Rs. 1,250	8 GB
OCZ Pen Drive	Rs. 575	4 GB
Kingston Data Traveler Pen Drive	Rs. 499	4 GB
Kingston Mini Slim Pen Drive	Rs. 675	4 GB
Kingston Data Traveler 100	Rs. 925	8 GB
SanDisk Cruzer Micro Skin	Rs. 499	2 GB
SanDisk Cruzer Micro Skin	Rs. 789	8 GB
Sony USB Pen Drive	Rs. 1,299	8 GB
Toshiba USB Pen Drive	Rs. 589	4 GB
Transcend JetFlash	Rs. 350	2 GB
Transcend JetFlash	Rs. 550	4 GB
Transcend JetFlash 110	Rs. 1,080	8 GB



Monitors

Model	Market Price	Tested in	Size	Resolution	Contrast Ratio	Response time
Acer AL2216	Rs. 9,800		22-inch	1680 x 1050	700 : 1	5 ms
BenQ T2200HD	Rs. 9,750		21.5-inch	1920 x 1080	1000 : 1	5 ms
Dell 1909W	Rs. 7,200		19-inch	1440 x 900	1000 : 1	5 ms
Dell S1709W	Rs. 6,550		17-inch	1440 x 900	600 : 1	8 ms
LG 177WSB	Rs. 6,400	May 2008	17-inch	1440 x 900	700 : 1	8 ms
LG W192W	Rs. 7,550		19-inch	1440 x 900	700 : 1	5 ms
LG W1942S	Rs. 7,100		19-inch	1440 x 900	700 : 1	5 ms
Samsung 2033SW	Rs. 7,850		20-inch	1600 x 900	1000 : 1	5 ms
Samsung 740NW	Rs. 6,500		17-inch	1280 x 720	500 : 1	8 ms
Samsung 743NX	Rs. 7,300		17-inch	1280 x 1024	500 : 1	5 ms
Samsung 943NWX	Rs. 7,500		19-inch	1280 x 1024	1000 : 1	5 ms
ViewSonic VA1918WM	Rs. 6,600		19-inch	1440 x 900	1000 : 1	5 ms
ViewSonic VX2255wmb	Rs. 12,500	May 2008	22-inch	1680 x 1050	1000 : 1	5 ms
ViewSonic VX2835WM	Rs. 28,000		28-inch	1920 x 1200	1000 : 1	3 ms



Hard Drives

Model	Market Price	Tested in	Speed	Cache	Interface
Hitachi 500GB	Rs. 2,975		7200 RPM	NA	SATA 2
Seagate 1.5TB	Rs. 7,700	March 2009	7200RPM	32	SATA 2
Seagate 1TB	Rs. 5,250	April 2009	7200 RPM	32	SATA 2
Seagate 7200.12 500 GB	Rs. 3,150	April 2009	7200 RPM	32	SATA 2
Seagate 750GB	Rs. 4,475	April 2009	7200 RPM	32	SATA 2
Western Digital Caviar Blue 640GB	Rs. 3,400		7200 RPM	16	SATA 2
Western Digital Caviar Blue 1TB	Rs. 7,500		7200 RPM	16	SATA 2
Western Digital Caviar Blue 750GB	Rs. 4,450		7200 RPM	16	SATA 2



Graphic Cards

Model	Market Price	Tested in	Core Speed	Type of memory	Memory
EVGA 9600GT Knock-out	Rs. 7,000	November 2008	700 MHz	GDDR3	512 MB
EVGA 9800GT (Super Clocked)	Rs. 9,250		650 MHz	GDDR3	512 MB
Palit GeForce 9400 GT	Rs. 2,350		550 MHz	GDDR2	512 MB
Palit Radeon HD 4850 SONIC	Rs. 9,550		685 MHz	GDDR5	512 MB
Palit Radeon HD 4870 1 GB SONIC	Rs. 13,900		750 MHz	GDDR5	1024 MB
Palit Radeon HD 4870 SONIC	Rs. 12,000	October 2008	750 MHz	GDDR5	512 MB
XFX GeForce 8600 GT	Rs. 3,700		540 MHz	GDDR2	256 MB
ZOTAC GeForce GTS 250	Rs. 10,000		738 MHz	GDDR3	1024 MB
ZOTAC GeForce GTX 260	Rs. 12,500		650 MHz	GDDR3	896 MB
ZOTAC GeForce GTX 285	Rs. 24,500	February 2009	648 MHz	GDDR3	1024 MB



Motherboards

Model	Market Price	Tested in	Socket	PCI-e x8/x16 slots	SATA Ports	No. of rear USB
ASUS M3A	4,950		AM2+	1	4	4
ASUS M3N78-EH (GeForce 8200 AMD)	5,200	November 2008	AM2+	1	6	4
ASUS P5Q Deluxe	12,600	June 2008	LGA775	2	6	6
ASUS P5Q-PRO	6,900		LGA775	2	6	6
ASUS P5Q-E	10,800		LGA775	2	6	8
ASUS P6T Deluxe	21,650	April 2009	LGA1366	3	6	8
ASUS M4A79T Deluxe	14,750		AM3	4	5	6
Gigabyte GA-EP45-DSR3	8,500		LGA775	2	6	8
Gigabyte GA-EX58-UD5	17,500		LGA775	3	6	8
Intel DX58SO	15,000		LGA1366	2	6	8
MSI X58 Eclipse	19,500		LGA1366	3	10	8
XFx nForce 790i Ultra	16,000		LGA775	3	6	6
XFx X58i	17,500		LGA1366	3	6	6
Zotac 780i Supreme	14,500		LGA775	3	6	6
Zotac nForce 750a	6,500		AM2+	2	6	4

**Press F1**

The Department of Consumer Affairs suggests that the first course of action when a company reneges on its service responsibilities, is to call the National Consumer Helpline, on 1800-11-4000.

The continuing saga of readers' problems with HP laptops

Edward Hennings

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Last month we described the problems that three readers have experienced. Manoj Nair has had the motherboard in his Compaq Presario V3225AU repaired or replaced a total of eight times! He told us that HP had told him that this laptop was basically not suitable for India and that the company had published an internal advisory note about this. Another reader, Nishant Mohan, told us of similar problems with the same model laptop.

Dr. Sanjay Tharoor told us of repeated motherboard problems with his HP Pavilion Laptop DV9312TX. His motherboard has so far failed three times.

We first contacted HP regarding some of these problems at the end of March - two months before the present time of writing. Apart from one problem regarding printer cartridges, none of the issues we raised at that time with laptops have been resolved, but HP has taken action on the most recent pair of complaints that we sent over. These were from readers Sumir Josan and Kiruba Karan.

Sumir Josan has also experienced overheating with his HP Pavilion dv2701TX special edition laptop. He soon noticed that the machine was overheating, so much so that the



area to the left of the touchpad was too hot to touch. The fan and motherboard were replaced by HP - taking a whole month to do so, as other readers have pointed out - but the overheating problem continued. For a second time his machine was returned, the heatsink was changed, but still the overheating problem persisted. He returned that machine to HP, and in his own words, he was told: "overheating was a normal issue with laptops having Nvidia graphics card." Overheating to the extent that the surface of the laptop is too hot to touch?

No wonder this reader is "fed up of constantly going to the service centre" with a problem that never gets resolved. Digit has been told by HP that "As for the issues Mr. Sumir Josan is facing, we have escalated the issue to the right department and someone from our team will get in touch

In last month's issue of Digit we reported on the fact that a large number of our readers have complained to us of service problems with Hewlett-Packard. In fact, nearly half of all the service problems described to us by readers had concerned HP, and they are still coming in. We check each of these, and pass on to HP those that seem to have the strongest cases

with him sometime next week." We'll report the results of this in our July issue.

As for reader Kiruba Karan, he purchased an HP Pavilion dv8216tx Notebook PC in September 2007. This is not a cheap machine, and cost about Rs. 81,000. It eventually developed display problems and HP took two months to repair these by replacing the display. According to our reader, in order to get this done, the dealer from whom he purchased the machine

had to apply pressure on the service centre in Chennai. Subsequently, the problem surfaced again, with many lines appearing on the screen.

He took the machine to the service centre and was told that servicing the panel would cost about Rs. 25,000 and would take more than two months - the panel needed to

Write in

If you have a genuine example of truly bad service, such as a product going wrong within warranty and the supplier refusing to fix or replace it, then please let us know at: servicewatch@thinkdigit.com. Make sure that you have proper documentation (receipt, etc) to back up your complaint. We cannot promise even to reply to all the emails we will receive, but we will pick a selection and take them up with the relevant companies at the highest level.

come from outside of India. He managed to get a friend to pick up a replacement in the US for Rs. 9,000, but HP here in India refused to fix this new panel as they would not fix spares purchased from third parties! He got onto us after sending a complaint to HP that was ignored.

At last, HP has now contacted him after we passed on his complaint, and we will report next month on any progress. **E**



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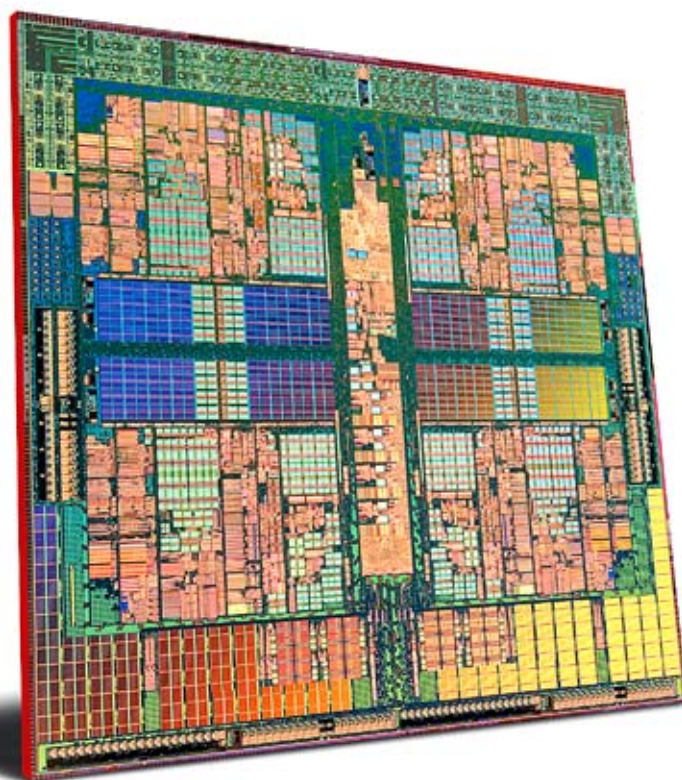


AMD's Athlon 64 was the first processor with an integrated memory controller



Intel will move to a 32nm fabrication with Westmere

AMD touts its Phenom 2 processors as a return to competition. We check the validity of this bold statement



Finally Phenom(enal)?

Michael Browne

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Just over a year back, AMD released a new processor family – codenamed *Barcelona* for servers, and *Agena* for desktops. The architecture was codenamed *K10*. A lot of hope was pinned on the resulting Phenom processor range, but as we know they could not keep up with Intel's shiny new dual- and quad-core processors. Intel had a huge advantage with its Core architecture, timely revisions to the fabrication process and tweaks to the CPUs themselves – all of which kept the Core 2 based CPUs well ahead, in nearly all benchmarks.

Intel also moved to a smaller, more efficient 45-nanometer fabrication process and promptly released new dual- and quad-core processors based on it. These were codenamed *Penryn* and quite frankly the performance gap just widened. AMD didn't have an answer to these CPUs and its dwindling presence in the desktop segment

is testament to this fact. The battle between Intel and AMD could not have been more one-sided after Intel debuted its Core i7 architecture late last year. Industry experts believed this to be just one more nail in AMD's coffin and it's no secret that the Nehalem CPUs based on this architecture are currently the fastest desktop processors. Away from the limelight, and according to some, too weak to fight back, AMD quietly released its own 45nm counterparts late last year. These processors were named *Phenom 2* CPUs and the architecture was codenamed *Shanghai*.

AMD has been selling the concept of a computing platform for a while now and this makes sense both in terms of consumers as well as business profitability. Imagine an ecosystem provided by a single manufacturer – consisting of CPU, motherboard chipset and graphics solution. Any such platform can (obviously) be highly optimised and tweaked for maximum possible stability, performance and compatibility since one entity has control over development of all three components.

The first generation platform called *Spider* consisted of an AMD Phenom processor, a 790FX chipset motherboard and an ATi Radeon 3xxx series GPU. The new platform, called *Dragon*, consists of an AMD Phenom 2 processor, a 790FX / 790GX / 790X motherboard and an ATi Radeon 4xxx series GPU.

Architecturally speaking, Phenom 2 is not very different from the original Phenom. The most obvious difference from spec sheets is the huge increase in L3 cache. While Intel's Core i7 has eight MB of L3 cache, the Phenom had just two MB. On the Phenom 2 this has grown to 6 MB, meaning each core gets 1.5 MB of cache although this cache is common to all cores. The L1 and L2 caches remain identical to earlier Phenom processors. The other major advantage that Phenom 2 has is the fact that at 45nm, its die size is a lot smaller than the 65nm die of the Phenom. This allows these processors to scale higher clock speeds and cross the three GHz barrier – a feat Intel achieved awhile back.

Intel Penryn

Intel's Penryn quad-core features a whopping 12 MB L2 cache



Intel's X58 platform is the first to officially support both SLI and Crossfire

Feature

The initial processors came with DDR2 memory controllers and were designed for AM2 and AM2+ sockets. This is another plus for AMD – no backward compatibility issues with newer processors and older motherboards. Newer Phenom 2 processors for Socket AM3 motherboards have also made it to market and these processors have an upgraded memory controller that supports DDR2 as well as DDR3. And the beauty of this is that Socket AM3-based Phenom 2 processors can be used in AM2+ as well as AM3 boards simply because the CPU sockets are pin-compatible. Of course there is a slight difference in the AM3 processor's L3 cache and memory controller (these parts are collectively referred to as the *uncore*). They run at a speed of 2.0 GHz. The non-AM3 Phenom 2s run at a speed of 1.8 GHz.

The DDR3 memory controller supports up to 1333 MHz memory clock speeds. On an AM3 motherboard, the memory bandwidth is higher (21 GB/s as opposed to 17.1 GB/s). Since the AM3 socket also supports DDR2 memory speeds of up to 1066 MHz, motherboard manufacturers have an interesting choice of whether to provide a motherboard with DDR2 or DDR3 memory slots, or perhaps both, and this is where the platform's true flexibility lies. This is an attractive plus especially when compared to the competition. Intel has an LGA 775 interface for all its Core 2 Duos and Quads but the

BARCELONA BRIEFS

For AMD, the Barcelona architecture (known as K10 and the processors are called Phenom), represented a big improvement from its Athlon 64 (K8) architecture and is the basis for the Phenom 2 CPUs we're seeing today. Besides being a native quad-core (Athlon 64s were native dual-cores) Phenom had the ability to process 128-bit SSE operations without the need for breaking them up into two 64-bit operations as with the Athlon 64s. This also frees up a decode port since one operation results in one micro-op, whereas two 64-bit operations would result in two. The extra decode bandwidth available meant that AMD had to tweak various other parts of the core to prevent bottlenecks. Keeping wider instruction units fed means having more instructions in flight and this makes mandatory a better branch prediction unit — to predict branches that have labels (direct

branching) as well as branches that point to a memory location (indirect branches). The ability to track more branches equates to greater accuracy since there's more historic data present for reference.

A major plus for the Core architecture was its ability to allow *load* instructions to bypass other *loads* and instructions already in the pipe. Since one third of the instructions in a program are typically *loads*, better *loads* performance means better application performance. One breakthrough was the ability to push *loads* ahead of stores. This was previously impossible due to the fact that an earlier store could cause a data mismatch with the current *load*. The hit taken in such a data mismatch is actually quite small (Intel puts it between one and two percent). This reordering of loads is something Barcelona copied from Core 2. Barcelona can also execute *loads* ahead of

store if the two don't share the same memory address (thereby bringing chances of a data mismatch). Barcelona CPUs also feature an improved memory controller over Athlon 64's controller and instead of a single 128-bit controller there are two 64-bit controllers making things a little more efficient. Obviously DDR2 and DDR3 support were also built into the controllers for future compatibility. One of the most noticeable additions was 2 MB of L3 cache that was common to all four cores and this is a necessity when having multi-core CPUs — after all there has to be a common pool of memory for each of the cores to work together more efficiently.

While Barcelona itself outperformed the Athlon 64 CPUs it did not come close to Intel's dual- and quad-core CPUs based on the Core architecture. But as with everything historic — it paved the way for something better.

new Core i7 CPUs need investment in a completely new (and expensive) LGA 1366 motherboard, not to mention a mandatory investment in DDR3 memory — more arm-twisting due to near monopolistic market conditions?

In terms of clock speeds, the fact that AMD was able to scale its quad-cores up to 3.2 GHz from a previous high of 2.6 GHz

was of interest to us; as was the jump

from 65nm to 45nm since this brings its manufacturing process on a par with the competition. Earlier we felt that a meagre 2 MB of L3 cache was one of the chinks in Phenom's armour. The 6 MB cache on the higher end Phenom 2s would surely yield favourable results. Then there was the sudden tilt to DDR3. DDR3 offers greater bandwidth in comparison to DDR2. We're seeing faster, lower latency DDR3 chips slowly emerge and these CPUs could scale to higher performance levels with faster memory; of course, so would Intel's Nehalem.



CPU SPECIFICATIONS

Processor	AMD Phenom 2	AMD Phenom	Intel Core i7	Intel Core 2 Quad (Penryn)
Manufacturing Process	45nm	65nm	45nm	45nm
L1 Cache	64K + 64K per core	64K + 64K per core	32KB + 32KB per core	32KB + 32KB per core
L2 Cache	512KB per core	512KB per core	256KB per core	2 x 6 MB
L3 Cache	6MB	2MB	8MB	-
Transistor Count (in millions)	758	450	731	820
Die Size	258 mm ²	285 mm ²	263 mm ²	214 mm ²
Max Clock Speeds	3.2 GHz	2.6 GHz	3.2 GHz	3.2 GHz
Thermal Design Power (TDP)	125 / 95 watts	125 / 95 watts	130 watts	130 / 95 watts

Feature



New Nehalem

The new i7 975 XE is based around the latest DO stepping and is clocked at 3.33 GHz

DDR3

DDR3 is already clocking well over 2 GHz and promises of twice the speed of DDR2 have been made



SATA 3.0

Although it's still in the works, SATA 3.0 with speeds of up to 600 MB/s is promised soon



So we wrote to AMD asking for the newest 3.2 GHz Phenom 2 955 BE. The BE suffix signifies a black edition. This means that the CPU multiplier is unlocked – a boon for overclockers, especially if the motherboard does not have much potential for overclocking its FSB/HTT. We also asked for a motherboard based on the new AM3 platform and we were sent a Gigabyte GA-MA790FX-UD5P based on the 790FX.

This is a very well laid out and solidly built board, with an all solid-state capacitor design.

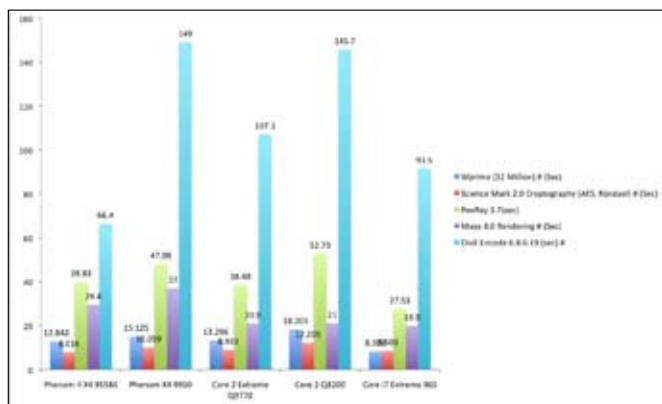
There's even a small heatsink provided for the additional SATA controller that provides four SATA ports in addition to the SB750s (Southbridge) six. One of the talked-about inclusions in terms of features was EC AOD-ACC – an acronym for "Embedded Controller for AMD OverDrive-Advanced Clock Calibration" that is part of the new Southbridge and allows AMD Black Edition CPUs to be overclocked. The BIOS is rich with overclocking options, although you do need to know exactly what you're doing. AMD also sent us DDR3

memory in the form of two sticks of Corsair Dominator memory rated at 1600 MHz at timings of 9-9-9-24 and a voltage of 1.65. We were also sent an ATI HD 4890 graphics card, although for all the graphics related tests we stuck to our reference NVIDIA GTX 285 solution for the sake of uniformity. Also in the box, was a small but efficient CPU cooler.

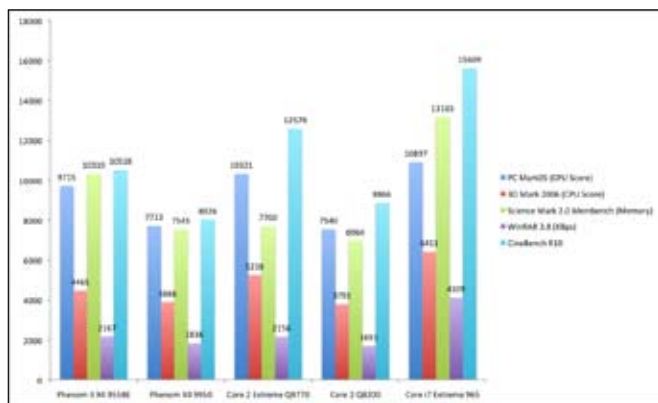
Once everything was setup we noticed how cool the processor was running. With the room at an ambient 25 degrees, the CPU went to 37 degrees and stayed there for a good while. Upon stress-benchmarking, we noticed a rise of not more than nine degrees and this testifies to the fact that the 45nm Phenom 2 is a lot cooler than the 65nm

Phenom processors, even at a much higher clock speed. For the record we did manage to overclock this processor to a stable 4.1 GHz using air-cooling, and although the temperature soared to 56 degrees it was obvious that with a better cooling solution we could crack 4.8 GHz easily, however we didn't push it. So AMD's Phenom 2 overclocks well, but how did it do on stock?

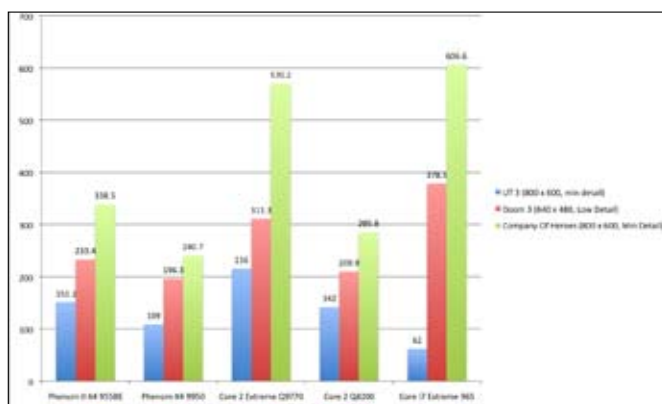
The Phenom 2 955 BE is just about available here and its pricing is not stable at the moment. We expect it to fall to around the Rs. 14,000 mark but the best we could find was Rs. 15,000 making it costlier than the Phenom X4 9950, but cheaper than the Rs. 17,000 Intel Core 2 Q9550 (2.83 GHz). As the benchmarks show (note the bold figures indicate the best performer) this CPU actually takes the lead in a couple of benchmarks and this is astounding given the company it's in. On the whole, it's still much slower than the mighty Core i7 965 Extreme and quite a bit behind the Core 2 Extreme Q9770, but it trounces the Core 2 Duo Q8200, something the Phenom X4 9950 wasn't able to achieve; this proves AMD is finally on the right track. The optimisations to the Barcelona core, the extra L3 cache, the improved clock speeds and its excellent thermal characteristics are testament to a great product. It is however, nearly twice the price of the Q8200 and we could not get our hands on either a Q9450 (2.66 GHz) or a Q9550 (2.83 GHz) both of which are similarly priced and therefore more comparable. Our intuition tells us that this CPU will come very close to the Q9550 and perhaps beat the Q9450 in a good many benchmarks. This is high praise for a company that six months back seemed to have no hope of providing even cursory competition to Intel. AMD's fortunes have far from changed, after all Intel has promised 32nm Nehalem variants in early 2010, but the Phenom 2 marks the beginning of renewed hope for the green team. After all, everybody likes a good fight. **4**



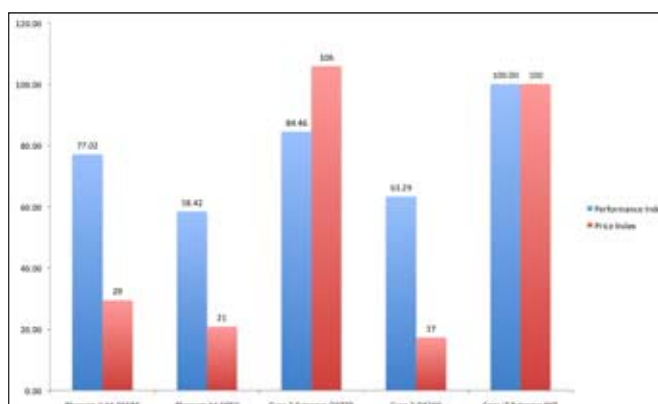
All these scores are in seconds, so the lesser the better



Synthetic and real world tests



The all important games. Note the steady improvement over the 1st generation Phenom



With 77 per cent of Core i7's performance at 29 per cent of its price, the Phenom 2 makes a solid splash as a really fast, value CPU



Let it slide

Nokia recently announced the 6600i Slide, it is the smallest slider phone that comes with a 5.0-megapixel camera



All talk

Nokia has unveiled a new member of its E-Series family, the Nokia E52. Topping the list of this phone's features is the eight hours of talk time that it offers

Michael Browne

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In February this year we took a look at the entry-level cellphones available in the market. Smartphone enthusiasts were placated with promises of better things to come. It's June, our anniversary issue, and time we delivered. Smartphones are perennially a hot category, unlike digital cameras or camcorders that people tend to buy during vacations or just before festivals. Our markets are a godsend for such handsets. Cellphone prices are lower in India than in most parts of the world, and barring a few exceptions, the most popular handsets can be purchased off the street, unlocked, and ready to use with any SIM card.

Buying a simple cellphone is usually a matter of liking the way a handset looks;

being able to afford it; finding one at your nearest vendor — not necessarily in that order. The same does not apply to smartphones. Features are the name of the game here and you need to make an informed decision. Smartphones are usually created with an identity of their own and it's these slight biases that create individuality. Usage patterns determine the characteristics of a handset. For example: a smartphone with a good video player capable of playing multiple video formats will need a large, crisp screen capable of good colours; else the effort that went into designing the video component is lost. It will also need a fast processor to avoid lag and a healthy amount of integrated memory so that one can store the videos. Today's smartphones are even more converged and just when we thought manufacturers could not possibly pack any more

features on-board, we're seeing handsets with a slew of new offerings, in addition to refreshes in the technology that their predecessors sported.

Obviously such an extensive feature-set comes at a price, but we're pleased to report that on the whole it seems prices have fallen. So a new top-of-the-line smartphone will be priced at less than its predecessor, while the older model may still be available at 75 percent of its price. One of the annoyances of having a powerful multimedia device is the drain on the battery. A large screen, a backlit QWERTY keypad, a camera with integrated flash all combine to drain the battery faster than you can say "smartphone". The need for higher mAh rated batteries has not been ignored. On the average, today's smartphone comes with a healthy 1100 mAh battery; noteworthy when

you consider many notebooks come with batteries rated at the 5000 mAh mark. We're also seeing faster hardware in the form of better processors, more memory and faster flash storage. Another perpetual complaint has been the size and quality of smartphone display. Just because an executive buys a Blackberry for its seamless push-mail functionality and the attached corporate image, it doesn't mean he should have to put up with a small screen that offers horrible colours. Or a VGA camera that's as useful as a sun lamp in the Sahara desert.

This time round, we were glad to see nearly all the smartphones available with great displays in the region of 2.2-inches or more, with high-resolution screens (240 x 320 pixels at least). Many of these displays support 16 million colours bringing them closer to their desktop counterparts.

Work Hard, Play Harder...

Cell phones today are expected to serve you equally at work or at play. We test 35 multimedia and business phones, to help you decide which one suits you best



Just Jack

Samsung delivers the BlackJack's successor, simply called – Jack



Going Android

Samsung has officially become the first company among the global top three mobile phone manufacturers to release a Google Android mobile phone

Mobile Phone Test

Testing these devices was interesting, not to mention challenging. Obviously we cannot deny that we had fun, but given the time restraints we were constantly reminded that this was work and not just play. So let's take a look at how these devices fared under our hands.

Tiny mighty

Multimedia phones from Rs. 8,000 to Rs. 12,500

Motorola Motoyuva A810

The A810 is the most affordable of the cellphones in this test but it's not apparent at first glance. A sturdily built device with an all metal body and a smooth finish, the A810 has black and dark gray tones. The front is very clean with a minimal layout consisting of a large call button and a 5-way navigation button that acts like a joystick. The call buttons

offer minimal feedback and feel a little tacky. The joystick feels smooth to use and glides through the menus easily. The volume button on the left side is a long two-way affair and it quite hard to use owing to almost no button travel and poor feedback. Even the camera button located on the other side is hard. Below this, there is a hold switch which is functional. The touch interface is decent and the phone cannot be called a slouch,



Motorola
Motoyuva A810

although the multimedia menu functions aren't the quickest around. Thankfully a 3.5-mm jack is provided so your headphones can be used. The font used for its interface, along with its menus are basic but very readable and the display is good; although not ideal for video playback. One of the first major gripes we had was with the on-screen keyboard was that it's not good enough for typing fast, or with much accuracy. The alphabets are small and the keypad is a little too congested. We'd have loved a slide-out hardware keypad but that seems too much to ask at this price point.

Motorola provides a camera but its little more than a cosmetic addition and not usable. Performance in the signal tests

was strictly so-so and this phone has a good headset. The fact that you can use other earphones for music is also a plus and it makes the device a decent music phone; not ideal though going by its multimedia menu and output quality. It was the only phone that didn't have support for Bluetooth 2.0, although it does support A2DP. On the whole this Motorola is a solidly built device with no other quirks than what one might expect given the phone's price point. If Motorola designed a better on-screen keyboard and offered a good 3.2-megapixel camera with this phone we'd heartily recommend it at Rs. 8,399.

LG KM330

This phone sports a partly metal body but has more plastic on the exterior and therefore does not feel as solid. The phone has a nice mixture of red and silver.





Sony Ericsson just announced, another phone up for release soon is the basic Walkman phone W205.



The D888 has one slot for your international sim card and another slot to hold the SIM card of a carrier of your choice

Immediately, the screen seems small. The number keypad is designed well and the keys are large and well spaced out. Key feedback is good, but not excellent. That being said SMS' are a breeze. The call buttons are also large and well spaced out and nicely backlit. Directly above these are the menu buttons which offer good tactile feedback. The four-way joypad is in fact a thin metal bezel around a large red centre button. Although the directional buttons aren't the easiest to use, the centre button works well thanks to its large size and bevelled profile. The menu system is simple and intuitive. The volume and camera buttons are also tactile enough and not as hard as the buttons on the Motoyuva A810.

At first glance, the menus look very crisp and the text font used is really clear, although it's overlarge.

The camera is 3.2-megapixel and although it offers better imaging than the Motoyuva A810, that's not saying much. Music playback isn't as good and we found the proprietary headphone jack an annoyance. In fact the phone charges from the same port meaning that you cannot use the headset while its charging – an inconvenience. Signal reception is a bit shy of what we term as fair. At Rs.

8,750, we wouldn't recommend this phone; unless you want a phone with a good keypad at around the Rs. 9,000 mark.

LG KS360

A neat, compact handset this phone has a neon-green and white colour scheme that immediately attracts, but is not garish. The body is plastic but the unit is built well and nothing seems tacky. The screen is good and crisp and the menu icons look sharp – better than the icons on the Samsung Pixon which is praise indeed, since the latter is nearly three times this one's price. The menu and call buttons are well placed and intuitive. The joypad is unique with well-spaced directional keys and a small middle button.



LG KM330

While it makes the phone look different, it's also a major annoyance and an ergonomic flaw. Navigating the menus and options led us soon to discover how downright irritating those spaced directional buttons can be; our fingers were always reaching out over other buttons just to change the direction of our scroll, or to highlight an option. Despite the reasonably slim design there's a full-size QWERTY keypad that slides

out from the right side. However the keys are too hard for rigorous use and this keypad is more gimmicky than anything. Another negative – close the keypad and you cannot type since there is no number pad and no touchscreen! A touchscreen would have solved the ergonomics of typing out numbers on a QWERTY keypad. Typing out longer messages and mails takes a lot of practice and seems pointless given that the keys are too tiny, hard, and do not offer sufficient feedback. We feel it's a neat little phone that has its ergonomics all wrong. Its camera is also pretty ordinary and although music quality is decent the loudspeaker is not. LG chose proprietary headset connectivity so your 3.5-mm headphones are out.

At Rs. 9,999 LG has crammed quite a few features on to this phone but they seem to have done so without serious thought to usability.

Features that do not add up to the experience are not really features at all and the KS360, while being a really neat looking and reasonably feature-rich handset, has too many imperfections for us to seriously consider recommending it to anyone. If it had a touchscreen thrown in for its price, we would think differently.

Motorola ROKR E6

The E6 is a solidly built phone with a square profile that gives it a masculine edge. The rear of the unit is entirely metal and the phone is very well

built with great quality of materials



LG KS360

used. Its Linux-based and has an Intel XScale CPU to power things. Despite this the interface is not always snappy but suffices for the more mundane tasks. The

resource intensive applications such as games, camera usage, video recording and playback suffer lag under this hardware. It's a touchscreen and Motorola provides a superbly built stylus that is long enough to be held as a pencil – something that most vendors neglect. After all no matter how small the phone one's fingers remain the same size. The menu and call buttons are well laid out and typically flat with hardly any button travel like most Motorola's. The onscreen keyboard is very tiny and not usable enough to be termed as even passably ergonomic. Typing even a short SMS is a pain in the rear

HOW WE TESTED

First we log all the phones' specifications — this includes the network support, physical specifications, operating system, phone features, camera features, connectivity options and accessories provided. The logged features are then given weights when deciding on a total score for the features section. We rate only those features which we feel add to the phone's usability or productivity in some way. Therefore while we do not assign points to these fields any weight, we would definitely give marks for the presence of Wi-Fi and Bluetooth. We also do not rate any feature that is actually tested in the performance section — for

example, a smartphone is not given extra points for it having a higher megapixel camera, because the camera quality is tested and the one with better photographs will get more points. We would however, rate the settings available for the camera, since this is something that is impossible to test.

Ergonomics is also rated, as is build quality — the choice of materials used, keypad and battery cover quality. We also look at the layout of the keypad and menu buttons, and rate them on the basis of comfort and ease of use. Next, we rate the software interface and the menu system on its intuitiveness.

Before each of the tests we ensure that the cellphone has been reset to its factory settings and that no data is present in the multimedia folders and all messages have been deleted. This is to ensure uniformity. We have also used a fixed Vodafone SIM card throughout the test. Our signal strength test is conducted in two zones. Zone 1 is within our building with signal strength usually between 80 and 90 per cent. Zone 2 is inside our basement, and this zone generally kills signals. Inside zone 2 exists a spot where Vodafone has no signal at all and we also test the phones here to check the time it

takes for them to disconnect from a call. Voice clarity is tested in both zones. Handsfree clarity and loudspeaker volume are tested in zone 1. The performance tests are aimed at ascertaining the quality of the antenna built into the phone. No two handsets offer the same quality unless they use the exact model of antenna. We also rate the quality of the loudspeaker and its volume. The handsfree kit is also tested both on call and using a music file. If a phone has Wi-Fi, we test the signal strength at a fixed distance from our test PC with a wireless router. For Bluetooth, we transfer a file and note the time taken for the transfer.

and we had a lot of false key presses. Two quick key hits may also be registered as one therefore there is no reward even after you get used to the flawed interface. The menus are well presented but not as intuitive as we would have liked – things aren't always in their logical locations. The screen lock button is slider based and feels clicky. The volume buttons are an exception to the ergonomic misses and although built flush into the phone, they are easy to use owing to great feedback. Since the phone uses SD memory the card bay occupies a lot of space and the multimedia buttons are placed below this slot. Although all the buttons on the sides are easy to use, we lament the lack of backlight that would have made them accessible in low-light conditions. To that end, we have to question Motorola's design sense to make non-backlit buttons that are the same colour, and as flat, as the bezel around them. The earbuds supplied are decent but the size of the bud is huge and not a comfortable fit for most ears. One plus is the provision of a 3.5-mm jack. Music playback is good but the camera is mostly included because not having one would be a glaring omission.

Priced at Rs. 10,078 the ROKR E6 is a handset that



Motorola ROKR E6

has quite a few flaws and might only be attractive to our Tux lovers.

LG KP500 Cookie

When we first saw the Cookie a few months back we thought "neat". Now we realise it's a look and form factor that LG has cashed in on and hopes to milk before the idea of a large

touchscreen stops appealing to users. If skimming the cream was what they had in mind then the name is most apt. It's got undeniable good looks with a slick looking two-tone black body along with a red bezel and highlights. The phone is solid to look and solid in hand.

The large screen is what causes the bulk, but it's not a thick handset. That being said, we feel LG could have pushed in an additional 0.5-inch to its display if they kept the surrounding bezel to a minimum. The screen is clear and the on-screen menus, while not the best, are clear, sharp and very visible.

Below the 3-inch LCD display the call buttons sit amidst a chrome trim that looks tasteful – thankfully LG has not overdone the finery. The joypad is a little iffy to use for navigation but the centre button works well.

For such a large display and what is obviously a multimedia phone, the Cookie has a small battery rated at a mere 900 mAh – we would have preferred something in the range of 1200 mAh, since touchscreen devices tend to drain juice faster. The onscreen keypad is a pain to use for messaging and the lack of a hardware keypad doesn't help.

We wish manufacturers would take such things seriously – a large touchscreen is no trade for a usable keypad.

Typing out a message results in frustration, thankfully the number keypad is a little better, but then it's hard to mess up on that front, and we'd have butchered this phone if that were the case. Call quality is good, and the KP500 has a good antenna as well as a decent handsfree unit. It also comes with a few touch-based games that will keep you occupied. The camera is 3.2-

megapixels but nothing special in terms of quality of results. We were surprised at the price tag of Rs. 10,990, despite the nitpicking

it's a good price for a feature-rich device that has nearly everything right, aside from ergonomics. If a large touchscreen is your cup of tea, this is just the cookie for you.



Moto Razr V8

A really appealing phone that will have an equal fan following from both sexes. The RAZR V8 comes in a cool package with a nice soft pouch as an added accessory. Everything is packed neatly and



LG KP500 Cookie

the packing is of good quality. The phone itself has a sleek, sharp look about it and the outer screen is immediately eye catching – it's clear and super crisp. The dark blue-grey colour tone also sets

off the sharp silhouette of the phone. The body is solid metal and of superb quality and the back cover fits beautifully. We were a little disappointed to find a 950 mAh battery, although anything larger and the phone would get bulkier. Since the inner screen is larger and has the same number of pixels, it isn't as sharp as the outer display and the fonts also seem (peculiarly) optimised for the outer screen as they appear a little large with slight, jaggedness around their edges.

The menu system is rather simple and well laid out, very newbie friendly. The keypad is typical Motorola – although its flat key feedback and spacing is great so usability isn't an issue. Some might find the keys a little hard though. Call clarity is good and the phone has a decent loudspeaker that also works well for music.



Motorola RAZR V8

The handsfree unit is decent but you do not get a 3.5-mm jack. The camera is a bit of a letdown at two megapixels and doesn't do much.

Priced at Rs. 11,759 the Motorola RAZR V8 is a little feature shy but it makes up for its shortcomings by being a stunner. If our hearts ruled and we could go back to college with one handset to flick open and flaunt with the hope of attracting every passing lady's attention, this would be the one we'd choose.

LG KM710

A matte-finished rear, akin to the finishes on some of the high-end SLR cameras, a black satin-finished front with a narrow chrome rim around the outer bezel and a huge circular jog-dial of chrome surrounding a brightly lit touch centre button. Sounds crazy? We thought so too – the KM710 looks like a concept phone that went into production. Spin the jog dial and a light will dance around, in tune with the movement. The outer body is built very well and the menu buttons are backlit and touch activated. Use them and you'll get a slight vibration as feedback. The backlight is bright enough to be legible in daylight and everything is properly spaced out. The slider is positive and ultra-slick and looks like it was built to last. The number keypad is similar to the ones Motorola uses – flat, well laid out with good feedback. Typing out messages is a snap. Surprisingly, the call buttons are located alongwith the number keys, inside the slider, and you cannot use the call button unless the keypad is open. The

centre button on the joypad will suffice for making calls but there's no way to cancel a call via a dedicated hardware button; unless the keypad is open. The jog dial is useful for navigating though menus but it's not very accurate and it's easy to scroll past an option, getting just the right amount of turn on the dial requires practice and we weren't able to get the

Mobile Phone Comparison Test		 		Multimedia Smart Phones	
		JUNE 2009	JUNE 2009	Rs. 8,000 to Rs. 12,500	
Brand		Motorola	LG	LG	
Model		Motoyuva A810	KM330	KS360	
Price (MRP, Rs.)		8399	8750	9999	
Plus (+)		Sturdy	Good keypad	QWERTY keypad	
Minus (-)		No hardware keypad	Basic features	Hard keys, poor feedback	
Grand Totals (Out of 100)		51.70	52.58	51.70	
Features (out of 45)		22.62	24.93	23.40	
Performance (Out of 55)		29.07	27.65	28.30	
Features					
Physical Specs					
Form Factor		Bar	Bar	Side Slider	
3G Network Bands		-	-	-	
Screen Resolution / Size		240 x 320 pixels / 2.2 inches	240 x 320 pixels / 2.0 inches	240 x 320 pixels / 2.4 inches	
Maximum Screen colours		256000	256000	256000	
Touchscreen / Dual Screen (✓/✗)		✓ / ✗	✗ / ✗	✗ / ✗	
Battery Rating		910 mAh	900 mAh	800 mAh	
Weight		100 grams	84 grams	108 g	
Expandable Memory Type / Hot Swappable (✓/✗)		microSD / ✓	microSD / ✓	microSD / ✓	
Available Colours		Excellent Black and White Shang-chi		White/light green, black/grey	
Other Features					
Operating System		Motorola Firmware	LG firmware	LG firmware	
Charging via USB (✓/✗)		✓	✓	✓	
Hardware Keypad (Regular/QWERTY)		-	Regular	QWERTY	
Accelerometer (For auto rotate) (✓/✗)		✗	✗	✗	
Address Book Capacity		1000	1000 entries	1000 entries	
No of calls in register		30 dialed, received, missed	10 dialed, received, missed	30 dialed, received, missed	
Talk Time / Standby Time *		4 hrs / 150 hrs	4 hrs 50 min / 330 hrs	4 hrs / 250 hrs	
No of Profiles # / Customisable (✓/✗)		7 / ✓	7 / ✓	5 / ✓	
Offline Operability (✓/✗)		✓	✓	✓	
Inbuilt GPS / A-GPS support (✓ / ✗)		✗ / NA	✗ / ✗	✗ / ✗	
Connectivity					
Browsing (GPRS / HSCSD / EDGE / 3G) (✓/✗)		✓ / ✗ / ✓ / ✗	✓ / ✗ / ✓ / ✗	✓ / ✗ / ✓ / ✗	
Max Speed: EDGE / 3G		236.8 kbps / -	236.8 kbps / -	236.8 kbps / -	
Connectivity (WiFi/Bluetooth/IR/USB) (✓/✗)		✗ / ✓ / ✗ / ✓	✗ / ✓ / ✗ / ✓	✗ / ✓ / ✗ / ✓	
Bluetooth Version/A2DP support (✓/✗)		1.2 / ✓	2.0 / ✓	2.0 / ✓	
Accessories					
Bundled Accessories		Charger, handsfree, data cable	Charger, handsfree, data cable	Charger, handsfree, data cable	
Size of memory card provided		-	-	-	
Overall Build Quality / Ergonomics / Keypad Design (So 10)		7.25 / 6.25 / 6.5	6.25 / 6.5 / 7.5	7 / 6.5 / 5.5	
Multimedia					
Image Resolution / Video Resolution		2 megapixels / 176 x 144 pixels	3.2 megapixels / 320 x 240 pixels	2.0 megapixels / 320 x 240 pixels	
Dual Cameras / Auto Focus / Flash / Mirror for self portrait (✓/✗)		✗ / ✗ / ✗ / ✗	✗ / ✗ / ✓ / ✗	✗ / ✗ / ✗ / ✓	
Music Formats supported		MP3, WAV, WMA, AAC+	MP3	MP3	
Video formats supported		3gp	3gp	MPEG-4, 3gp	
FM Radio (✓/✗)		✓	✓	✓	
Performance					
Signal Reception Zone 1 / Zone 2 (So 10)		6.5 / 5.75	6 / 5	6.5 / 5.5	
Earpiece Volume / Handsfree Clarity / On call Speaker Volume (So 10))		6 / 6.5 / 6	6.25 / 6 / 5.5	6.25 / 6 / 6.25	
Bluetooth Transfer Speed (MB/s)		0.13 MBps	0.12 MBps	0.14 MBps	
WiFi signal strength (Zone 2)		-	-	-	
Captured Photo Colour / Crispness (So 10)		3 / 2.5	3.5 / 3	2.5 / 2	
Captured Video Quality (So 10)		2.5	3	2	
Audio Quality - Loudspeaker / Bundled Earphones (So 10)		6 / 5.5	5.25 / 5	5 / 5	
Video Playback Quality (So 10)		3	4	4.5	
* Manufacturer Rated					

	Motorola	LG	Motorola	LG
	Moto ROKR E6 10078	KP500 Cookie 10990	Moto RAZR2 V8 11759	KM710 11990
	Great build quality	Great value for money	Sexy, sleek looks	Well built, novel interface
	Earbuds uncomfortable	Onscreen keypad usability poor	Basic camera, feature shy	Camera quality poor
	53.08	53.79	54.05	53.75
	22.84	23.23	23.19	24.40
	30.24	30.56	30.87	29.35
	Bar	Bar	Clamshell	Slider
	-		-	-
	240 x 320 pixels / 2.4 inches	106.5 x 55.4 x 11.9 mm / 3.0 inches	240 x 320 / 240 x 320 / 2.2 inches / 2.0 inches	240 x 320 pixels / 2.0 inches
	256000	256000	256000 (Both displays)	256000
	✓ / ✗	✓ / ✗	✗ / ✓	✗ / ✗
	1000 mAh	900 mAh	950 mAh	800 mAh
	121 grams	89 g	117 grams	118 grams
	SD / ✓	microSD / ✓	- / NA	microSD / ✓
	Dark Navy, Platinum	Black, Vandyke brown, Anodizing silver, Elegant gold	Dark Pearl Gray	White
	Linux Based	LG firmware	Motorola firmware	LG Firmware
	✓	✓	✓	✓
	-	-	Regular	Regular
	✗	✓	✗	✗
	1000	1000 entries	1000	1000 entries
	50 dialed, received, missed	40 dialed, received, missed	30 dialed, received, missed	40 dialed, received, missed
	7 hrs / 235 hrs	3 hrs 30 min / 350 hrs	7 hrs 50 min / 330 hrs	3 hrs / 250 hrs
	5 / ✗	7 / ✓	5 / ✗	5 / ✗
	✓	✓	✓	✓
	✗ / NA	✗ / ✗	✗ / NA	✗ / NA
	✓ / ✗ / ✓ / ✗	✓ / ✗ / ✓ / ✗	✓ / ✗ / ✓ / ✗	✓ / ✗ / ✓ / ✗
	236.8 kbps / -	236.8 kbps / -	236.8 kbps / -	236.8 kbps / -
	✗ / ✓ / ✗ / ✓	✗ / ✓ / ✗ / ✓	✗ / ✓ / ✗ / ✓	✗ / ✓ / ✗ / ✓
	2.0 / ✓	2.0 / ✓	2.0 / ✓	2.0 / ✓
	Charger, handsfree, data cable	Charger, handsfree, data cable	Charger, handsfree, carry pouch, data cable	Charger, handsfree, data cable
	-	-	2 GB inbuilt	2 GB inbuilt
	7.75 / 7.5 / 6	6.5 / 6.25 / 5.5	7.75 / 7.5 / 7.75	7 / 6 / 6.25
	2 megapixels / 352 x 288 pixels	3.2 megapixels / 320 x 240 pixels	2 megapixels / 176 x 144 pixels	3.2 megapixels / 320 x 240 pixels
	✗ / ✗ / ✗ / ✓	✗ / ✗ / ✗ / ✗	✗ / ✗ / ✗ / ✗	✗ / ✓ / ✗ / ✓
	MP3	MP3, WMA, AAC	MP3, AAC, AAC+	MP3, AAC player
	MPEG-4, 3gp	MPEG-4, 3gp	3gp	3gp
	✓	✓	✗	✓
	6.25 / 5.75	6.75 / 5.75	6.5 / 6	6.5 / 5.75
	6.5 / 6 / 6.25	6.5 / 6.25 / 6	6.75 / 6.25 / 6	5.5 / 6 / 6
	0.14 MBps	0.14 MBps	0.15 MBps	0.14 MBps
	-	-	-	-
	3 / 2.5	3.5 / 3	4.75 / 3	4.25 / 3.5
	2.25	2.5	2.25	3.5
	6.5 / 6.5	6.5 / 6	6.25 / 6	6 / 6
	4	4.25	4.25	3

Of Import duties

LG recently announced that it plans to stop manufacturing mobile phones at a facility it operates in Mexicali, Mexico, near the California border. The plant there makes some 200,000 phones per month and has about 200 employees. LG is making the change due to an import tariff no longer being in place that cost LG 15% to import devices into Mexico

knack of it after even 8-10 hours of use. The jog dial also has four distinct click points that can be used to move up and down or

sideways and the centre button also incorporates a tiny screen that will display an icon for any option you select. This method of navigation (using the directional buttons) is better than the dial method and we found navigation a snap.

The screen is clear and the fonts are really crisp. The phone has a basic camera that does what it's supposed to and offers acceptable quality. Music playback is good and the handsfree offers good quality. Sadly this phone seems to have a weak battery rated at only 800 mAh and we found that the vibration system, coupled with the extra lighting drained the battery very fast. Call quality could have been better, especially in regions of lower signal strength. Priced at Rs. 11,990 the KM710 is a fine looking phone with a nifty, functional navigation system. However it's also a little pricey, mainly because of the flashy features that some might find unnecessary. If you are inclined towards a flashy cellphone this isn't a bad idea. If you want functionality and a larger screen, this isn't worth your time.

Feature-rich and fanciful

Multimedia phones from Rs. 12,501 - Rs. 20,000

HTC Touch Viva

This handset is fully plastic with a glossy finish. While the quality of materials used is far from top class it's built well and the surface treatment looks like it will stand some wear. The dark grey body has a silver ring around the sides of the phone, giving it a classy look, as does the raised chrome rim around the centre button that also acts as directional navigation.

The call buttons are vertically stacked and small and thin. However they're easy to use since there aren't other buttons in close proximity. The volume up/down button is little more than a thin slash amidst the silver bezel on the side but owing to its raised edge and superb feedback, it is really usable.

The stylus is solid metal except for the retention on one end and its tip. Going by the trend, even the power button is a tiny slash and easily missed at first glance. The USB port is also used for the headset; once again proprietary connects are used.

Our first and one of our major gripes are with the glossiness of the display – when held at eye level you can see your face in it. This is a pain to be sure. Display quality is decent but should be much better and the fonts used do not seem as high resolution as they should be. Colours also seem a little faded out. The phone's interface is fast enough for most tasks but will lag when opening the camera. Since it lacks a hardware keypad we had to make do with the onscreen affair that was a poor substitute for the real thing but much better than the onscreen keypads of the previous touchscreen phones. The camera is pretty useless and makes do without even an autofocus or a flash unit. Call quality was good, better than expected and the earpiece volume is also quite good. The handsfree unit gives decent quality when on a call, but falls short of praise when listening to music. This phone has Wi-Fi which will be of interest to those interested in using it to surf and is the cheapest phone available with this feature.



HTC Touch Viva

Motorola ROKR E8

Another sexy looker from Motorola with a glossy fascia built out of a single piece of transparent fibre. In fact with the screen and keypad lighting switched off the ROKR E8 looks like something that just walked off a Milan catwalk. The rear is not so exotic and is metal with a rubberised surface coating. The number keys have a very tiny raised dimple to indicate that your finger is indeed on top of a key and this is the only way to discern between keys. The key layout is spaced and well done, but key feedback is not at all positive and key travel is minimal – something Motorola does a lot on their phones. The black shiny surface has a chrome slash in the form of the joypad and even this fits flush in the phone such that the entire top is on one plane. The menu buttons are well laid out as are the call buttons. Backlighting is slightly excessive, although it tends to get dim in daylight. The phone itself is wide but not thick. Needless to say build quality is really good thanks to the metal rear. We'd like the screen to have been larger, but two inches is all we got.

Although the ROKR E8 has mediocre in-call quality, it's a good music player. The bundled earphones are also good and the 3.5-mm jack is a plus. The measly support for audio and video formats is a minus though.

At Rs. 13,999 the ROKR E8 is a super swanky looking phone that offers a fair amount of features. It's a really neat looking phone that Motorola fans will really appreciate and others will admire. But for the features and performance

we feel it's overpriced. The Abhishek Bachan advertisement for the ROKR series notwithstanding, we recommend that you wait for price drops or look elsewhere for your groove.

HTC Touch Diamond

The Diamond looks like an HTC Touch Pro on a severe diet. It misses out on the hardware QWERTY and has a smaller battery which is why it's slimmer and a lot lighter. The rear seems to be more solid and is finished in glossy black but a look at the front face and you cannot tell the Diamond and the Pro apart. The name Diamond comes from the sculpted rear that

has been cut at various angles to give the appearance of many sides – like its namesake. Build quality is good and the Touch Diamond looks clean. It has 4 GB of internal storage but no expansion. The screen is a little devoid of colours but bright and crisp enough. Fonts are clearer than on the Touch Viva, although not the best around.

Once again the lack of a dedicated keyboard cannot be made up for by the onscreen one, simply because of the prohibitively small screen size. The call buttons are touch activated and very well laid out and amply backlit, while the home and back button also aid navigation. In fact most other non-HTC devices do not have a back

button and we feel this is a nifty and very utilitarian feature that is simple to implement and should be standardised on all WM devices.

The camera on this phone is decent, actually a lot better than we expected; it outperforms some of the other 3.2 megapixel units in this test. The antenna is of mediocre quality and we had

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Motorola ROKR E8

Walkman for the common man

Sony Ericsson just announced, another phone up for release soon is the basic Walkman phone W205. Probably realizing that everyone is feeling the grunt of the economic recession including mobile phone user, they made the W205 more accessible to the users.

Mobile Phone Test

slight issues with clarity in zone 2. The earpiece volume itself is quite good. The handsfree is good enough for casual music listening and to make calls but music lovers obsessed with quality will find nothing of interest here. The lack of expansion beyond the 4 GB of inbuilt



HTC Touch Diamond

memory may also turn some people off.

There's nothing special about this handset to make it stand out. At a price tag of Rs. 18,990 users would surely expect more and we would expect a QWERTY keypad to make usability better.

Motorola Motoring A1600

Another Linux-based Motorola phone, the A1600 has a rounded profile and comes with a transparent flip which allows one to peek at the screen it protects. The A1600 is touch-based and has a really well built exterior. The call buttons are small but well laid out with good tactile feedback and the joypad is also easy to use. The volume buttons are on the side and comfortable to use with good tactility intuitiveness. The menu structure is easy to understand and simple. The A1600 has a large display (2.4-inches) that is quite crisp, although the fonts used could be better. The lack of a hardware keypad is also felt, although not as badly as on the ROKR E6 because this phone is wider, giving the onscreen keyboard a larger area as well. One of the most noticeable features is the addition of a talking dictionary that can translate any word into another language and pronounce the word as it would sound – very useful if you are travelling abroad. We tried it for some common words and the results were pretty good.

Other than that the 3.2-megapixel camera is useful and features autofocus and a slightly weak flash unit. Its antenna is strictly OK and call quality could have been better. The A1600 is a decent music player with good handsfree quality and decent volume on the loudspeaker. If Motorola had thrown in a QWERTY package, this would be a feature-loaded device at a price of Rs. 15,847. As it stands, it's not a bad phone but has the odd quirk that keeps us from recommending it sans reservation.

LG KT610

This is one of the first phones from LG based on the Symbian platform. It's a very nondescript device that has a very rugged matte finish. The phone itself is a bit clunky but otherwise build quality and the materials used in its construction seem really good. We would have preferred the use of some metal instead of the boring plastic though. The outer keypad is large and the keys, although close to each other, have no ergonomic issues. The outer

screen is a bit colour deficient, but serves the purpose of notifying you of missed calls, alarms, messages and such. Open it like a compass box and you'll see a much larger (although not large enough) display that immediately looks a lot crisper. Here you will also find a full-QWERTY

keypad. The entire design is reminiscent of the Nokia Communicator series, which it would seem, LG has tried to ape. The QWERTY keypad is well laid out and the call buttons found outside are also thoughtfully repeated inside – allowing one to take calls with the device open as well as closed. Having said that, note that it is slightly awkward to hold in case of the former. The five-way joypad on the outside is also cloned on the QWERTY and navigation is a snap either way. The inner screen could have been much larger if only the speaker grilles were a little more subtle but LG wanted a bit of garishness in this regard.

The inner keypad although having well spaced keys has other problems – key feedback is a little hard and this keypad is not comfortable when typing out long emails.

We see this as a glaring flaw since it's obvious that the QWERTY is one of its selling points. That being said the outer keypad makes up for the inner one's flaws and is excellent.

The inner display isn't as crisp as we'd like and the icons do not seem as lively as a result of this. Its two megapixel camera is not really useful. In call quality, the phone is a mixed bag with the phone doing well in zone 1 and letting itself down in zone 2 which is a region that really stresses the antenna since that zone is located right in the basement of our building. The handsfree unit offers good quality for music playback, although it's not good enough to recommend as a music phone. Overall, at a price tag of Rs. 15,990 the KT610 is a neat phone with quite a few features and the fact that it's based on the Symbian platform means that there are plenty of applications available for use. It's also one of the few phones with two screens and two usable keypads; however, it's

not quite a multimedia user's delight and business users will demand more – so it misses the recommendation boat.



LG KT610

Nokia N78

The successor to the vastly popular N73, the N78 is slimmer, built better and has a slightly better display. The black/silver model we received looks smart and its glossy finish goes a long way in attracting attention. The battery cover is plasticity and there is a problem with the retention on the top – it's not built well and will likely break with heavy usage and this is a glaring omission from Nokia who are known for solid handsets. The keypad is nothing more than four horizontal lines each with its set of non-segregated keys. Initially we had our reservations about such a layout – surely this would be a usability nightmare. Well not quite – in truth the keypad isn't good but it's a whole lot better than it looks. Button feedback is positive, although the keys are a bit hard. It does help if you use nails while typing, but how many of you, aside from the fairer sex, would bother growing those? Once you get the hang of typing, things do get better and we were able to type quite fast. The main menu button and the call buttons are built into



Motorola
Motoring A1600



International SIMx

National Geography launches its own dual-sim phone: the Duet D888. It has one slot for your international sim card and another slot to hold the SIM card of a local carrier of your choice

Nokia for the talkative

Nokia has just unveiled a new member of its E-Series phone - the Nokia E52. And topping the list of this phone's features is an 8 hours talk time

the facia but these have to be pressed and they're not touch activated. The call buttons are well located but are a bit hard. The joypad has a slightly sharp rim that may annoy your finger pads while using but it's not overly uncomfortable. The middle button is sweet - offers good feedback. The volume button on the side is a joy to use. The camera button is soft and halfway down the click, it engages the autofocus. The screen is brilliant and crisp - 16 million colours, 2.4-inches and a resolution of 240 x 320 pixels



Nokia N78

keeps things amazingly legible.

The camera is capable of taking some sweet shots although you need to tinker with the settings to get things right. The music playback quality is really good and the handsfree unit will give clear sound at high volume levels. Signal reception is really good with good clarity and detail, no chinks in the armour here and the earpiece is very clear and very loud. Even while playing music the loudspeaker is clear and if you don't mind the anaemic bass you'll get along fine. It's packed to the gills with features and comes with a 2 GB card as well, but it doesn't come cheap at Rs. 17,479. The Symbian interface has been optimised for multimedia and this makes a good phone for PMP lovers or someone looking at a good camera. It's the best overall handset within this category.

Empowered multimedia Multimedia phones from Rs. 20,001 - Rs. 27,500

Nokia N79

Released shortly after the N78, the N79 adds a better keypad, high megapixel rated camera and little else. It has a similar footprint, and the genes of the N73 are strongly evident. The phone itself is finished in a glossy fibre that doesn't look as good as the N78's finish to us. Build quality is good and the issue with the N78's battery cover is not present here as

Nokia worked on the retention mechanism. The menu and call buttons are little more than slits and while they are clearly raised and backlit we feel usability could be better - it takes time to get used to using one's fingernails; thankfully the buttons aren't too hard which would have worsened things. The number keypad is also a lot better and well laid out. Feedback is good and the keys are very usable. The screen is the same beautiful unit found on the N78 - no work required here.

On-call the quality of the N79 is really good - Nokia uses top-class antennas in their phones and it shows - the N79 sounded clearer and crisper than anything to date with very good clarity and reception even in zone 2. Its earpiece volume and the quality of the handsfree unit are nearly identical to the N78 and you can use this phone as an MP3 player - music quality is crisp and neutral sounding

with a slight emphasis towards bass that we didn't like; but some surely will. The integrated camera takes good shots although video quality isn't as good. Incidentally the N79 is speedy with Bluetooth transfers and was the second fastest phone throughout this comparison.

At Rs. 20,249 the N79 is expensive. However, as with all phones its street price will be a good bit lower. It's also got a complete feature set and has great performance to boot.

Nokia N85

A compact phone; it has a glossy finish with a line pattern drawn on the rear. It feels very solid in hand and is built well even though this phone doesn't share the steel body inserts that the likes of the E75 and E71 do. The camera has a dual-LED flash and a lens cover; the latter being a rarity these days. The AMOLED (Active Matrix Organic LED) screen is not as clear as the excellent TFT LCD screens on the N95 8 GB and N96; it also looks darker in comparison and this

has nothing to do with the brightness settings. We were surprised since this should not be the case in theory but the display is not as good as some of the other Nokia phones. That being said there's nothing wrong with its crispness and the colours are beautiful. The menu buttons are built into the front panel and the backlight is the only way to notice them. The call buttons are two slashes built into the front and while they're suitably raised from the bezel it's still not as intuitive or

comfortable to use as larger buttons would be. All the buttons are hard to press and this is slightly annoying, particularly the left/right

menu buttons and the main menu and delete buttons. Backlighting on the keys is really good however. The slider mechanism is positive and snappy - better than the slide on the Nokia N95. It's a two-way slider and the other side has backlit multimedia keys. The number keypad is well laid out and reasonably well spaced although the keys are flat and this takes getting used to. However key feedback is good and the keys themselves are well designed so fast SMSing is possible. The hold key on the side is very useful to prevent accidental activation of anything while the device is in your pocket. A 3.5-mm jack is useful and well located on the top of the phone. Nokia has moved to a micro USB data port; we liked the mini USB port it left behind. It has a 1200 mAh battery, decent enough, and the phone is really slim in spite of the large battery. The N85 has an FM transmitter that works up to a range of three metres and allows you to broadcast music on your phone to nearby FM radios. This includes Hi-Fi decks, other cellphones with FM radio and even car decks. The menu intuitiveness is a little better than the E71 and E75, clearly Nokia's 6 series have menus better suited to multimedia use.

The phone itself has very good call clarity although its not the best around. Audio quality during music playback is really good and this phone doubles as a capable MP3 player; you can use your own headphones thanks to a standard 3.5-mm jack. The camera gives really good results after a little tinkering around. The Bluetooth transfer speed is the best in the business. We'd like a larger screen before we justify the price - at Rs. 25,939, it's a really good, feature-rich phone, but the N95 8 GB has a larger screen and would be a better choice.



Nokia N79



Nokia N85

Affordable Touch

Samsung Korea has just announced the new Preston mobile phone, otherwise known as the Samsung S5600. This full touch mobile phone boasts of compact design and intuitive interface at a very affordable price.

Nokia Xpress Music 5800

This phone is Nokia's first try at a touch interface along the lines of the iPhone. It has a very compact, slightly elongated footprint. It's quite a light phone for its screen size of 3.2-inches. The 5800 is a well designed phone with good build quality and finish. Although the body and battery cover are plastic, nothing feels cheap or flimsy. The menu and call accept/reject buttons, although small, are raised and are easy to use. The onscreen keyboard is a number based keypad and will be a snap for Symbian users although it's not as fast to respond to a key strike as a hardware keypad, which takes getting used to. The Xpress Music button on the top right of the phone is touch-activated and simple to use. As mentioned, the resistive touch display is Nokia's first and although this doesn't work as well as the iPhone, it is an admirable effort nonetheless.

Basically the phone is plagued with a slow processor that while fast enough for mundane tasks lags when the screen is used. This becomes noticeable most of all while scrolling through certain menus where the phone's interface lags. At times, the menu also becomes a tad unresponsive. The screen is pretty clear and crisp and thanks to its large size, is very usable and fun to watch videos on. Music quality is good, but the loudspeaker should have been, well, louder. The 3.5-mm jack is well positioned at the top of the phone.

Signal quality in zone 1 was excellent although the phone didn't perform proportionately well in zone 2 and the performance dropped quite a bit. Handsfree clarity is good and the phone's loudspeaker is quite loud on call. The camera is good, and performs as well as the other aspects of the device. It's a feature-rich, touch-based phone that is novel enough to warrant recommendation — a good performer with a load of features that may never be used; priced at Rs. 21,839 the Xpress Music 5800 is good value, especially since its price is a good Rs. 3,500 lower on the street.



Nokia Xpress Music 5800

Samsung S8300 UltraTOUCH

This is a sleek phone finished in a nice contrast of black and metallic red. The rim of red around the glossy black bezel of the facia adds a really chic look; especially since the region around the screen's bezel has brushed metal tones. The phone is slim and long, but not very wide and the slider is ultra-slick; something we've come to expect from Samsung's sliders which are regarded as the best in the business. The volume button on the side is a two-way affair and works well thanks to its noticeable extrusion from the body. The camera button should have been a little softer — feedback is hard and the camera is therefore not as usable. The call accept/reject buttons are large and well laid out with great feedback. The tiny joypad button feels clicky but works well enough. The screen itself is good, clear and crisp with great colours — the menu icons look a little overdone though, and we prefer the clean icons that Nokia and Sony Ericsson use; however minor a point this may seem it's worth nitpicking over. There is a button to lock the screen on the side and this is the first time we've seen someone use something other than a slider-style button to activate/deactivate a touch screen. We found it took time to get used to and accidental pressing of this button is possible (this never happens with a slider mechanism) making for an annoyance if the device is in your pocket. Slide open to reveal the number keypad and you will discover flat keys that, despite no spacing, are well laid out in curving rows and offer good, positive (if slightly clicky) feedback. The keys are large and this makes the phone suitable for those with thick fingers. The camera is good in the sense of it offering a large megapixel rating but the contrast and sharpness is not as good as the Samsung Pixon; that being

said it does offer image stabilisation which is a plus over other

Nokia's entry-level splash

Nokia, the world's top handset maker, recently unveiled the 2720 Fold and 7020 entry-level phones, including the 2730 Classic -- the cheapest 3G phone to date.

camera phones and although this feature is digital and not optical, it works fairly well, unless you are zooming in. The video player is feature-rich and plays a variety of formats. We wish Samsung had provided in-built memory in the order of 16 GB — this would have made the unit a good video-based PMP-phone, since it has a good screen as well.

For someone looking at a phone with a great camera and screen; the latter mainly to play videos this phone is all you need, look no further. Everyone else can just take a look elsewhere as this phone doesn't come cheap at Rs. 27,500.



Samsung S8300 UltraTOUCH

Samsung M8800 Pixon

The Pixon is a neat looking phone. It's completely black, with a solid build quality and a nice metal battery cover. The finish is glossy but not overly so and the entire metal body is powder-coated. The screen is large and dominates things — a pity it has only 256K colours. The lack of bit depth shows when watching videos and such as it trails behind the Samsung S8300 by a good margin. The sidebar menu, similar to Windows Vista, is neat and offers all the menu options. A classic grid view is also available and the menu icons are good and very legible. Everything is well laid out, intuitive, and easily accessible. The call buttons are neatly placed and evenly spaced. There is no joypad but a single button provided in between the call buttons will take you to the start screen — similar to the home button on the Apple iPhone. The fonts are nice to read but the lack of a 16-million colour screen is visible with the colours of the menu icons. The camera looks the part of a high-end cellphone camera and its lens cover automatically snaps open when the camera menu is activated. The camera itself does a fairly good job except in dim lighting. Photos shot on the camera look quite crisp with good colours, and videos are better than average. With good

Mobile Phone Test

music playback abilities and support for a range of audio and video formats it's a pity that Samsung chose to provide a proprietary headphone socket instead of the de facto 3.5-mm standard which we feel should be mandatory. Call quality isn't as good as we'd like and the Pixon doesn't have the best of antennas. Although the handsfree unit provides decent quality we'd have liked the flexibility of using headphones of our choice. It's clearly a multimedia phone with strong PMP abilities and at Rs. 25,899 is the best camera phone of the bunch; although the margin of lead is very small.

LG Arena KM900

A beautiful phone finished in brushed aluminium, and polished white aluminium, with a narrow strip of chrome running right around the outer rim of the facia. The body feels solid due to all that aluminium. The rear cover is also metal and while it's difficult to get off owing to the silly retention used, once removed we observed that the interior is neat with the ability to remove the SIM card and microSD memory without having to remove the battery. The display is large and very crisp and the menu icons are undoubtedly the best we've seen, much better than the ones by Nokia and even Apple. The front panel call and menu buttons are touch activated and work pretty well. The phone's interface is snappy, although it



Samsung M8800 Pixon

G Sync for S60

Google announced a new beta version of Google Sync for the S60 mobile platform. Google Sync allows users to wirelessly sync contacts and calendar information between their mobile device and their desktop Google account

MS encourages WM6 developers

Microsoft launches a free online learning program about developing Windows Mobile 6 apps

offers some lag while using the camera and other multimedia features. The menu layout is excellent and the menu structure itself intuitive and usable. Being a capacitive touch display there is no stylus and you need to get by with your fingers. This works well throughout the menus and LG really seems to have got things right in this regard. The only area that needs improvement re: the touch interface is the onscreen number keypad – it is slow and not at all up to our expectations. Apple does theirs much better and sending messages on the iPhone, while far from easy, is much simpler a task than on this phone. That being said it's a great effort. The volume and camera buttons on the side extrude slightly so as to not spoil the sleek lines of the phone, but are usable thanks to good button travel and feedback. The camera takes good images with nice colour and good detailing. The camera settings are pretty rich with a lot of fine tuning available. The KM900 has a rather mediocre antenna when compared to the Nokia phones and while call quality is good in zone 1 and acceptable for zone 2 it's nowhere near as good as some of the Nokia handsets. Music quality is also in the same region in terms of performance; it's good but could be better.

The Arena KM900 is a sweet looking handset with a really nice touch display that is functional without the need of a stylus. It's gimmicky, usable and feature-rich and at an MRP of Rs. 24,990 is something that we can recommend if you're looking at something similar to the iPhone but at a good Rs. 10,000 less. At this price point, its only competition is the Nokia Xpress Music 5800 that has a couple of extra features and offers better

call and music quality. But if those things are not as important as the interface then the KM900 is the phone for you.

Sultans of convergence Multimedia phones above Rs. 25,500

Sony Ericsson Xperia X1

A beautiful looking phone, the Xperia X1 represents perhaps the best mix of corporate and multimedia features available today. It's an all metal handset finished in brushed aluminium with small amount of chrome thrown in. The X1 feels very solid in-hand. The back cover is metal and very well built but has a slight bulge due to fitting issues. This bulge isn't due to the battery but the retention mechanism and creates a slight gap; not good for such a high-end phone. The slider is really slick and exudes positive feedback – excellent design. The menu buttons are a little small and sharp more suited for use with fingernails.

The Optical menu button doesn't work with touch as well, although it can be used as a regular button and pressed – this of course works well.

The call buttons are well laid out and very usable. The QWERTY keypad is very good and the keys really well spaced. Our only issue was that the keys seem a little small for proper finger/thumb typing. They are also a bit hard and feedback isn't very good; it takes a while to get used to their clicky feedback and their size. Having said that, the Xperia X1 is suitable for typing out longer mails.

The screen is a crisp 800 x 480 pixels, although it still displays only 65,000 colours; somewhat of a chink in its armour and this limits the experience when playing back videos. The excellent resolution means

Sony Ericsson
Xperia X1

that fonts are rendered well and look crisp – great for reading large mails and even the finest of text is readable. There are a number of softly lit status lights that light up on the side bezel to indicate received messages, missed calls, etc., but this lighting is minimal and Sony Ericsson has not overdone the garishness. The volume keys are excellent as is the power button that manages to sit flush with the body while retaining soft feedback and usability. The Xperia has a good camera that while not on par with the best, offers decent quality. Signal quality is good and the Xperia X1 scores well in zone 1 while doing a fair job in zone 2. The earpiece volume and handsfree unit are above par. The bundled earphones are the Sony earplugs that passively isolate noise and the X1 is a good music phone. Its got all the features, its got the build quality, and its got a full keypad to boot. A phone that's equally suited to corporate users as well as multimedia junkies, although this split personality is exactly what makes it fail short of being a truly spectacular multimedia phone. However, usability isn't the best around and neither is the call quality. Small quirks for a mighty device we say. Priced at Rs. 37,075 the Xperia X1 is expensive for sure, but you get a wonderfully adept all rounder in the bargain.

HTC Touch HD

Another Windows Mobile 6.1 device, the Touch HD is quite a slim phone, unlike the Xperia X1 that was slightly thick because of its slide-out keyboard.

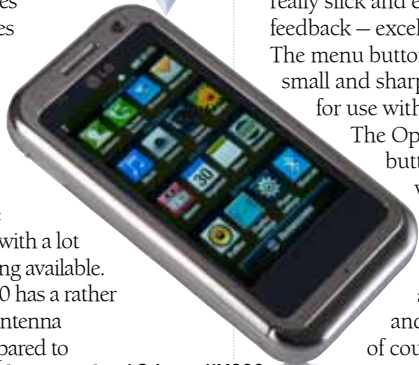


The Touch HD is still a large phone owing to its huge 3.8-inch display with a resolution of 480 x 800 pixels. The entire phone is dominated by this screen and we have to say

there's not much bezel space wasted – HTC made sure the dimensions weren't much bigger than the screen. The back panel is a matte black with a rubberised coating while

the front is a glossy black. The menu buttons on the bezel are touch-activated and backlit, and very easy to use owing to good spacing between them. The call buttons are similarly placed as on the HTC Touch Diamond, and the same back button is present that makes navigation a snap. Although the camera is a whopping five megapixels, there is no flash and the autofocus only works just before the phone clicks a photo, which is poor indeed. The 3.5-mm jack is a plus and is conveniently located at the top of the phone – the side typically facing up in your pocket. The screen, although very clear and crisp, has only 65,000 colours, so it's not as good for watching movies. The Touch-Flo menu system is faster than the one on the HTC Touch Pro although its a fair bit away from the fluid interface of the iPhone. The vibration feedback, when something onscreen is activated, is neat and a useful plus. Also new via the updated OS is the ability to see (and end) all active processes while on the desktop itself. The onscreen keypad is once again a pain although it's a bit more spaced-out on this phone, thanks to its slightly larger screen.

The phone features a headphone volume boost feature that only works with the handsfree unit, or with headphones plugged in, and not with the loudspeaker. This allows the volume to be further increased and frankly it's very useful since the distortion is



LG Arena KM900

MobiMouse allows you to turn your Blackberry into a wired or wireless mouse and keyboard. With support for USB, Bluetooth, WiFi and mobile, there are a variety of ways to connect. With MobiMouse, you can launch and control Windows Media Player, iTunes, PowerPoint, or even a DVR application right from your Blackberry

Mobile Phone Test

nil – whether listening to music or on a call. In fact we enjoyed music on this phone quite a bit – better than on most of the other phones, with the exception of the iPhone 3G. The phone's loudspeaker is a little weak but better than some of the other WM phones around. The signal quality is also pretty good – a little poorer than Nokia's best phones but easily better than the iPhone 3G. Battery life is also good and we were able to get at least five hours when on call, a surprise since the battery is rated at only 1,350 mAh and WM is known to be a battery hog. The phone, although wide, is well-suited for people with large hands; especially while on call – comfort levels are high. With a great set of features, a beautiful screen and great music and handsfree quality, mediocre camera and no hardware keypad the Touch HD is a mixed bundle. Its price of Rs. 40,990 is a killjoy and we're sure that priced around Rs. 10,000 lower it would find quite a few takers. For the price we cannot recommend it since there are better performing, more feature rich options around.



HTC Touch HD

Nokia N96

This was the flagship of the N-Series before the N97 that is yet to debut. It has a nice glossy finish that is a lot longer lasting than the faux rubber finish on the N95 8 GB. We feel this new finish by Nokia, although a little garish (to some) is definitely a positive move in terms of longevity. The device is slimmer than the N95 8 GB but to its discredit it has a smaller battery rated at 950 mAh opposed to 1200 mAh. With 16 GB of in-built memory and support for more memory via microSD expansion, the N96 can lug quite a bit of data around. The menu button is large but a little hard to press. The call buttons are well placed although not as well placed as the N95 8 GBs buttons. The rest of the menu buttons are cramped, unlike the N95 8 GB – we really feel Nokia missed out on a few tricks here. Having the multimedia buttons on the front facia (around the joypad) as well as on the dual-slider may seem a redundancy but in reality this works well. Note that all the buttons on the front facia (except for the joypad and the call buttons) are flush fit with the body and not delineated, therefore it's only the backlighting that highlights them. The inner keypad is devoid of bevelling – not good for SMS junkies, the older N95's keypad was well-sculpted for typing longer messages. Key



Nokia N96

feedback is really good however, and the keys are large and well-spaced, meaning usability is not totally problematic. The slider on the N96 seems a lot more robust than its predecessor and doesn't seem to develop the slight play that the N95 did. Voice clarity in-call is very good and this phone does superbly in all the call and signal strength tests. The loudspeaker is really loud and quite clear, and the handsfree unit too can be easily heard even at 80 per cent of maximum volume. In fact, the quality of music playback is also very good, and with a 3.5-mm jack the N96 can use any headphones available. The camera also provides top-class images with a little fiddling to the settings. Think of a feature and the N96 has it; of course at Rs. 38,269 (a lot lower on the street) it had better, because chances are you'll be beggared for awhile if you shell out for one. But it has got a feature set that is future proof.

Nokia 8800 Sapphire Art

This phone is built like a tank. The sheer in-hand presence that this solid little phone exudes has to be experienced to be believed. The slider is slick, and we're told, virtually indestructible. It's a neat looking, heavy handset, that is compact and hewed from solid steel. The faux-leather finish on the front and the battery cover is the only place (other than the keys) where the lack of steel is noticed. The screen is tiny by smartphone

standards but clear and quite crisp with good colours. The call and menu buttons are backlit and sit flush with the body – sans backlighting you'd be unable to find them. They are well laid out and exude good feedback. The four-way joypad has blunt rim that provides respite for the fingers while the middle button has been carved to give a jewel-like finish. The keypad looks beautiful with a transparent glass-like appearance. The top row of keys is a bit difficult to access as there is no gap between them and the bulging rim of the front panel. The keys themselves are well laid out and backlighting is top-class. But for the issue mentioned in the previous sentence, messaging is a snap. The menu system is identical to other Nokia Symbian-based smartphones but a few advanced options are not available; this being a Series 40 Symbian device. One rather unique feature is the ability to turn off an alarm by simply turning the phone over face-down; this is much better than fumbling for the snooze button while roused from a deep slumber.

It's got decent signal clarity but nothing compared to some of the other Nokia



Nokia 8800 Sapphire Art

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Mobile Phone Comparison Test					
Multimedia Smart Phones					
Rs. 12,501 to Rs. 20,000					
Brand	HTC	Motorola	Motorola	LG	
Model	Touch Viva	Moto ROKR E8	Motomil A1600	KT610	
Price (MRP, Rs.)	13990	13999	15847	15990	
Plus (+)	Feels solid	Super looks, sleek	Novel looks	regular + QWERTY keypads	
Minus (-)	Mediocre screen, no hardware keypad	Keypad feedback	Mediocre GSM antenna	Plasticity exterior	
Grand Totals (Out of 100)	54.95	52.77	54.95	61.14	
Features (out of 45)	24.33	22.25	24.18	31.59	
Performance (Out of 55)	30.62	30.51	30.78	29.55	
Features					
Physical Specs					
Form Factor	Bar	Bar	Bar	Compass box	
3G Network Bands	-	-	-	DPA 2100	
Screen Resolution / Size	240 x 320 pixels / 2.8 inches	320 x 240 pixels / 2.0 inches	240 x 320 pixels / 2.4 inches	320 x 240 pixels / 2.4 inches / 1.45 inches (outer)	
Maximum Screen colours	65000	256000	256000	256000 (both displays)	
Touchscreen / Dual Screen (✓/✗)	✓ / ✗	✗ / ✗	✓ / ✗	✗ / ✓	
Battery Rating	1100 mAh	970 mAh	930 mAh	960 mAh	
Weight	110 g	100 grams	128 grams	125.5 grams	
Expandable Memory Type / Hot Swappable (✓/✗)	microSD / ✓	microSD / ✓	microSD / ✓	microSD / ✓	
Available Colours	Storm Gray	Dark Navy, Platinum	Black	Black	
Other Features					
Operating System	WM 6.1 Pro	Motorola Firmware	Linux Based	Symbian S60 v9.2	
Charging via USB (✓/✗)	✓	✓	✓	✓	
Hardware Keypad (Regular/QWERTY)	-	Regular	-	✓ / ✓	
Accelerometer (For auto rotate) (✓/✗)	✗	✗	✗	✗	
Address Book Capacity	Unlimited	1000	1000	Unlimited	
No of calls in register	Unlimited	50 dialed, received, missed	30 dialed, received, missed	Last 30 days	
Talk Time / Standby Time *	8 hrs / 270 hrs	5 hrs / 300 hrs	6 hrs / 180 hrs	3 hrs 35 min / 265 hrs	
No of Profiles # / Customisable (✓/✗)	NA / ✓	5 / ✗	5 / ✗	6 / ✓	
Offline Operability (✓/✗)	✓	✗	✓	✓	
Inbuilt GPS / A-GPS support (✓ / ✗)	✗ / NA	✗ / NA	✗ / NA	✓ / ✗	
Connectivity					
Browsing (GPRS / HSCSD / EDGE / 3G) (✓/✗)	✓ / ✗ / ✓ / ✗	✓ / ✗ / ✓ / ✗	✓ / ✗ / ✓ / ✗	✓ / ✗ / ✓ / ✓	
Max Speed: EDGE / 3G	236.8 kbps / -	236.8 kbps / -	236.8 kbps / -	236.8 kbps / 3.6 mbps	
Connectivity (WiFi/Bluetooth/IR/USB) (✓/✗)	✓ / ✓ / ✗ / ✓	✗ / ✓ / ✗ / ✓	✗ / ✓ / ✗ / ✓	✗ / ✓ / ✗ / ✓	
Bluetooth Version/A2DP support (✓/✗)	2.0 / ✓	2.0 / ✓	2.0 / ✓	2.0 / ✓	
Accessories					
Bundled Accessories	Charger, handsfree, data cable	Charger, handsfree, data cable	Charger, handsfree, data cable	Charger, handsfree, data cable	
Size of memory card provided	-	2 GB inbuilt	-	-	
Overall Build Quality / Ergonomics / Keypad Design (So 10)	7.5 / 6.25 / 5.5	7.75 / 6.5 / 6	7.75 / 7.25 / 6	7.75 / 7.5 / 8	
Multimedia					
Image Resolution / Video Resolution	2 megapixels / 176 x 144 pixels	2 megapixels / 176 x 144 pixels	3.2 megapixels / 176 x 144 pixels	2 megapixels / 640 x 480 pixels	
Dual Cameras / Auto Focus / Flash / Mirror for self portrait (✓/✗)	✗ / ✗ / ✗ / ✗	✗ / ✗ / ✗ / ✗	✗ / ✓ / ✓ / ✓	✓ / ✗ / ✗ / ✓	
Music Formats supported	MP3, MP4, eAAC+, WMA	MP3, AAC player	MP3, WAV, WMA, AAC+	MP3, MP4, eAAC+, WMA	
Video formats supported	3gp, mpeg-4	3gp	MPEG-4, 3gp	3gp, mpeg-4	
FM Radio (✓/✗)	✗	✓	✓	✗	
Performance					
Signal Reception Zone 1 / Zone 2 (So 10)	6.75 / 6.25	6.5 / 5.75	6.5 / 5.75	6.75 / 5.75	
Earpiece Volume / Handsfree Clarity / On call Speaker Volume (So 10)	6.25 / 6 / 5	6.5 / 6.5 / 6.25	6.25 / 6 / 6	6 / 6 / 5.75	
Bluetooth Transfer Speed (MB/s)	0.16 MBps	0.14 MBps	0.14 MBps	0.14 MBps	
WiFi signal strength (Zone 2)	48 percent	-	-	-	
Captured Photo Colour / Crispness (So 10)	2.25 / 2	3 / 2.5	4.25 / 4.5	3 / 2.5	
Captured Video Quality (So 10)	2.25	2	4	2	
Audio Quality - Loudspeaker / Bundled Earphones (So 10)	5.5 / 5.75	6.5 / 6.5	6 / 6	6 / 6	
Video Playback Quality (So 10)	4	3.5	5.25	5	
* Manufacturer Rated					

BEST BUY diGit			BEST BUY diGit			BEST BUY diGit					
JUNE 2009			JUNE 2009			Rs. 20,001 to Rs. 27,500			JUNE 2009		
	Nokia	HTC	Nokia		Nokia			LG			
	N78	Touch Diamond	N79		Xpress Music 5800			Arena KM900			
	17479	18990	20249		21839			24990			
	Really compact, great finish	Built well	Sleek, well built		Large screen			Built well, superb menus			
	Tacky battery cover retention	No expansion	Tiny keypad		Choppy Interface			None in particular			
	73.30	61.80	73.34		70.38			66.19			
	34.27	29.43	32.84		31.30			30.27			
	39.03	32.37	40.50		39.08			35.92			
	Bar	Bar	Bar		Bar			Bar			
	HSDPA 900 / 2100	HSDPA 900 / 2100	HSDPA 900 / 2100		HSDPA 900 / 2100			HSDPA 2100			
	240 x 320 pixels / 2.4 inches	480 x 640 pixels / 2.8 inches	240 x 320 pixels / 2.4 inches		360 x 640 pixels / 3.2 inches			480 x 800 pixels / 3.0 inches			
	16 million	65000	16 million		16 million			16 million			
	x / x	✓ / x	x / x		✓ / x			✓ / x			
	1200 mAh	900 mAh	1200 mAh		1320 mAh			1000 mAh			
	101.8 grams	110 grams	97 grams		109 grams			105 g			
	microSD / ✓	NA / NA	microSD / ✓		microSD / ✓			microSD / ✓			
	Brown, Blue, White	Black	Canvas white, Seal grey, Petrol black		Black, Red, Blue			Silver, Titan Black			
	Symbian S60	WM 6.1 Pro	Symbian S60		Symbian S60			LG firmware			
	x	✓	x		x			✓			
	Regular	NA	Regular		NA			-			
	x	✓	✓		✓			✓			
	Unlimited	Unlimited	Unlimited		Unlimited			1000 entries			
	last 30 days	Unlimited	last 30 days		last 30 days			30 dialed, received, missed			
	4 hrs 20 min / 320 hrs	5 hrs 30 min / 285 hrs	5 hrs 30 min / 372 hrs		8 hrs 45 min / 406 hrs			3 hrs 50 min / 300 hrs			
	6 / ✓	NA / ✓	6 / ✓		6 / ✓			4 / ✓			
	✓	✓	✓		✓			✓			
	✓ / ✓	✓ / ✓	✓ / ✓		✓ / ✓			✓ / ✓			
	✓ / ✓ / ✓ / ✓	✓ / x / ✓ / ✓	✓ / ✓ / ✓ / ✓		✓ / ✓ / ✓ / ✓			✓ / x / ✓ / ✓			
	296 kbps / 3.6 mbps	236.8 kbps / 7.2 mbps	296 kbps / 3.6 mbps		296 kbps / 3.6 mbps			236.8 kbps / 7.2 mbps			
	✓ / ✓ / x / ✓	✓ / ✓ / x / ✓	✓ / ✓ / x / ✓		✓ / ✓ / x / ✓			✓ / ✓ / x / ✓			
	2.0 / ✓	2.0 / ✓	2.0 / ✓		2.0 / ✓			2.0 / ✓			
	Charger, handsfree, component video cable	Charger, handsfree	Charger, handsfree, component video cable		Charger, handsfree, component video cable			Charger, handsfree, data cable			
	2 GB	4 GB internal	4 GB		8 GB			8 GB internal			
	7.25 / 7 / 6.5	7.5 / 6.75 / 5.25	7.5 / 7 / 6.75		7.25 / 6 / 5.5			7.75 / 7.5 / 5.75			
	3.2 megapixels / 640 x 480 pixels	3.2 megapixels / 640 x 480 pixels	5 megapixels / 640 x 480 pixels		3.2 megapixels / 640 x 480 pixels			5 megapixels / 720 x 480 pixels			
	✓ / ✓ / ✓ / x	✓ / ✓ / x / x	✓ / ✓ / ✓ / x		✓ / ✓ / ✓ / x			✓ / ✓ / ✓ / x			
	MP3, M4A, AAC, eAAC+, WMA	MP3, MP4, eAAC+, WMA	MP3, MP4, eAAC+, WMA		MP3, MP4, eAAC+, WMA			MP3, AAC, AAC+, WMA			
	3gp, mpeg-4	3gp, mpeg-4	3gp, mpeg-4		3gp, mpeg-4			DivX, XviD, MPEG4			
	✓	✓	✓		✓			✓			
	7.5 / 6.5	6.25 / 5.5	7.75 / 7		7.75 / 6.5			6.75 / 6			
	8 / 7.5 / 7.5	6.5 / 6 / 5.75	8 / 7.5 / 7.75		7.5 / 7.75 / 7.25			6.5 / 6.25 / 6.25			
	0.12 MBps	0.15 MBps	0.19 MBps		0.15 MBps			0.16 MBps			
	50 percent	54 percent	51 percent		52 percent			51 percent			
	6.75 / 6.75	5.5 / 5.5	7 / 7.25		6.75 / 7			7.25 / 6.75			
	5.25	4.5	5.5		5.5			6.5			
	7.5 / 7	5.75 / 5.5	7.5 / 7		7 / 7			6.5 / 6.25			
	6	4.75	6		6.25			7.5			

Mobile Phone Comparison Test					
					Rs. 27,501 and above
Brand	Samsung	Nokia	Samsung	Nokia	
Model	M8800 Pixon	N85	S8300 UltraTOUCH	N95 8 GB	
Price (MRP, Rs.)	25899	25939	27500	28389	
Plus (+)	Good camera	Sleek, built well	Slick slider, funky looks	Feature rich, great screen	
Minus (-)	Poor onscreen keypad	Expensive	Misses WiFi	Bulky, needs a price revision	
Grand Totals (Out of 100)	60.99	73.06	66.16	75.11	
Features (out of 45)	27.86	33.80	33.42	34.27	
Performance (Out of 55)	33.14	39.26	32.74	40.84	
Features					
Physical Specs					
Form Factor	Bar	2-way slider	Slider	2-way slider	
3G Network Bands	HSDPA 2100	HSDPA 900 / 1900 / 2100	HSDPA 900 / 2100	HSDPA 2100	
Screen Resolution / Size	240 x 400 pixels / 3.2 inches	240 x 320 pixels / 2.6 inches	240 x 400 pixels / 2.8 inches	240 x 320 pixels / 2.8 inches	
Maximum Screen colours	256000	16 million	16M	16 million	
Touchscreen / Dual Screen (✓/✗)	✓ / ✗	✗ / ✗	✓ / ✗	✗ / ✗	
Battery Rating	1000 mAh	1200 mAh	880 mAh	1200 mAh	
Weight	121 g	128 grams	105 grams	128 grams	
Expandable Memory Type / Hot Swappable (✓/✗)	microSD / ✓	microSD / ✓	microSD / ✓	NA / NA	
Available Colours	Black, Pink	Copper, Black	Platinum Red, Platinum Blue	Black	
Other Features					
Operating System	Samsung proprietary	Symbian S60	Samsung proprietary	Symbian S60	
Charging via USB (✓/✗)	✓	✗	✓	✗	
Hardware Keypad (Regular/QWERTY)	-	Regular	Regular	Regular	
Accelerometer (For auto rotate) (✓/✗)	✓	✗	✓	✓	
Address Book Capacity	1000 entries	Unlimited	2000 entries	Unlimited	
No of calls in register		last 30 days		last 30 days	
Talk Time / Standby Time *	3 hrs 40 min / 290 hrs	6 hrs 50 min / 363 hrs	4 hrs / 350 hrs	6 hrs / 280 hrs	
No of Profiles # / Customisable (✓/✗)	6 / ✓	6 / ✓	6 / ✓	6 / ✓	
Offline Opearability (✓/✗)	✓	✓	✓	✓	
Inbuilt GPS / A-GPS support (✓ / ✗)	✓	✓ / ✓	✓ / ✓	✓ / ✓	
Connectivity					
Browsing (GPRS / HSCSD / EDGE / 3G) (✓/✗)	✓ / ✗ / ✓ / ✓	✓ / ✓ / ✓ / ✓	✓ / ✓ / ✓ / ✓	✓ / ✓ / ✓ / ✓	
Max Speed: EDGE / 3G	236.6 kbps / 7.2 mbps	296 kbps / 3.6 mbps	236.8 kbps / 7.2 mbps	296 kbps / 3.6 mbps	
Connectivity (WiFi/Bluetooth/IR/USB) (✓/✗)	✗ / ✓ / ✗ / ✓	✓ / ✓ / ✗ / ✓	✗ / ✓ / ✗ / ✓	✓ / ✓ / ✓ / ✓	
Bluetooth Version/A2DP support (✓/✗)	2.0 / ✓	2.0 / ✓	2.0 / ✓	2.0 / ✓	
Accessories					
Bundled Accessories	Charger, handsfree, data cable	Charger, handsfree	Charger, handsfree, data cable	Charger, handsfree, component video cable	
Size of memory card provided	-	8 GB Internal + 8 GB card	-	8 GB internal	
Overall Build Quality / Ergonomics / Keypad Design (So 10)	7 / 6 / 5	6.75 / 6.5 / 6.5	7 / 7.25 / 7.5	6.5 / 7.75 / 7.75	
Multimedia					
Image Resolution / Video Resolution	8 megapixels / 720 x 480 pixels	5 megapixels / 640 x 480 pixels	8 megapixels / 720 x 480 pixels	5 megapixels / 640 x 480 pixels	
Dual Cameras / Auto Focus / Flash / Mirror for self portrait (✓/✗)	✓ / ✓ / ✓ / ✗	✓ / ✓ / ✓ / ✗	✓ / ✓ / ✓ / ✓	✓ / ✓ / ✓ / ✗	
Music Formats supported	MP3, eAAC+, WMA, AMR	MP3, MP4, eAAC+, WMA	MP3, AAC, WMA	MP3, MP4, eAAC+, WMA	
Video formats supported	DivX, XviD, H.263, H.264, WMV, MP4	3gp, mpeg-4	Dvix, XviD, MPEG4, H.263, H.264, WMV9	3gp, mpeg-4	
FM Radio (✓/✗)	✓	✓	✓	✓	
Performance					
Signal Reception Zone 1 / Zone 2 (So 10)	6.5 / 5.75	7.5 / 6.75	6.25 / 5.75	8.25 / 7.25	
Earpiece Volume / Handsfree Clarity / On call Speaker Volume (So 10)	6.25 / 6 / 6.25	7 / 7.75 / 7.25	6 / 6 / 6	7.75 / 7.75 / 8	
Bluetooth Transfer Speed (MB/s)	0.15 MBps	0.20 MBps	0.15 MBps	0.13 MBps	
WiFi signal strength (Zone 2)	-	51 percent	-	54 percent	
Captured Photo Colour / Crispness (So 10)	7.25 / 7	7 / 7.25	7.25 / 6.5	7 / 7	
Captured Video Quality (So 10)	6.75	5.5	6.75	5.5	
Audio Quality - Loudspeaker / Bundled Earphones (So 10)	6.75 / 6	7.25 / 7	6.5 / 6	7.25 / 7	
Video Playback Quality (So 10)	6	5.75	7	7.5	
* Manufacturer Rated					



JUNE 2009

Apple	Sony Ericsson	Nokia	HTC	Nokia
iPhone 3G 35000	Xperia X1 37075	N96 38269	Touch HD 40990	8800 Sapphire Arte 61589
Superb build, flashy	Really feature rich, good keypad	Very feature rich	Lovely screen, great handsfree quality	Built like a tank
Feature shy, overpriced	WM holds this one back	Expensive	Expensive, no QWERTY	Super pricey
60.79	72.99	76.32	71.39	54.67
27.63	34.95	35.13	33.84	24.78
33.16	38.03	41.19	37.55	29.89
Bar	Side slider	2-way slider	Bar	Slider
HSDPA 850 / 1900 / 2100	HSDPA 900 / 1900 / 2100	HSDPA 900 / 2100	HSDPA 900 / 2100	UMTS 2100
320 x 480 pixels / 3.5 inches	800 x 480 pixels / 3.0 inches	240 x 320 pixels / 2.8 inches	480 x 800 pixels / 3.8 inches	240 x 320 pixels / 2 inches
16 million	65000	16 million	65000	16 million
✓ / ✗	✓ / ✗	✗ / ✗	✓ / ✗	✗ / ✗
	1500 mAh	950 mAh	1350 mAh	
133 grams	145 g	125 grams	146 grams	150 grams
NA / NA	microSD / ✓	microSD / ✓	microSD / ✓	- / -
Black, White (16 GB only)	Solid Black, Steel Silver	Black, Silver, Quartz	Black	Mocha brown
OS X v10.4.10	WM 6.1	Symbian S60	WM 6.1	Symbian S40
✓	✓	✗	✓	✗
NA	QWERTY	Regular	QWERTY	Regular
✓	✓	✓	✓	✗
Unlimited	Unlimited	Unlimited	Unlimited	1000 entries
100 dialed, received, missed	Unlimited	last 30 days	Unlimited	20 dialed, received, missed calls
10 hrs / 300 hrs	10 hrs / 288 hrs	3 hrs 40 min / 220 hrs	6 hrs 30 min / 450 hrs	3 hrs 20 min / 300 hrs
NA / ✓	NA / ✓	6 / ✓	NA / ✓	5 / ✓
✓	✓	✓	✓	✓
✓ / ✓	✓ / ✓	✓ / ✓	✓ / ✓	✗ / ✗
✓ / ✗ / ✓ / ✓	✓ / ✗ / ✓ / ✓	✓ / ✓ / ✓ / ✓	✓ / ✗ / ✓ / ✓	✓ / ✓ / ✓ / ✓
236.8 kbps / NA	296 kbps / 7.2 mbps	296 kbps / 3.6 mbps	296 kbps / 7.2 mbps	236.8 kbps / 384 kbps
✓ / ✓ / ✗ / ✓	✓ / ✓ / ✗ / ✓	✓ / ✓ / ✗ / ✓	✓ / ✓ / ✗ / ✓	✗ / ✓ / ✗ / ✓
2.0 / ✓	2.0 / ✓	2.0 / ✓	2.0 / ✓	2.0 / ✓
Charger, handsfree	Charger, handsfree	Charger, handsfree, component video cable	Charger, handsfree	Charger, handsfree
NA	-	16 GB internal	8 GB	4 GB inbuilt
8.5 / 7 / 7	8.25 / 7.75 / 8	7.25 / 7.5 / 7.25	7.5 / 7 / 6	9.25 / 7.5 / 7.25
2 megapixels / NA	3.2 megapixels / 640 x 480 pixels	5 megapixels / 640 x 480 pixels	5 megapixels / 640 x 480 pixels	3.2 megapixels / 640 x 480 pixels
✗ / ✗ / ✗ / ✗	✓ / ✓ / ✓ / ✗	✓ / ✓ / ✓ / ✗	✓ / ✓ / ✗ / ✗	✗ / ✗ / ✗ / ✗
MP3, AAC, AAC+	MP3, AAC	MP3, MP4, eAAC+, WMA	MP3, AAC	MP3, AAC
3gp, MPEG-4	3gp, mpeg-4	3gp, mpeg-4	3gp, mpeg-4	3gp
✗	✓	✓	✓	✗
6 / 5	6.75 / 6.25	8 / 7.25	7.25 / 6.25	6.5 / 5.75
5.75 / 9 / 6	7 / 7.25 / 7	7.75 / 7.75 / 8	7.25 / 8.25 / 6.75	6 / 6.25 / 6
-	0.19 MBps	0.17 MBps	0.17 MBps	0.11 MBps
53 percent	54 percent	54 percent	55 percent	-
3.25 / 3	6.5 / 6.75	7 / 7	6.25 / 5.5	3.5 / 2.75
-	5.5	6	4.75	3.5
6.75 / 8	7.25 / 7	7.25 / 7	5.5 / 7.25	6.25 / 6.25
7.75	6.25	7.5	6	4

Is it audible?

Audible.com is now available as a Blackberry application. The app lets you shop, sample, download, and playback audio from Audible's catalog. The application is free, and it's compatible with the Blackberry Storm, Bold, Curve 83xx, Pearl and 8800

phones. The handsfree unit also falls short of what we term as excellent but it's fair enough. The handset itself is very usable but feature shy. The price, Rs. 61,589 comes as a shock, but not to those familiar with the ethos of Nokia's 8800 series that signify true signature handsets, each created with a purpose and intent of their own, and each unique in some ways and inspired by sapphires, diamonds and gold. We feel that such luxuries aren't worth indulging in – after all a cellphone is a cellphone. It would be much better to spend a lakh or so on an Omega watch rather than on this phone. However there will be those who disagree and want something that allows them to take calls and flaunt wealth at the same time. If you fit the bill, be prepared to reach for your cheque book.

Apple iPhone 3G

Apple's design sense has always been splendid; the iPhone 3G doesn't break that rule. The first time you look at it; you'll think iPod Touch on a high-fat diet. Thankfully the rear resists normal smudging and scratches. It's not a very thick device but feels large to hold; although with a 3.5-inch screen this isn't exactly a design flaw. Build quality is excellent. Quality of buttons and switches on the device are top-class. The buttons on the sides, top and the headphone jack are chromed and along with the black bezel and chrome trim this adds further visual appeal. Apple's menu system is excellent with the single *Home* button being perfectly functional; most phones with extra keys look Jurassic in comparison.

And we're not kidding; the 3G's appeal lies in its blatantly simple and usable



Apple iPhone 3G

interface and the sheer joy and funkiness of a touch and finger swipe navigation system that works flawlessly. Once you use the Touch or the iPhone you'll realise the countless lookalikes these devices have spawned are light years away from the real thing. The phone's proximity sensor and low-light sensor work flawlessly.

The iPhone menus work well, but the on-screen keypad is a little small and you will make a few incorrect key taps for the first month or so, which won't please SMS junkies. The phone's number pad is huge though; and you'll have to be a clod to goof up typing out numbers. There is no way to delete or select multiple messages. You also cannot save a typed out SMS as a draft. Given the problem with the cramped keypad we'd have thought a Bluetooth keyboard would help but Apple chose to cut us short; the iPhone's Bluetooth only works with headsets and not with other devices. File transfer over Bluetooth is also missed.

In terms of signal quality we found the iPhone to be lacking when we put it through its paces in comparison to other phones. It's way behind some of the Nokias and behind some of the other phones too. The loudspeaker also distorts a lot. Thankfully the handsfree unit is as excellent as we've seen and really gets one through many calls where the signal quality is not as good thanks to its high volume level and exceptional clarity. Music quality on headphones is also superb.

It has a lot of niggles to work through as well as some features that it badly needs, but the iPhone 3G is a stylish device. Priced at Rs. 35,000 from operators such as Vodafone and Airtel, it's not a phone for everyone. But those who succumb to its charms are sure to become fans.

Nokia N95 8 GB

The N95 has a rubber finish, which in itself isn't of very high quality. However, the plastics used for the rest of the body are and the N95 8 GB lasts through a fair bit of abuse. It's a decent looking phone and the matte finish gives it a serious, suave air, a lot different from the flashy 6-Series phones Nokia currently makes. It's a thick, clunky phone dominated by a wonderfully rich and crisp display that at 2.8-inches supports 24-bit colour depth.

Below the screen is a very PDA-like chrome ring of buttons. The menu and call buttons are cleverly placed on this ring and while everything looks a little intimidating a couple of hours of use and one learns to appreciate the thought behind the layout. The joypad is well laid out and all the keys on the front fascia offer good feedback. The backlight used is superb and very visible. The phone's slider mechanism, while slick at first, does develop some play as mechanics cause looseness with time. The revealed number keypad is well laid out and the keys are beveled with just the right amount of travel and feedback. Backlighting is superb and so is the functionality of the light sensor. The multimedia keys are revealed beneath the other side of the slider (its two-way). The phone is fast and has 8 GB of in-built storage – additional memory expansion is not supported. It's got all the features that today's cellphones support – Nokia packed this to the gills and about the only thing missing is a QWERTY keypad.

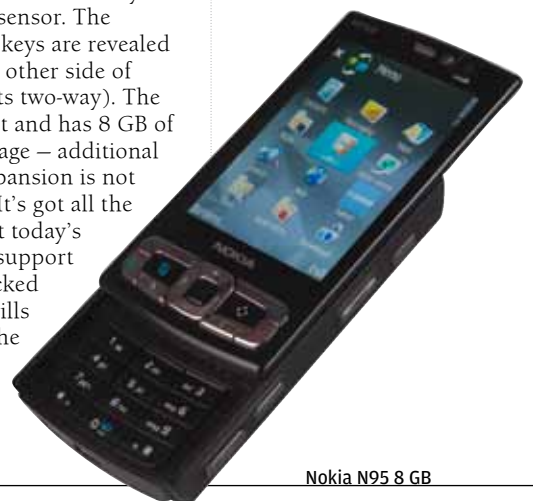
The N95 8 GB has a superb antenna and calls are crystal clear with great reception wherever you go. It trounced even the N96 in zone 1 and the earpiece volume and handsfree clarity is top notch. The headset is also suitable for music and MP3s sound great on this phone and in

conjunction with the eight gigabytes of storage built in, the N95 8GB can double as an MP3 player.

With a 1200 mAh battery the N95 8GB will go for at least

five and a half hours while talking on GSM networks. Its five megapixel camera is no slouch and with a few tweaked settings, the N95 8 GB can really hold its own except with the newer, more advanced Samsung cameras. It's an older phone now, but still offers all the goods, now at a lower price. For Rs. 28,389 the N95 8 GB is nearly Rs. 10,000 cheaper than the N96 which is not always a better phone but offers a couple of extra features and greater storage. With prices as low as Rs. 24,000 on the street, now may be the right time to grab

this handset; if you can live with its mediocre finish and its chunky looks.



Nokia N95 8 GB

Sony Ericsson slashes jobs

Sony Ericsson, the number 4 global handset maker after Nokia, Samsung and LG, today said it would slash 2,000 more jobs after it posted a \$387 million loss in the first quarter

Hot Touch Pro

Guy in New Mexico has narrow escape as original HTC Touch Pro's battery sets his pants afire

Mobile Phone Test

Executive material Business phones Up to Rs. 25,000

Nokia E71

A beautiful looking handset that has really been built to last, the Nokia E71 is a slim, wide phone with a full-QWERTY keypad. One look and its corporate orientation is obvious. The shiny chrome rimmed front fascia and the dimpled steel battery cover all add a touch of suave sophistication. The screen could have been slightly larger but then the phone would become wider. The glossy finish feels better than the slightly matte finish on the E75. The keypad is small, and cramped; without the excellent bevelling on the keys, it would be unusable. But thanks to that and some great key feedback the keypad grows on you after a few hours of use. The menu buttons are very close to each other but well laid out and we never experienced false key hits. The call buttons are suitably larger and easy to use. The joypad is similar to the E75 but feels a little more usable mainly because the edges of the four-way scroll are not as sharp as the one on the E75. The display is crisp, with excellent colours, but we feel Nokia made the icons a little too drab. The Symbian interface has changed little for the E-Series devices but we found the menus a bit different - stuff had been moved around under different menus and there were a couple of extra options available. Corporate users will want to note that Nokia's push mail service works as well as Blackberry's and for those who feel that RIM devices are the only ones with flawless push mail service, think again. But it's the small keypad with the excellent bevelling that is the main feature of this device and once you get the hang of it, typing out long emails is no problem. Unfortunately it's not

BEST BUY
digit
JUNE 2009

Nokia E71



suited to quickly type out numbers to dial since the number keys are in the middle of the QWERTY keypad, and their lettering aside, not differentiated in any way.

The camera is decent, on par with the unit on the E75. The handsfree jack is a 2.5-mm unit and sadly Nokia missed a spot here as we feel all jacks should be 3.5-mm for maximum compatibility. Call

quality is good but the loudspeaker is not very loud, that being said it's louder than the unit on the E75. A couple of the X-Series phones have better call quality and therefore better in-built antennas. The handsfree unit is not as good as the one on the E75 or the N95 8 GB.

Music quality is good and the screen is good enough to view videos.

Priced at Rs. 22,949 the Nokia E71 has a great keypad and is one of the best built Nokias around. We heartily recommend it for those looking for a great multipurpose phone with strong business accents.

Blackberry Pearl Flip

The Pearl Flip is a novel looking handset. It's a clamshell design and Blackberry worked on the mechanism to give it a slightly different look with a chrome lump on the top of the device serving as a rather large hinge for the clamshell. Build quality is good over the front of the phone but the battery cover is plasticity and gets loose quickly.



Blackberry Pearl Flip

Other than that we like the design of the phone itself - it looks neat and the clamshell mechanism itself is intricately designed and eye catching. It has a decent screen and a pseudo-QWERTY keypad where a single key is shared by two alphabets. The outer screen is useful for displaying status messages and such, and can be configured to display different information. By default, this area shows a large analogue clock. For a clamshell, the Pearl Flip looks a little large but not overly so. The famous Blackberry trackball (which is how the phones get their name as its typically white and when lit up looks like a pearl) is also present and makes navigation a snap. The keypad is well laid out but it's more suited for typing numbers than long messages and mails. It is not as good as a full QWERTY. The keys themselves are flush with the body and exude decent feedback; some amount of bevelling on the top would have made things easier.

The Pearl Flip has a decent antenna that offers good clarity on-call but it's not as good as some of the Nokia phones. We like the audio quality of the handsfree unit, both on call as well as for music, although to be honest there are better options around.

A plus is the 3.5-mm interface meaning your headphones can also be used.

Priced at Rs. 21,990 the Pearl Flip seems more like a fun phone than a serious Blackberry device and this will cause many to overlook it. People who want Blackberry's usually want a full keypad since they're typically using their handset to send at least 25 mails a day. The Flip is not as usable as the other Blackberrys in this regard and we're suggesting you give it a wide berth as well.

ASUS P552w

ASUS' entry-level PDA, after the uber-cheap P320 and frankly we're not impressed. Build quality is good and the device has a nice choice of colours, although the rubberised finish may not be liked by all. Once your eyes see the display that is all you can think about - blurry, with poor font visibility really spoils it for us. It's not clear, not bright, and the text itself



ASUS P552w

is not as visible as with any of the other phones. The large chrome joypad may not be liked by all and is an eyesore in our opinion. The call buttons are cleanly laid out and easily distinguished from the others. The quick launch button next to the call accept button is a plus as most of the common options are available in a simple and intuitive menu system - in fact this is a real plus for someone not used to Window Mobile's deep and sometimes confusing menu structure. We really liked this feature and kudos to ASUS to think of it. The hold button on the side and the power button on the top are the same colour as the phone body and hardly delineated making finding them (the power button at least) a hassle. The stylus is an excellent matte finished fibre and unlike the other metal styluses with plastic tips this one is not prone to breaking if it falls.

The P552w also has a poor antenna that gives very mediocre results in our call and signal strength tests. Even the handsfree unit isn't very good and the camera seems an afterthought. At Rs. 18,990 or any other price point we reckon this phone is best given a wide berth.

Recession woes

Nokia, the world's largest mobile phone maker, said its profits plummeted 90 per cent in the first quarter of 2009 due to fading demand for mobile phones amid the worldwide downturn

ASUS P565

In terms of looks, although it's nearly the same dimensions as the P552W, the P565 is a world apart in terms of pedigree. The facia is finished in glossy black, ditto the buttons. The rear and sides are finished in matte silver plastic while the battery cover has a faux-leather finish. The screen is much better than the screen on the P552w and really the difference is akin to night and day. Once again, the quick launch button is a really a quick way to access the most commonly used settings and menus and not just a cosmetic addition. The two-way volume button is short in length, but works well because it's really soft and wide enough to easily contact the pad of your finger, unlike some of the other phones that have very thin, long rocker buttons for volume control. Although the phone is microSD expandable and states it's hot-swappable, the battery has to be removed in order to access the memory tray slot making the term "hot swappable" something of a joke.

Although ASUS claims that the phone is powered by an 800 MHz CPU; the said processor is a Marvell TavorP that while rated at a clock of 800 MHz isn't the fastest around; evident from the interface. This is the same family of CPU running on the Blackberry Bold, albeit at a slower speed. It's a single chip solution that combines an HSDPA baseband processor with a general processor. It is a low-cost solution and may not be as fast as devices with discrete application processors. That being said, the P565 is no slouch.

Its performance in the call-based tests was better than the P552w, but marginally so. It performed adequately, on the whole. Audio quality of the handsfree unit is much better, as is the loudspeaker, although

it's anything but loud. Priced at Rs. 21,900 the P565 is a decent offering with classy looks and performance, that while not excellent, is passable. Had ASUS thrown in a hardware QWERTY this would make for a sweet buy.

Boardroom buddies Business phones above Rs. 25,000

Nokia E75

At first glance, the Nokia E75 is a stunner, although its sibling the E71 may look a more serious corporate device. Its got a mix of gray, silver and chrome and is built very well, although not as well as the E71. For Nokia, the E75 is one of their first phones that charges from USB; although the standard Nokia charger port is also provided. The screen is 2.4-inches diagonally and is clear and crisp. The number keypad is neat and the keys well laid, offering good feedback and usability. At first, the phone seems a little heavy then we discovered the side-sliding QWERTY. This keypad has matte rubber finished keys but the first flaw was the total lack of any bevelling. While the keys are very large there is no spacing between them and this is the second problem; having keys too close to each other only works if they are bevelled and without this it's an ergonomic nightmare. There's a slight divide in the middle of the keypad that also breaks the continuous flow of keys. The joypad is not as good as the one on the N95 8 GB and the menu and call accept/reject buttons have been moved on to a single long two-way rocker button. The buttons on the sides of the phone are identical to the Nokia E71. Once again we feel Nokia wasted some space above the screen and

2.4-inches is just not enough, we'd love a larger screen, something like the screen on the N95 8GB.

The camera despite its 3.2 MP rating isn't as crisp as we'd like and most images have some sort of graininess. Like some of the higher end 6-series phones the E75 features a TV-out. It also has a rather small 1,000 mAh battery. A neat plus is the 3.5-mm jack that allows use of other headphones. The camera button is tiny and hard to press – though this isn't

as important for a business phone. In-call quality is good, really good and this phone has a good antenna, although by Nokia's high standards set

with devices like the N96 and the N95 8 GB this one seems fairly mediocre.

The bundled handsfree unit is good, but a 3.5-mm connect other headphones can also be used. Priced at Rs. 26,299, the E75 is a really feature-rich phone that offers something for nearly everyone. It's just that it doesn't focus on one cadre of users over others – the phrase *Jack of all trades* comes to mind. The E71 is a better business phone because of its smarter keypad, and obviously the lower price tag, with marginally better performance.

HTC Touch Pro

The HTC Touch Pro is a bulky, thick phone that is built a lot like the HTC Touch Diamond, except that it sports a more rugged matte finish rather than the smooth finish on the latter. The 2.8-inch screen is crisp and clear with a high resolution of 480 x 640 pixels and this phone is even heavier than the Touch HD, whose screen is a whole inch bigger. The reason for its weight and the bulkiness is a full-QWERTY keypad hidden inside a side-slider. At 165 grams it was

the heaviest phone in the entire test. Although the slide-out mechanism is quite snappy the build quality may be a bit iffy since we noticed some play after heavy usage. The interface is similar to the Touch HD although the phone is nowhere as responsive, especially when using the Touch Flo feature. The QWERTY scores big points for having a well laid out keypad, with big buttons that exude positive feedback and are really well backlit, good enough for usage in daylight and darkness alike. The keys are largely flat with just a hint of bevelling on the top and this is the most usable QWERTY keypad after the Blackberry devices. When we opened the back we discovered the reason behind the thickness which was not entirely the keypads fault but was on account of the really thick battery pack. The front menu buttons and joypad are identical to the Touch Diamond.

The camera outputs decent images. Unfortunately HTC traded the 3.5-mm jack for a proprietary USB based headset – zero points for convenience. Signal quality was mediocre, bordering on poor, in zone 2 and we lament the lack of a better antenna unit like the Touch HD's. Priced at Rs. 32,990 we feel the Touch Pro a bit too expensive for the features and performance on offer, it does have an excellent keypad and would be a decent choice for someone wanting a Windows Mobile-based PDA with a full keypad, although to be honest, we'd suggest the all-round capabilities of the Sony Ericsson Xperia X1 in such case.

BEST BUY
digit
JUNE 2009



Nokia E75



ASUS P565



HTC Touch Pro

Sony Ericssons Android

Sony Ericsson confirm Android v2.0 handset in the works

Blackberry serves

Blackberry Instant Message clients updated (AIM, Yahoo, GTalk, MSN)

Mobile Phone Test

ASUS P835

The P835 is ASUS' answer to large screen WM devices. With a 3.5-inch display, this unit is built very well. We really liked the good quality all-metal stylus, this does not have an issue with the end breaking off in the event of a drop. A very nice fitting back cover with an excellent lock slider-type mechanism, ensures that the phone will last for a good while owing to its metal parts. It's a large PDA and apart from the bezel along the sides, part of the rear and the screen itself, most of the phone is metal. The call-reject and power functions share a common key, while a Blackberry style trackball takes care of the joypad. We must say while being a novel idea for a Windows phone, and quite functional, this feature is very usable. We do wonder how long such a trackball would last given heavy usage and the fact that many Blackberry users complain about theirs. The screen is bright and crisp offering a high resolution with good detail. Based on the WM 6.1 platform and powered by a 528 MHz Qualcomm processor, the phone is fast and we never noticed anything slowing it down. Although the number keypad is very usable it's the QWERTY that people will find lacking about. On screen keyboards are largely gimmicky and not as productive as a hardware keyboard especially when it comes to heavy usage. The phone comes with 4 GB of in-built storage, and there is additional expansion via microSD supported. The five-megapixel camera is not much to write home about.

In-call performance is a bit below par for what is acceptable from a PDA phone where signal clarity is everything. The earpiece volume is decent however, as is the handsfree unit. Priced at Rs. 26,900 the P835 is actually a decent deal considering the HTC Touch HD's display is just 0.3-inches bigger and that phone is priced much higher, but in its defense it's a much better handset than the P835.



ASUS P835

Blackberry Storm 9500

The Storm is usually met with mixed reactions. Most corporate users scoff that the Blackberry has gone soft to the needs of multimedia users and has provided a touch interface that is deemed as hot and gimmicky. Other users would welcome the change from the strict QWERTY-based mold that all Blackberrys seem to follow. The phone's screen appears larger than its 3.25-inches. The handset is solidly built and the front is a typical glossy black with two non-glossy chrome strips running down either sides of the screen. The rear has a rubberised finish except for the battery cover that has a brushed aluminium texture, but in black. Overall the phone has a very classy, no-nonsense look. The menu buttons are cleanly laid out and along with the call buttons they form a straight line of buttons that runs the breadth of the phone. The entire screen can be clicked, and when touched with slight force the screen actually

moves inwards. This is meant to give feedback and it works. The on-screen number keypad is good but not so the alphabet keypad; once again this on-screen QWERTY touch keypad is not as good as the real thing. Touch gestures work well and scrolling through long emails is a pleasure.

Scrolling through menus is not as much fun as the phone tends to activate whatever menu the scroll stops on



Blackberry Storm 9500

rather than waiting for a second finger contact. There's a real quirk hidden in the menu system that rears its ugly head the moment when one tries selecting small icons or such. It's very difficult to get accurate on the screen and very often it's annoying to touch a particular function only to discover the phone activating/highlighting something adjacent to it.

The Storm 9500 has an excellent antenna and in call quality is really good. The handsfree unit is also very good and offers excellent clarity, although a couple of the Nokia phones beat it in this regard. The camera is present and offers barely acceptable results. The Storm has GPS with Blackberry Maps although weirdly there is no Wi-Fi available. Priced at Rs. 27,990, the Storm is a sexy device that will assure bragging rights and attention in any company. It's a really good handset. While the touch interface is functional it has the odd quirk.

Blackberry Bold 9000

The Blackberry Bold represents what a business PDA phone should look like. It's a very attractive device that's slightly wider and larger than other Blackberry handsets. The entire front and menu keys is in a glossy black. There is a non-glossy chrome rim running around the sides of the phone which houses buttons. That being said the buttons are clearly visible. The battery cover is huge and occupies the entire back of the phone. This cover has a leather texture that is genuine, a far cry

from the faux-leather finishes we've seen on some other devices. The menu and back buttons are large and nearly surround the white trackball. The call buttons are large and very easy to use. The 3.5-mm handsfree jack is located on the left side of the phone, below which is the mini-USB port. The voice command button is located underneath this and its location is the only possible quirk as it tends to get pressed easily while even

holding the device. Blackberry meant this button to be visible and usable so we're not sure whether to gripe or praise their design, but it does get unwanted use. The volume button is located on the opposite side of the device and despite its thinness and the flush fit, it's easy to use. The QWERTY keypad is absolutely wonderful. The keys are not really spaced out but the excellent bevelling makes it easy for your fingers to quickly glide over the keys. It's possible to really type fast on this device and it's better than the keyboard on the Blackberry Curve 8900 as well. The chrome strips running across the keyboard give the phone a classy look.

The menus on the Bold 9000 are well laid out and the phone is responsive. While the trackball can be set to glow when any message

is received or upon receiving an email or missing a call there's also a bedside mode that turns off any sort of distracting activity, except for the alarm — a real time saver, that.

What we like

about the menus is Blackberry's no nonsense approach to making everything available under one main menu and each setting is quite transparent with adjustments also requiring little or no effort to find and activate. The Bold 9000 is blessed with a sterling antenna and this device offers greater in-call clarity than even the Storm 9500, it however falls short of Nokia's excellent N95 8 GB. The earpiece



Blackberry Bold 9000



Mobile Phone Comparison Test		Business Phones				BEST BUY digit JUNE 2009	
		Business Phones up to Rs. 25,000					
Brand		ASUS	ASUS	Blackberry		Nokia	
Model		P552w	P565	Pearl Flip		E71	
Price (MRP, Rs.)		18900	21900	21990		22949	
Plus (+)		Built well	Novel looks	Looks really neat		Great keypad, features	
Minus (-)		Poor screen quality	No QWERTY	Overpriced		Slightly overpriced	
Grand Totals (Out of 100)		56.71	63.06	64.73		72.78	
Features (out of 45)		26.20	29.19	28.01		34.45	
Performance (Out of 55)		30.51	33.86	36.72		38.33	
Features							
Physical Specs							
Form Factor		Bar	Bar	Clamshell		Bar	
3G Network Bands		HSDPA 2100	HSDPA 2100	NA		HSDPA 900 / 2100	
Screen Resolution / Size		240 x 320 pixels / 2.8 inches	480 x 640 pixels / 2.8 inches	240 x 320 pixels / 2.6 inches		320 x 240 pixels / 2.36 inches	
Maximum Screen colours		65000	65000	65000		16 million	
Touchscreen / Dual Screen (✓/✗)		✓ / ✗	✓ / ✗	✗ / ✓		✗ / ✗	
Battery Rating		1100 mAh	1300 mAh	900 mAh		1500 mAh	
Weight		105 grams	120 grams	102 grams		127 grams	
Expandable Memory Type / Hot Swappable (✓/✗)		microSD / ✓	microSD / ✓	microSD / ✓		microSD / ✓	
Available Colours		Black, White	Black	Black		White Steel, Grey Steel, Black, Red	
Other Features							
Operating System		WM 6.1 Pro	WM 6.1 Pro	Blackberry OS		Symbian S60	
Charging via USB (✓/✗)		✓	✓	✓		✗	
Hardware Keypad (Regular/QWERTY)		NA	NA	Regular		QWERTY	
Accelerometer (For auto rotate) (✓/✗)		✗	✗	✗		✗	
Address Book Capacity		Unlimited	Unlimited	Unlimited		Unlimited	
No of calls in register		Unlimited	Unlimited	Last 30 days		last 30 days	
Talk Time / Standby Time *		5 hrs / 300 hrs	4 hrs / 300 hrs	4 hrs / 336 hrs		10 hrs 20 min / 410 hrs	
No of Profiles # / Customisable (✓/✗)		NA / ✓	NA / ✓	7 / ✓		6 / ✓	
Offline Opearability (✓/✗)		✓	✓	✓		✓	
Inbuilt GPS / A-GPS support (✓ / ✗)		✓ / ✗	✓ / ✗	✗ / ✗		✓ / ✓	
Connectivity							
Browsing (GPRS / HSCSD / EDGE / 3G) (✓/✗)		✓ / ✗ / ✓ / ✓	✓ / ✓ / ✓ / ✓	✓ / ✗ / ✓ / ✗		✓ / ✓ / ✓ / ✓	
Max Speed: EDGE / 3G		236.8 kbps / 3.6 mbps	236.8 kbps / 3.6 mbps	236.8 kbps / NA		296 kbps / 3.6 mbps	
Connectivity (WiFi/Bluetooth/IR/USB) (✓/✗)		✓ / ✓ / ✗ / ✓	✓ / ✓ / ✗ / ✓	✓ / ✓ / ✗ / ✓		✓ / ✓ / ✓ / ✓	
Bluetooth Version/A2DP support (✓/✗)		2.0 / ✓	2.0 / ✓	2.0 / ✓		2.0 / ✓	
Accessories							
Bundled Accessories		Charger, handsfree	Charger, handsfree	Charger, handsfree		Charger, handsfree	
Size of memory card provided		-	-	1 GB		1 GB	
Overall Build Quality / Ergonomics / Keypad Design (So 10)		6.75 / 5.75 / 5	7.25 / 6.25 / 5.5	7 / 7 / 6.25		8.5 / 6.25 / 7	
Multimedia							
Image Resolution / Video Resolution		2 megapixels / 320 x 240 pixels	3.2 megapixels / 320 x 240 pixels	2 Megapixels / 320 x 240 pixels		3.2 megapixels / 320 x 240 pixels	
Dual Cameras / Auto Focus / Flash / Mirror for self portrait (✓/✗)		✗ / ✗ / ✗ / ✗	✓ / ✓ / ✗ / ✗	✗ / ✗ / ✓ / ✗		✓ / ✓ / ✓ / ✓	
Music Formats supported		MP3, WMA	MP3, WMA	MP3, WMA, AAC+		MP3, MP4, eAAC+, WMA	
Video formats supported		3gp, MPEG-4	3gp, MPEG-4	DivX, WMV, XviD, 3gp		3gp, mpeg-4	
FM Radio (✓/✗)		✗	✗	✗		✓	
Performance							
Signal Reception Zone 1 / Zone 2 (So 10)		6 / 5	6.25 / 5.5	7.5 / 6.5		8 / 7	
Earpiece Volume / Handsfree Clarity / On call Speaker Volume (So 10))		5.75 / 5.75 / 5.25	6.25 / 6.5 / 6	6.5 / 7 / 6.5		6.5 / 7.5 / 6.5	
Bluetooth Transfer Speed (MB/s)		0.12 MBps	0.15 MBps	0.13 MBps		0.14 MBps	
WiFi signal strength (Zone 2)		48 percent	50 percent	53 percent		54 percent	
Captured Photo Colour / Crispness (So 10)		3.25 / 2.25	4.5 / 4	3.75 / 3		6.25 / 5.75	
Captured Video Quality (So 10)		2	3	3.25		4.5	
Audio Quality - Loudspeaker / Bundled Earphones (So 10)		5.5 / 5.25	6 / 6.25	6 / 6.5		6.75 / 5.5	
Video Playback Quality (So 10)		3	3.5	5.5		6.5	
* Manufacturer Rated							

BEST BUY diGit		BEST PERFORMANCE diGit			
JUNE 2009		Business Phones above Rs. 25,000		JUNE 2009	
Nokia	ASUS	Blackberry	Blackberry	HTC	Blackberry
E75	P835	Storm 9500	Curve 8900	Touch Pro	Bold 9000
26299	26900	27990	27990	32990	34990
Feature rich, built well	Large screen	Large screen, features	Compact	Great keypad, features	Superb QWERTY, feature rich
QWERTY not the best	No QWERTY	Poorly designed keypad	Slightly expensive	Too bulky	Tacky battery cover fit
75.76	64.09	68.78	70.49	67.73	71.54
37.44	30.20	29.87	30.84	34.04	32.70
38.32	33.89	38.91	39.65	33.69	38.84
Side Slider	Bar	Bar	Bar	Side Slider	Bar
HSDPA 900 / 1900 / 2100	HSDPA 900 / 1900 / 2100	HSDPA 2100	NA	HSDPA 900 / 2100	HSDPA 850 / 1900 / 2100
240 x 320 pixels / 2.4 inches	480 x 800 pixels / 3.5 inches	360 x 480 pixels / 3.25 inches	480 x 360 pixels / 2.4 inches	480 x 640 pixels / 2.8 inches	480 x 320 pixels / 2.6 inches
16 million	65000	65000	65000	65000	65000
x / x	✓ / x	✓ / x	x / x	✓ / x	x / x
1000 mAh	1100 mAh	1400 mAh	1400 mAh	1340 mAh	1500 mAh
139 grams	148 grams	155 grams	110 grams	165 g	133 grams
microSD / ✓	microSD / ✓	microSD / ✓	microSD / ✓	microSD / ✓	microSD / ✓
Silver-Black, Red and Copper-Yellow	Black	Black	Black	Black	Black
Symbian S60	WM 6.1 Pro	Blackberry OS	Blackberry OS	WM 6.1	Blackberry OS
✓	✓	✓	✓	✓	✓
Regular & QWERTY	NA	NA	QWERTY	QWERTY	QWERTY
✓	x	✓	x	✓	x
Unlimited	Unlimited	Unlimited	Unlimited	Unlimited	Unlimited
last 30 days	Unlimited	Last 30 days	Last 30 days	Unlimited	Last 30 days
5 hrs 20 min / 280 hrs	6 hrs / 350 hrs	5 hrs 30 min / 360 hrs	5 hrs 30 min / 356 hrs	8 hrs / 406 hrs	5 hrs / 310 hrs
6 / ✓	NA / ✓	7 / ✓	7 / ✓	NA / ✓	7 / ✓
✓	✓	✓	✓	✓	✓
✓ / ✓	✓ / ✓	✓ / ✓	✓ / ✓	✓ / ✓	✓ / ✓
✓ / ✓ / ✓ / ✓	✓ / x / ✓ / ✓	✓ / x / ✓ / ✓	✓ / x / ✓ / x	✓ / x / ✓ / ✓	✓ / x / ✓ / ✓
296 kbps / 3.6 Mbps	236.8 kbps / 7.2 mbps	236.8 kbps / 3.6 mbps	236.8 kbps / NA	236.8 kbps / 7.2 mbps	236.8 kbps / 3.6 mbps
✓ / ✓ / x / ✓	✓ / ✓ / x / ✓	x / ✓ / x / ✓	✓ / ✓ / x / ✓	✓ / ✓ / x / ✓	✓ / ✓ / x / ✓
2.0 / ✓	2.0 / ✓	2.0 / ✓	2.0 / ✓	2.0 / ✓	2.0 / ✓
Charger, handsfree, component video cables	Charger, handsfree	Charger, handsfree	Charger, handsfree	Charger, handsfree	Charger, handsfree
4 GB	4 GB inbuilt	8 GB	-	-	-
7.5 / 6 / 5.75	8 / 6.25 / 6	7.75 / 6.25 / 6.75	7.75 / 7.5 / 7.5	7 / 7.25 / 7.75	7.25 / 7.5 / 8.25
3.2 megapixels / 640 x 480 pixels	5 megapixels / 640 x 480 pixels	3.2 megapixels / 320 x 240 pixels	3.2 megapixels / 240 x 180 pixels	3.2 megapixels / 640 x 480 pixels	2 megapixels / 320 x 240 pixels
✓ / ✓ / ✓ / ✓	✓ / ✓ / x / x	x / ✓ / ✓ / x	x / ✓ / ✓ / x	✓ / ✓ / ✓ / x	x / x / ✓ / x
MP3, MP4, eAAC+, WMA	MP3, WMA	MP3, WMA, AAC+	MP3, WMA, AAC+	MP3, MP4, eAAC+, WMA	MP3, WMA, AAC+
3gp, mpeg-4	3gp, MPEG-4	DivX, WMV, XviD, 3gp	DivX, WMV, XviD, 3gp	3gp, mpeg-4	DivX, WMV, XviD, 3gp
✓	✓	x	x	✓	x
7.75 / 6.75	6.25 / 5.25	7.75 / 6.75	8 / 8	6.25 / 5.5	8 / 7.25
6.25 / 7.5 / 6.25	6.5 / 6.25 / 5.5	7.5 / 7.5 / 6.5	7.25 / 7.25 / 6.5	6.25 / 6 / 5.75	7.25 / 7.25 / 6.5
0.18 MBps	0.16 MBps	0.16 MBps	0.14 MBps	0.16 MBps	0.15 MBps
55 percent	52 percent	54 percent	55 percent	54 percent	55 percent
6.5 / 5.75	4.5 / 4	4.5 / 4	4.5 / 4	5.5 / 5.5	3.75 / 3
5.25	4	3.5	3.5	4.5	3
6.25 / 6.25	6 / 6	6 / 6.5	6.25 / 6.5	5.75 / 5.5	5.75 / 6.5
6.75	6.25	6.5	6.25	4.75	6.25

iPhone 09?

Apple iPhone 2009 comes on 17 July, OLED display on board

More power, less juice

Marvell's new Tavor processors feature an HSDPA baseband processor and an applications processor on a single chip

volume and handsfree unit are excellent. Priced at Rs. 34,990, the Bold 9000 isn't cheap, but it's a worthy device for the corporate – classy looking, powerful, very usable and feature-rich.

Blackberry Curve 8900

The Blackberry Curve 8900 is slightly smaller than the Bold 9000 and features the same smooth finish; but a bit more chrome on the front. The back is similar to the Blackberry Storm 9500 and is brushed black aluminium. The screen is slightly smaller than the Bold's but offers a slightly higher resolution. The menu and call buttons are similar to the Bold 9000 but slightly smaller, owing to the phone's compact dimensions. The 3.5-mm headset jack is now on the right side instead of the left like the Bold 9000 and the volume button below that is really usable; its not as flat as the button on the Bold 9000 and this is a good thing for intuitiveness. The trackball is black on this phone – we preferred the milky white that is so iconic to the Blackberry. The QWERTY keypad is very well laid out but seems a little less usable than the Bold 9000's keypad. This is due to the keypad gap and bevelling. Some might find the keypad on the Curve 8900 to be better than its bulkier sibling and mostly these people will have larger

fingers and the gap in the keypad will suit their fingers more. It's a close call either way, but we prefer the Bold 9000's slightly larger, less spaced out keys. The Curve 8900 is fast and responsive.

Next, on to our call and signal clarity tests, and we were pretty surprised when voice clarity did not drop when moving from zone 1 to zone 2. Even in the middle of zone 2, we could still get the same clarity as before. This proves the mettle of the antenna and to be quite honest this phone probably has the best antenna in the test, although it cannot outpace the Nokia N95 8 G's performance in zone 1. The handsfree unit is also clear and crisp. With GPS support, a decent 3.2 megapixel camera and a good keypad; this phone is priced very competitively at Rs. 27,990. If you're hunting for a good Blackberry phone and the Bold 9000 is a little too pricey go ahead and buy this – it'll more than satisfy.

In conclusion

A lot of phones have very similar feature sets. It seems manufacturers are putting everything they can possibly load into their high-end options – GPS, flash storage, powerful cameras, good PMP capabilities, loads of multimedia and shortcut button and larger displays capable of a wider colour gamut. A few phones stood out from the rest. Motorola's Moto RAZR V8 would be our pick for an urbane user looking for something trendy and chic. For users looking for a

real smartphone with strong multimedia genes and superb all round performance its hard to get any better than Nokia's N96 and N95 8 GB. Such devices have features enough to last you a while and you'll seldom feel the need for an upgrade. One phone that also stood out for its equal orientation towards business and multimedia segments was the Sony Ericsson Xperia X1 – this handset is perhaps held back by the platform its based on, as WM is not known to be multimedia friendly. If you really want the biggest touch screen around the HTC Touch HD is costly but a superb phone with very good all round performance.

For corporate users on a budget we strongly recommend the Nokia E71 – its a big phone with a small price tag and is superbly built. The Blackberry Bold 9000 and Curve 8900 are the best business handsets for corporates willing to spend, Nokia's E75 also bears a mention with its features and performance, but one cannot match the keypads that Blackberry's have and this scores strongly for business users. The fact that Blackberry too is busy adding multimedia features to their handsets speaks volumes for their seriousness to break out of the mould of being "only for business users".

The current recessionary trend notwithstanding, manufacturers are not shying away from offering feature rich, flagship offerings with rocketing price tags.

Obviously there is a certain minimum cost associated with technology; that cannot be done away with, but its emboldening as well as heartening to see such phones actually being released, and even more interesting is the accompanying hype they generate. There are rumours of Apple creating a successor to the iPhone 3G called the iPhone 2009, but details other than support for video recording and

a faster processor remain sketchy. Many thought of Nokia's N97 as a concept phone, but it's actually been released, filled to the brim with features. We'll save being impressed until we get to review it

later this year.

The HTC Touch Pro 2 is another phone worth waiting for, with an amalgamation of the best elements of the Touch HD and the Touch Pro. Sony Ericsson's Xperia X2 is another phone that remains a mystery and it's anybody's guess whether this one will be based on WM 6.5 or feature a Symbian-powered platform. Their Idou has already been announced and with a camera that supports a mind-boggling 12-megapixels; it may well be the next camera phone to buy.

We're already in the age of converged handsets, but those features are getting better by the month. Not that we'll ever run out of things to nitpick about, but each year this test is becoming more fun and more challenging as these devices slowly push the boundaries of our expectancies outwards. **[1]**

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Blackberry Curve 8900

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Mobile Phone Comparison Test

Brand	Company name	Email address	Phone number	Web site
Apple	Apple India Pvt Ltd	-	Contact service providers	www.apple.co.in
ASUS	ASUS Technology Pvt. Ltd.	media_india@asus.com	+91-22-67668800	www.asus.in
Blackberry	BlackBerry	-	Contact service providers	www.blackberry.com
HTC	Jaina Marketing	deepak@jainaindia.com	+91-11-46604660	www.htc.com/in
LG	LG Electronics India Pvt. Ltd.	VivekSingh@lgindia.com	120-2560900/40	www.lgindia.com
Motorola	Motorola India	-	1-800-111-211	www.motorola.com/in
Nokia	Nokia India Pvt. Ltd	-	+91-11-30303838	www.nokia.com
Samsung	Samsung India	sarfaraz.b@samsung.com	+91-11-41511234	in.samsungmobile.com
Sony Ericsson	Sony Ericsson	-	1-800-111-800	www.sonyericsson.com



Indian movies screened at Cannes

Indian movies that were played at Festival De Cannes: Saira (Malayalam), Veyil (Tamil), Dosar (Bengali), Missed Call (English), art-house film Dharm (Hindi)

DVD Player Test

JUST PUSH PLAY

Kumar Jhuremalani

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LCD TV prices have just been dropping off late and are getting affordable. Having a TV with a screen larger than 32 inches might even be considered the new norm these days. A few years ago it would have been a really big deal if you even owned a LCD TV or a plasma for that matter, but not anymore.

Direct to home (DTH) services provide regular entertainment that we need,

but what about those movies that you don't get to watch on popular satellite channels? Most of us desire to watch movies of our choice. More importantly, whenever we feel like it. There are also many of us who actually like to have our own private movie collections. VHS tapes, laser disks were the old school medium for movies. Now people have even moved on from VCDs and now watch movies on DVDs.

So now we have the TV and the movies, so what do we use to play these movies, the answer is obvious – DVD players.

A similar trend has been seen with DVD player prices as LCD TVs. If you walk into an electronics store, you are sure to see a bundled offer such as 'Buy an LCD TV and get a DVD player free!' They have actually become that common, but which one would you purchase for your house. A DVD player should also match your TV and ambience to give an overall good appearance to your living room.

We received two DVD players from Samsung – DVD-H1080 and DVD-P490, two

Your new big screen LCD TV is craving for a source from where you can play your infinite movie collection, but which is the right player?

from Intex - R145 and R175, two from Mitashi – DVB 317 and DHD 911 and one from Moserbaer – MBI 6988G.

Samsung DVD-H1080: Plastic Pebbles

The Samsung DVD-H1080 does not have the rectangular form factor you would normally see in a DVD player. In fact, it has a thin, pebble-type design with a glossy piano black colour. The body is entirely made of plastic which makes this player light – 1 kg. We aren't telling you to lug this around, but having a DVD player so light is definitely a good





20,000 DVDs siezed

Cops in the Killburn area of UK have cracked down on pirates



Paris sued

Vivendi is suing Paris Hilton for not promoting the DVD of Pledge this

thing. This player has three touch sensitive buttons on it – Power, Open and Play/Pause. The touch buttons work well, but there might be an accidental touch when not needed. The good thing about accidental touch is that there aren't enough buttons on the player to mess around.

This player has a USB port, but is located on

128x on this player, but it is only possible while watching DVDs. If you are watching a movie from your USB drive, then you will only be able to get a forward / rewind speed of up to 8x. Some additional features that are present in this DVD player are Bookmark and some image editing. The Bookmark feature would have been useful if the player

you own a nice black LCD TV or any TV, this would look really great along with it. There is a single line green LED display is on the front panel along with the three buttons on this player. The Power button is located on the extreme left whereas the open button and a big round play/pause button are positioned on the right side.

Unlike the DVD-H1080, the Samsung DVD-P490 has the USB port located on the front panel itself, which is the way to go for a quick and effortless plug and play.

The menu layout adopted by this player is different from the Samsung DVD-H1080, as the menu options are arranged more in a vertical manner. Even though the layout is different, most of the features and options are the same in the case of both the players.

This player misses out on the HDMI port, but Samsung has thrown in 5.1 channel connectivity instead. The remote of this player is the same as that of the other Samsung DVD player with all the same options. The bookmark feature is also present on this player and works the same as the other Samsung; slightly incomplete.

We noticed slight over contrasting noticed on some yellows in a scene, but otherwise this player did manage to get really good colours in most of the videos and images. Audio quality was really good and there was minimal loss of sound and a good balance in the low, mids and highs.

Even the USB features along with image rotation is the same. This DVD player from Samsung has all the same features minus the HDMI out, but wins in the looks category.

Intex R-145:

The R-145 is a DVD player which has a USB port as well as a MMC card reader slot.

Grey is the predominant colour on the exterior of this player and the front panel is black in colour.

The buttons are silver in colour and located on this front panel of the player. The power button, located on the left, is one of those push in / out style. The loading tray is next to it, followed by the orange and red text coloured LED display, open button and

the video control buttons - play / pause, forward scan and stop. These buttons are collectively arranged in a square. When a movie isn't playing, these buttons should

actually double up as a way of navigating through menus, but this is not the case here. On the right of the player, is the MMC card reader slot and the USB slot.

The menu layout is simple and easy to understand. You can also adjust the brightness and contrast levels using this player.

Colour presets such as Standard, Dynamic, Soft are also present on this player which can be adjusted using the remote. We received two DVD players from Intex and both their remote controls were identical. The buttons on the remote are not that great to use, the navigation buttons have a bright green colour on them, whereas the actual movie controls such as play,

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Samsung DVD-H1080

the rear along with the other connectivity ports. So the quick plug and play feature will get delayed as you might end up struggling to plug your pen drive into the slot behind.

Along with an HDMI port on the player, Samsung has also provided an HDMI cable for use if you don't already have one. However, we noticed a problem with the HDMI port – the display started flickering when we connected via an HDMI cable. We also used another cable, but the problem persisted. This might be a manufacturing defect or it could be a problem with this particular piece we received. 5.1 channel connectivity is missing from this player.

The remote provided with this player is the same as that in Samsung DVD-P490. It has a small form factor, which is easy to grip. However, while holding the remote you might not easily be able to reach the buttons located towards the lower end. This remote does not have any number keys which most of the other remote controls we saw had. We feel this remote had the right number of buttons which related to the appropriate task at hand. There is also a dedicated button for USB, which allows you to conveniently switch between DVD and USB.

You can fast forward or rewind with a speed up to

had more of a dedicated memory as you can only bookmark what you are currently watching. If you remove the current DVD, your bookmarks get erased. You can easily view JPEG images on this player either by burning them on a CD or the more convenient option would be to load them on your pen drive and plug it in. The folder options are pretty easy and straight forward for the USB menu and navigating through them is equally easy.

Watching videos on this player was truly comfortable. The colours were reproduced very well, though the colours were a bit on the warmer side with this player. Images were best reproduced on this player. The greens looked great on this player.

Samsung DVD-P490: The Black Stretch

The Samsung DVD-P490 has a rectangular form factor, the only difference here – the depth is much less and this player is pretty long, as compared to the others. Another thing we like about both the Samsung products is that they are absolutely black in colour. If



Samsung DVD-P490

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Intex R-145

pause, skip, etc. do not have any colour variations. This control has numbers on it to skip between tracks or chapters. But this is only possible with DVDs as it was not with VCDs. The Samsung players, on the other hand, were able to skip between chapters or scenes even with the same VCD.

The R-145 was able to play the VCD and DVDs with ease, but when it comes down to quality there was slightly more over contrasting observed in some of the scenes. The colours were on the warmer side. The player was also able to decode



Flight 666
Iron Maiden's flight 666 is going to release on 09/06/09.



Great Jail
Robert Kijanka, a deputy was arrested for smuggling in Porn DVDs into Juvenile Prison



DVD Sales rise
The Multiplexes striking against bollywood movies has driven DVD sales up

DVD Player Test

some high resolution jpeg images with ease and there was no apparent pixelation, but with one of the images, there was slightly more over contrasting than the others.

A problem we noticed with this player is that it cannot switch between a disc (DVD or VCD) and the USB, as only one will be active at a single time. To use your USB drive you will need to eject the CD that is currently loaded. Another small annoyance was that every time you choose to play something using a USB drive, this player will automatically start autoplating from the first thing.

Intex R-175: The Red Eye Effect

The Intex R-175 is the slightly better version of the R-145, with a different overall look, but almost similar performance. The exteriors of the player this time have a black matte finish with a horizontal silver-grey line running through the front panel. The buttons are front facing and the tray is a cassette loading style. This time around the power button is not that in-out style which is a good thing, but along with this the other buttons, they are hard and you have to really put an effort to push them. The USB slot and card reader slot, both, are located on the front panel and along with MMC, this player also supports SD and MS cards. One really bad thing about this player is the standby light indicator which is red in colour. This light is just glaring at you and will distract you while watching movies. This is something that really needs to go.

The menu system and setup is the same as the Intex R-145



Intex R-175

and so is the remote. But when it comes to the video quality of this player, it gave us more of a dark colour output. In the scene with an explosion,

this player gave us the best segregation between the different colours in the flame. The images when viewed with this player were on the cooler side with great reproduction of the green colour.

The same problem of switching between the CD and USB was also observed with this player. But the overall experience with this player was better than the Intex R-145.

Moserbaer MBI 6988G: Smooth Success

From Moserbaer we received the MBI 6988G DVD player which really different looks in comparison to the others. To start off, this player is the only player with a detachable power cable, it's not a great feature but it is worth a mention and will help clean up cable jumbles more easily. The

player is predominantly black with a gun metal



Moserbaer MBI 6988G



colour three sided border. The front facing side on this player is rounded off, but the disc tray which is bang in the centre disrupts the effect of the border in our opinion.

Along with the rounded design, the orange LED with a blue background adds to low visibility of that one line display with light and other reflections. If the room is dark there won't be any problems with this display. The USB and Card reader slot are located at the back of this player. We notice this has also been the case with the Samsung DVD H1080, mostly done to preserve that rounded edge look and not have anything sticking out from it. Additional to the USB and

Card slot, this player also has a Microphone In so that you can use it as a Karaoke player. Karaoke is a really fun past time and is a great addition to any party or even to a family gathering.

There are only three buttons on this DVD player - Open, Play and Stop. There is not Power button on the player itself. We feel this to be a bad thing as if the remote breaks or gets misplaced there will be no way to start this player.

The interface is very similar to that of the Intex DVD players as Moserbaer has adopted the same colour scheme and all the same menus except for one addition - Mp4 Sub menu. The remote control with this player is full length and has better button segregation, but has stuck with the old numbers on the remote, instead of avoiding them, as was the case of the remote controls with the Samsung DVD players.

With the MBI 6988G you can plug in your USB drive and switch between DVD and USB, but the process is slightly longer than the dedicated USB button present on the remote of the Samsung DVD players. In Moserbaer's case, you need to first hit the Source button on the remote and then select USB. Then the player searches for devices attached and then you have to select USB1 which will be displayed on the screen.

A slightly longer procedure, but atleast you don't have to eject your DVD as is the case with the Intex DVD players.

The video quality of the MBI 6988G was average and not very impressive. We observed the greens to be on the dull side while watching movies and the red of the blood scene was slightly on the dull side too, but the flames in the explosion were on par with the Samsung DVD H1080 and better than the Intex R-145 and the Mitashi DVD players.

Mitashi DVB 317: Compact and Slick

The Mitashi DVB 317 is one of those DVD players with a shorter length as compared to the others, but with the same depth. This of course is not taking the Samsung DVD H1080 into consideration with it's unique design.

What's missing from this player in comparison to the other Intex, Moserbaer



Mitashi DVB 317

and the Mitashi DHD 911 is the memory card slot. The Samsung players were not mentioned as they too did not have the card reader option.

The USB port and the buttons of this player are located on the front facing panel itself. This player is black in colour except for the front panel which is silver in colour. The buttons on this player are located towards the right of the player and have been designed to be placed in a single line next to each other. The buttons aren't that good, they are rather 'clicky' and on the harder side when you push them.

The CD tray on the DVB 317 emits a blue light when powered on. This light continues to be on until the power button is pushed, which on this DVD player is the push on / off style, similar to the Intex R-145. The blue light might be distracting to some as it is constantly on, but it is not as distracting as that single red dot when powered on with the Intex R-175. This blue light does not



Mitashi PH-2000

go off even when you press the power button on the remote, so you have to manually push the power button on the player itself to turn off the light.

The video quality of this player is slightly better than the Mitashi DHD 911, but could not match up to the Samsung DVD H1080. Shades of green were blending together in a scene. There was visible pixelation in the images that we used for testing. This player seems to favour widescreen images



BluRay rentals

Movie Mart has plans to rent and sell Blu Ray discs in India

TOSHIBA

Toshiba loses lawsuit

Toshiba sued MoserBaer India and several other DVD manufacturing companies over patent infringement. The lawsuit was over the design of recordable DVDs, Toshiba lost.



DVD Players							
Brand	Intex	Intex	Mitashi	Mitashi	Moserbaer	Samsung	Samsung
Model	R-145	R-175	DVB 317	DHD 911	MBI 6988B	DVD-P490	DVD-H1080
Price (Rs)	2,700	2,800	2,890	3,990	2,350	4,490	5,900
Grand Total (Out of 100)	61.92	65.64	63.36	63.79	67.01	60.56	62.48
Features	33.72	36.6	36	36.6	38.88	31.2	32.64
Performance	28.2	29.05	27.36	27.19	28.13	29.36	29.84
CONNECTIVITY							
Audio Connects (Y/N)							
Separate RCA (Stereo)	✓	✓	✓	✓	✓	✓	✓
5.1 channel	✓	✓	✓	✓	✓	✓	✗
Coaxial (SP/DIF)	✓	✓	✓	✓	✓	✓	✓
Optical	✓	✓	✓	✗	✓	✗	✗
VIDEO CONNECTS (Y/N)							
S-Video Out	✓	✓	✓	✓	✓	✗	✗
Composite Out	✓	✓	✓	✓	✓	✓	✓
Component Out	✓	✓	✓	✓	✓	✓	✓
VGA Out	✗	✗	✗	✗	✗	✗	✗
DVI Out	✗	✗	✗	✗	✗	✗	✗
HDMI Out	✗	✗	✗	✓	✗	✗	✓
Miscellaneous Connects (Y/N)							
USB	✓	✓	✓	✓	✓	✓	✓
SD/MMC/MS reader	MMC	MMC	✗	MMC / SD / MS	MMC / SD / MS	✗	✗
Microphone in (Karaoke)	✗	✗	✗	✗	✓	✗	✗
Tray Loading Type (Cassette/Slot)	Cassette	Cassette	Cassette	Cassette	Cassette	Cassette	Cassette
Features (Y/N)							
Progressive Scanning (Y/N)	✓	✓	✓	✓	✓	✓	✓
Audio CD Ripping	✗	✗	✓	✗	✗	✓	✓
Password	✓	✓	✓	✓	✓	✗	✓
Parental Lock	✓	✓	✓	✗	✓	✓	✓
Max HD resolution natively supported	NA	NA	NA	1080p	NA	NA	1080i
Formats Supported							
Audio	MP3	MP3	MP3, WMA	MP3	MP3, WMA	MP3, WMA	MP3, WMA
Video	DivX, MP4	DivX, MP4	DivX, MPEG-4, HDCD	DivX, MPEG-4	DivX, MPEG-4	DivX, MPEG-4	DivX, MPEG-4
Still Image	JPEG	JPEG	JPEG	JPEG	JPEG	JPEG	JPEG
Bundled Cables	Composite + Audio Cables	Composite + Audio Cables	Composite + Audio Cables	Composite + Audio Cables	Composite + Audio Cables	Composite + Audio Cables	Composite + audio cables, HDMI cable
Performance							
Time taken for DVD to load (sec)	13.7	13.8	15	19	13.1	15.7	18.1
Video Performance (So 10)							
VCD quality (Avg Score)	6.5	6.5	6.5	7	6	6.8	7.3
DVD quality (Avg Score)	7.2	7.6	7.1	6.5	7.2	7.8	7.5
Audio & Photo Quality (So 10)							
MP3 (320 kbps)	7	7.5	6.5	7.5	7	7.5	7
Photo Quality (JPEG)	7	7	6.75	6.75	7.25	7	8



DVD player baffles rocket scientists

The astronauts in the space shuttle Atlantis mission to fix the Hubble telescope, couldn't get a DVD player to work. The problem was that they didn't have any software installed, and Houston couldn't beam one up to them.

Big market

The estimated DVD player market in India is estimated to be around 50 Lakhs per annum by market leaders

DVD Player Test

with resolutions such as 1366 x 768, as the pixelation reduced when we used that.

Mitashi also sent us the PH 2000 2.1 speaker system that will give you better sound quality than your TV. But when we tested the quality we found that at some points the highs were overpowering the midrange and also the lows were not impactful or powerful enough.



Mitashi PH-4050

Mitashi DHD 911: The cops are not coming after this one

When we did our last DVD player test, this model turned out to be the victor, but we really wanted to see how well it will stand up to the new contenders. The physical appearance is the same as the Intex R-145, with only a different colour scheme. Now which brand has copied which is something we can't really say, but it sure does look like there has been some copying here. The body of this player is silver-grey in colour whereas the front panel is black, similar to the R-145. Mitashi has stuck with the blue light display emitting of the CD tray with this DVD player as well.

The design and layout of the buttons on this player are identical to that of the Intex R-145. Even the quality of these buttons is the same, where you have to apply more force to these hard buttons.

HOW WE TESTED

Physical Appearance: Aesthetics was a big plus

Connectivity: Being able to connect your TV to your player and sound system easily is what we were looking for. Composite, Component, 5.1-channel audio ports and HDMI ports were the most looked for. Having HDMI connectivity is great as it eliminates the use of RCA and composite cables or component connectivity as both audio and video are passed through one cable. S-Video port, VGA port and DVI port is an addition for those who wish to connect their PCs to their DVD player. All the DVD players we tested came with USB ports and most of

them also came with memory card support. This is a big advantage as you can watch movies straight off your pen drive or memory card.

VCD quality: Even though once you own a DVD player you wouldn't want to look back and purchasing movies on VCDs, but for those with an existing VCD collection, you can also play your VCDs on DVD players. We observed scenes from the movie *Reindeer Games* in which, there are scenes where different shades of green are distinguished, and the other colours are also visible.

DVD quality: We used two movies for this part of the test — *Good Will Hunting* and

Crash. In *Good Will Hunting* we observed the colours of city life in general and in *Crash* the main explosion was noted for all the DVD players.

Audio quality: We tested 320 kbps MP3 tracks to see the difference in the highs, mids and lows to see if different players would reproduce these tracks differently.

Additional features: The more features the better we always say. But there are some things a DVD player needs to have, like easy navigation through its menus, a good USB interface for those with USB ports and other features such as karaoke is also a bonus.

The remote control provided with this player differed from the Mitashi DVB 317 but had really tiny round buttons on them and was not good to use. The layout of the menu system of this player was not good at all, the colour scheme selected was just not working correctly and did not look pleasant to the eye. Navigating through the USB menu was a real bad experience as the files were all over the place and were not categorised in the folders they were put in.

Mitashi also sent us the PH 4050 5.1 home theatre speaker system along with this player.

The satellites of the speaker were small and shaped like squares, while the subwoofer was slim. The subwoofer had its own LED display and remote control from where you could adjust the bass and overall volume.

While listening to our test tracks we found the bass too loose and the mids were not that pronounced.



Mitashi DHD 911

While watching videos we observed that different shades of green were getting blended together and like the Mitashi DVB 317 there was clear pixelation when we were viewing some high resolution images. Similarly, when we saw the same photos in a wide screen resolution such as 1366 x 768, the pixelation was greatly reduced.

The only additional feature going for the DHD

911 is the provision of an HDMI port and a card reader slot which is absent in the Mitashi DVB 317.

The final verdict

Now you should have a pretty good picture of what each of these DVD players are offering but which is the best one suited for you. The last time we had this test the Mitashi DHD 911 was the best, but this time the overall winner was the Moserbaer MBI 6988G as it struck a good balance between features and performance, but it misses just one important factor and that is the HDMI out, which could be overlooked especially with a price tag of Rs. 2,350, but we wouldn't really suggest you go for the 2.1 speaker system that Moserbaer sent with this player though even if it cost Rs. 2,500.

If you are looking for performance at its finest then we suggest you go for the Samsung DVD-H1080 as even though it is small and compact it packs quite a punch. But if you are going to buy this player you really need to accept the shape it comes in as well as the price of Rs. 5,900.

The value for money award also goes to the Moserbaer MBI 6988G as this one provides the goods along with the price too.

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Samsung	Samsung India Electronics Pvt. Ltd.	011-41511234	shailja@samsung.com	www.samsung.com/in



ASUS EAH4770

ASUS has announced the launch of their latest card: EAH4770 which will be available for about Rs. 7,250 through their distributors – Rashi Peripherals

Bonus movies

Logitech is offering a special three movie DVD set till the end of June, which includes *delhi-6*, *Rang De Basanti* and *Guru* with any of these 2.1-speaker models: R-20, Z4, X-210 and X-230

Genelec 6010A and 5040A

Supreme performance, but at a price

We've reviewed numerous speakers in the past, and there have been so many for desktop users, some for home theatres and then many more for movie and gaming fanatics. We've had huge and powerful surround-sound speakers that have kept us happy for a bit. However,

speakers – how many speaker sets can claim that? The speakers accept RCA connects for input and the 5040A sub-woofer can support a 5.1 setup. The driver on the 5040A is a downfiring one and the satellites have a 2-way setup.

Setting up the speakers is simple, but tweaking them will

adjusted to have a smoother boomy sound, but it still gives you a very tight bass sound – beats from the really fast double bass drumming was accurate, with the bass drum tone intact.

We also heard some live performance recordings from The Corrs and Eric Clapton. The voices sounded very clear and it was easy to hear faint sounds from the audience in the background as well as the breath of the singers every now and then.

The performance is absolutely stunning and details that were never heard before were now audible. It's hard to find any kind of distortion in the sound on any track, irrespective of the set volume. Another impressive feature of the Genelec 6010A speakers is the performance at low volume. Because of the way the speakers are designed, it's possible to turn the volume low and still get extremely detailed sound.

If you want window shattering power from speakers stand several feet in the air, then these are not for you. These speakers are made for those who appreciate quality, have an ear for detail, and want exact reproduction of the sound source – like the mix artists in a recording studio.

Another plus with active speakers is that you don't need a separate amplifier, which results in a more compact setup.

All that quality and performance comes at a price though. Each Genelec 6010A satellite cost Rs. 24,752 and the 5040A subwoofer is another Rs. 49,505. The subwoofer is highly recommended if you want that extra punch. If you're looking for 5.1 setup, then be ready to shell out in excess of Rs. 1,50,000. Hey, you can't expect studio quality sound for cheap.

More powerful models are also available from Genelec, and we'll try to get those in for review as well, so stay tuned.



in the past few years, there has been something missing. Speaker manufacturers seem to be focussing on regular product releases. Very few speakers are striking enough to leave a mark. That's about to change.

For those unaware of the brand, Genelec is a studio-class monitor speaker manufacturer and the 6010A satellites are one of the active speakers for the serious music enthusiast. These can be used in your home theatre setup or even as a desktop set for the PC. We also received the 5040A sub-woofer to provide the lower end of the audio spectrum.

These speakers haven't been designed to look flashy or fancy, but they're elegant, and designed for one reason only – to sound good! The satellites are made up of a treated aluminium shell – the feel is almost like an earthen pot. The 6010A satellites sit on a rubber stand that ensures the speakers don't move and vibrate. The stands also let you adjust the angle of the speaker.

Being active speakers, each speaker has its own separate power cable and a separate amplifier, built specifically to the driver and tweeter inside the

take more patience. There are control switches at the back of each satellite and also on the woofer. There's a set of switches for bass tilt, right next to tiny volume dial and power on/off switch. The woofer has roll off and phase switches for tweaking so that your room characteristics do not drastically change the sound coming from the speakers.

We tried all kinds of music after our set of frequency sweep tests. There was no distortion through the sweeps. For the music part of the test, high-quality tracks from Opeth, Dream Theater and Between the Buried and Me were used. The recordings of these artists are said to be very good. Each of these artists are made up of guitarists, a bassist, a drummer and also a member playing the synthesiser. Even with so many instruments playing, there was very clear separation of each instrument at all volumes. The guitars with distortions have a very sharp, gritty sound with just the right amount of treble in it.

The mellow bass slides can be heard sounding from the woofer. The bass can be

Contact

Pandam Professional Audio

Phone: +91-98673 45336

Email: pandam@pandamaudio.com

Web site: www.genelec.com

Price: Rs. 24,752 per 6010A satellite, Rs. 49,505

for the 5040A subwoofer

Specifications

6010A

Power output: 24 W

Frequency range: 74 Hz – 18 kHz

Dimensions: 181 x 121 x 114 mm,

Weight: 1.4 kg

5040A

Power output: 40 W

Frequency range: 35 – 120 Hz

Weight: 6.3 kg

RATINGS

Features	9
Performance	9
Build Quality	9
Value for money	5
Overall	8

Kingston

Has recently announced the inclusion of 8 GB and 16 GB cards to their range of microSD High-Capacity cards meant for mobile storage

Autodesk update

Autodesk Smoke and Flint 2010, software for editorial finishing and visual effects, now available in India along with Autodesk Lustre and Incinerator color grading software extension packs available to Autodesk subscribers

Bazaar

Iomega Prestige Portable 250 GB

Metal gear

Hard drive capacities continue to rise. The requirements of most people is still limited to moving data that wouldn't fit into flash drives. Now, customers want more than just capacity. Design and quality of the drive comes into the picture. The Iomega Prestige Portable 250 GB is a drive that seems to fit this gap.

The Iomega Prestige series drives come in brushed metal cases. It makes the drive really sturdy, but it isn't very heavy either at 190 grams. Although this is one of the premium drives from Iomega, there is no Firewire or any other faster connectivity options available.

Synthetic tests show that the Iomega drive is very capable of performing. We used SiSoft Sandra and all the read speeds hovered around

the 30 MBps mark which is pretty good for a portable drive. HD Tach too supported the same scores. The speeds are right on the edge of the peak performance of USB 2.0. CPU utilization numbers are pretty high at around 9 to 10 per cent through the tests.

In the real-world tests, the drive can write 4 GB sequential file rounds at around 24 MBps. Write speeds are around 20 per cent slower than read. Internal file copy commands take almost double the time which is expected from portable hard drives. Speeds while copying data from the portable drive to the internal one went up to 31.5 MBps which is really good as well.

When performance figures are compared, then the Iomega Prestige drive is at par with the faster drives

from the hard drive test in April. The price of Rs. 3,800 is pretty good as you aren't paying a lot more.



Contact

D.R. Baskaran

Phone: +91-98410 22940

Email: baskaran@iomega.com

Web site: www.iomega.com

Price: Rs. 3,800

Specifications

Capacity: 250 GB

Speed: 5400 rpm

Cache: 8 MB

Dimensions: 130.6 x 80 x 15.5 mm

Weight: 190 g

RATINGS

Features	7
Performance	8
Build Quality	8.5
Value for money	7.5
Overall	8

ASUS Bamboo U6V

Serious styling, decent performance

Contact

ASUS Technology Pvt. Ltd

Phone: +91-22-6766 8800 /
1-800-209-0365

Email: media_india@asus.com

Web site: www.asus.in

Price: Rs. 1,10,000

Specifications

Core 2 Duo P8600 @ 2.4 GHz

Display: 12-inch WXGA LED
backlight

Memory: 4 GB DDR II (2GBx2)

Graphics: NVIDIA 9300M GS
256MB

Weight: 1.57 kg

The lid of the ASUS Bamboo U6V is made of bamboo, which gives this laptop a unique artistic feel. Once you open the lid, the palm rest as well as the trackpad are both made of bamboo. Though there is a slight noticeable difference between the wood used on the palm rest and the trackpad.

The response of this trackpad wasn't great. Even the

buttons on the trackpad are made of bamboo, but they lack feedback. A USB mouse, also made of bamboo is included. The keys on the right of this keyboard, such as the arrow keys, get squished. The layout on the Dell Studio XPS 13, for example, is better. Of course, there are no unusable keys, and the keyboard feedback is decent.

The Bamboo comes with a bright 12-inch, 1280x800 WXGA LED backlit display. The viewing angles on this laptop

are not very good though.

With the Intel Core 2 Duo P8600, 4 GB of DDR2 memory and an NVIDIA 9300M GS graphics our benchmark results from PC Mark 05 (5141), 3D Mark 05 (3184), SiSoft Sandra, Cinebench (4662), Doom 3 (93 fps) and Far Cry (189.69 fps) were very promising. The Dell Studio XPS 13, in comparison, had scores of 88.2 fps in Doom 3 and 164.12 fps in Far Cry.

The 4800 mAH battery pack supplied with this laptop sticks out from the rear of this laptop but lasted for a total of 2 hours and 10 min., which is good as we tested it under high performance mode with full brightness.

The ASUS Bamboo U6V is unique. It's compact and weighs 1.57 kg and the performance of this laptop is also good as is the hardware it packs. So if you're looking for something that is light, will make many heads turn and at the same time has some great hardware.

RATINGS

Features	7.5
Performance	8
Build Quality	8
Value for money	5.5
Overall	7.5





All Gigabyte X58 motherboards now officially support NVIDIA SLI Technology

Need for speed

A-DATA reveals new line of products, including the highest speed compact flash card and new SSD drives at COMPUTEX Taipei 2009

Intel Dot Station

Great option for educational institutes

The Intel Dot Station is a desktop PC aimed at customers with an extremely low budget. It's a no-hassle PC from the looks of it.

The PC comes in a package the size of a monitor. The display is a 14-inch CRT and all the components are enclosed in the

case. The design looks like an old Mac. There is a fan to blow air off the top of the case, which cools most of the enclosure. The bottom of the case gets hot though. There's also a phone attached to the PC.

We received a low-end version of the Dot Station. The system configuration is outdated, but the system is targeted at users who don't necessarily have present day requirements. No operating system comes pre-installed, so you'll have to install your own. The 10 GB hard drive will let you install basic software. An option for an 80 GB hard drive is available for those who want more space.

A USB keyboard with a trackpad is supplied with the Dot Station. It's

compact, and is good enough to type mails or browse. The only irritants are the non-standard positioning of the [Esc] and function keys.

Obviously, our current day benchmarks wouldn't run on the system. With only 10 GB of disk space, we tried to copy files using USB and the speeds were slow – it took over an hour to transfer a 4 GB file over the USB 1.1 port.

The speakers on this machine are pretty good and despite its limited power, it plays standard definition DivX movies easily.

For everyday all-purpose use, we wouldn't recommend this. There are far superior desktop configurations that you can get for a little over Rs. 12,000.

However, at Rs. 6,500, the Dot Station is built for those who just cannot afford a Rupee over this price, or for computer labs in schools to introduce their students to PCs.

Contact

ThinPC Technology Pvt Ltd
Phone: +91-22-2859-2822 / 2859-2824

Email: info@thinpc.co.in
Web site: www.tinypc.co.in
Price: Rs. 6,500

Specifications

Intel Pentium III 600 MHz, i810 motherboard, 256 MB SDRAM, 10 GB HDD

RATINGS

Features	6.5
Performance	4
Build Quality	6.5
Value for money	8
Overall	6

Canon PowerShot SX10 IS

Sniper-scope grade zoom

Contact

Canon India Private Limited
Phone: 1-800-180-33-66
Email: info@canon.co.in
Web site: www.canon.co.in
Price: Rs. 25,995

Specifications

10 MP, 1 / 2.3-inch CCD sensor
20x optical zoom (28 - 560 mm)
2.5-inch LCD
Shutter speed: 15 - 1/3200 sec
Aperture range: f2.8 - f5.7

Canon's new SX10 IS is a 10 MP camera with an enormous 20x optical zoom that makes it perfect for telephoto shots.

It's a little larger than most point-and-shoot cameras, and features a provision to mount a flash. There's a foldable screen, which makes taking photos in awkward angles very simple, but it's only a 2.5-inch. The camera is powered by four AA batteries that significantly increase its weight. The body feels heavy, but the side of the hand grip doesn't feel very sturdy.

With this kind of zoom, the image stabilisation has to be good. The SX10's image stabilisation works well on really close range shots, but at the telephoto end, things get out of control. The in-built flash is powerful and useful to light up large areas. The focus-assist light is also powerful.

The SX10 has a nice set of additions. The dedicated video recording button is one of them. The image preview buttons are lined up neatly on the right side of the camera.

Enhancements in the interface are in the form of animations for changing aperture size and shutter speed.

Image quality is decent in well-lit areas, but turning the ISO level up beyond 800 adds a lot of noise to the image. Below is 800, the grain is within acceptable limits. Colours look normal and clicking macro photos are easy. Images aren't as crisp as expected at optimum lighting conditions. In low-light scenes, we had some problems focussing. With it's huge zoom, the motor adds a little vibration while shooting.

Although the huge zoom is very rare to find in a camera, it's not impressive either. The use for 20x optical zoom isn't very necessary for every user but it's a nice thing to have. Rs. 25,995 is still a decent price keeping in mind everything about this camera.

RATINGS

Features	8
Performance	7
Build Quality	7
Value for money	7
Overall	7



Nettop galore!

Airtel launched a net PC featuring a 15-inch LCD, keyboard, mouse and cloud-based storage of 10 GB. Airtel internet packages range from Rs. 699 to Rs. 1,199 per month

Android OS 2.0

Android OS 2.0 with added multimedia support and new features will soon be seen on Sony Ericsson phones.

Bazaar

ATI Radeon HD 4770

The budget performer

Here's the latest from the AMD labs - The ATI Radeon HD 4770, which has the world's first 40-nm GPU, codenamed the RV740.

With a 40-nm GPU, the card works out more economical for AMD to manufacture. The PCB of this card is an inch shorter than the HD 4850, but due to ATI's cooling solution for this card, it still takes up two I/O slots.

We used an Intel QX9650 GHz and 4 GB of DDR2 memory at 1066 MHz. We tested the games at these resolutions: 1600 x 1200 and 1920 x 1440, with 4x AA and 4x AF, out of these *Crysis* gave us the lowest scores - 14 and 11 fps (as expected). We also tested *Doom 3*, which gave us fps almost touching 150 fps,

Prey giving us about 75 fps at the higher settings, *Unreal Tournament III* gave us 42 fps at the higher settings. *F.E.A.R.* barely went over 62 fps whereas *Company of Heroes* gave us 104.8 fps on the higher settings. These results clearly show that even though this card will not give you the best performance at higher resolutions for all games, it will give decent results at resolutions up to 1280 x 1024.

Not everybody is after building the world's fastest PC, but there are people who still want to just upgrade their rigs without actually spending too much. For people looking to buy a graphics card with a budget of not more than Rs. 8,000, this is the card to go for.



Contact

AMD India

Phone: 1-800-425-6664

Email: fusion.india@amd.com

Web site: www.amd.com

Price: Rs. 7,999

Specifications

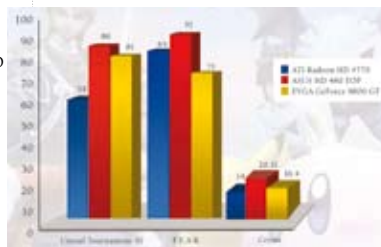
Stream Processors: 640

Core Clock: 750 MHz

Memory Clock: 800 MHz

Memory Size: 512 MB

Memory Interface: 128-bit GDDR5



RATINGS

Features7
Performance7.5
Build Quality7.5
Value for money8
Overall7.5

Gigabyte EG45M-UD2H

Small but pricey

The layout of the EG45M-UD2H is such that it fits all the necessary elements within its mATX form factor. There's only a single PCIe slot, so no SLI.

The expansion slots include a PCIe x1, PCIe x16 and two PCI slots. This board has the usual connects such as USB, e-SATA and FireWire, but also offers VGA, DVI as well as HDMI-outs. The HDMI-out comes in really handy if you have a big LCD TV you want to hook up to your computer.

We tested the performance of this board with an Intel QX9650 3.0 GHz, 4 GB of DDR2 memory and used the integrated graphics, which in this case is the Intel Media Graphic Accelerator X4500 HD. We compared this motherboard to the MSI P7NGM Digital which was the best performer of our last motherboard

comparison test with integrated graphics.

The EGM45-UD2H is not one of the best performing motherboards. Priced at Rs. 9,900 this motherboard is just too expensive to be an mATX HTPC, and is also too expensive to be a regular system. The ZOTAC and MSI motherboards we compared this board to, make a better buy as they are priced also much lower at around Rs. 6,000.

	Gigabyte EG45M-UD2H	MSI P7NGM Digital
PC Mark 05	7477	5802
3D Mark 05	2185	2684
Video Encoding - 100MB (sec)	69.9	68
Doom 3 (640x480 / 1024x768)	32.5 / 24	56.2 / 32.4
CoH (800x600 / 1280x1024)	26.9 / 16.9	19.5 / 13.1



Contact

Gigabyte Technology Co. Ltd

Phone: +91-22-4063 3222

Email: viveks@gigabyte.in

Web site: www.gigabyte.in

Price: Rs. 9,900

Specifications

Northbridge: Intel G45

Southbridge: Intel ICH10R

Intel Graphics Media Accelerator X4500HD

ALC889A HD Audio

RATINGS

Features7.5
Performance7
Build Quality7
Value for money6
Overall7



HP announced the launch of Pavilion P6000 series PC with 'Eye Candy' looks. Price starts at Rs. 29,990

PSP games online

If rumours are to be believed, Sony will soon launch a digital download service for PSP users. Sony is expected to make a big announcement at E3 Expo

Cooler Master UCP 1100

Knight in silver armour

Lets face it – 1 plus kilowatt power supplies are a rare sight in our market. The use of these high-powered boogie knights is doubtful as well since no system, however powerful uses even 75 per cent of the power they can deliver. Even an Intel i7 965 Extreme with two GeForce GTX 295 graphics cards and other suitably powerful components would barely consume close to 550 W making a 1100-W PSU an unnecessary beast. However, if you've got the money to burn for sheer bragging rights, we reckon a 1-kW PSU should be pwnage enough.

UCP is an acronym for ultimate circuit protection. In keeping with this bold title, this PSU series has a number of enhancements aimed at providing a stable and reliable power supply to the most demanding of components. This PSU is longer than most power supplies so make sure your cabinet has enough room before purchasing. The surface is matte-coated and this gives a rugged, industrial-grade look. The gauge of metal used is thicker than most other PSUs around, but is not as thick as the sheet used on the Corsair HX series. The word *Ultimate* is emblazoned on the sides of this unit in white, a stark

contrast to the all-black body. However, once inside a cabinet this will not be visible. A 120-mm, speed regulated fan keeps the assembly cool. One minus is this PSU isn't modular. Add to that the high power rating i.e. more cables for more components and you have a huge bunch of cables coming out of the unit that will mostly hang around uselessly, blocking airflow inside your cabinet. However, neat cable management will minimise this effect, but for such a high-end, 80 plus silver rated PSU, we'd prefer a modular design.

One of the advertised features is the in-built soft-start circuit, (something that Corsair's HX series also features), that delays the rush of current into the unit as soon as it is switched on to prevent damage. It features active PFC as you'd expect from a high-end PSU. CM also advertises the use of Japanese capacitors. This is good for reliability and longevity. The 3.3v and 5v rails utilise only solid-state capacitors. Internally, the unit is well designed with all components streamlined to allow airflow through the PSU chassis and out from the honeycomb grille at the rear. Unlike some other models there is no venting on the sides a good thing since there is no

hot air that can get diverted back into the cabinet thereby increasing ambient the temperature.

We tested this PSU with a Core i7 965 Extreme, 6 GB of RAM, 3 x 500 GB hard drives and two overclocked NVIDIA GTX 295 graphics cards and we found absolutely stable voltage ratings throughout our tests on idle and load.

Rails	Idle (v)	Load (v)
12v	12.02	11.98
5v	5.03	4.99
3.3v	3.31	3.29

Impressive figures and its mighty efficient too. As you can see there is hardly any voltage swing from the power supply going from idle to load and this is the mark of a quality PSU. Priced at Rs. 17,000, the UCP 1100 is expensive, but not as much as the components it will be protecting.

It has competition from Corsair's HX 1000 which is possibly as well-built, but this one offers a slightly higher power rating and is slightly more efficient. We lament the high price though and recommend this only for super-enthusiasts who will moolah to burn.

Contact

Cooler Master Co. Ltd.

Phone: +91-9833870302 /
+91-94225 01592

Email: tanmay.l@
cooler-master.com

Web site: www.cooler-master.com

Price: Rs. 17,000

Specifications

Power rating: 1100 watts

Maximum rating: 1300 watts

3.3v rail: 25 amps

5v rail: 25 amps

12v rail: 100+ amps

Weight: 3.66 kgs

RATINGS

Features8
Performance9
Build Quality8
Value for money.....5
Overall7



Photographs: Manas Parekh

DDR3 around the corner

Strontium has launched its DDR3 memory modules in India aimed at gamers.



Microsoft's new BlueTrack Technology will now be seen on their new products: Wireless Mouse 6000, Wireless Mobile Mouse 6000 with a nano transceiver, Wireless Mouse 5000 and Wireless Desktop 3000

Bazaar

Palit GeForce GTX 275

Two fans are better than one

NVIDIA and ATI are still at it, trying to outdo the other. NVIDIA came out with the GTX 285 and GTX 295 cards and then ATI came out with the 4890, which was actually a pumped up version of their 4870. However, now there is a new player in the market, the GTX 275 which is a card midway between the GTX 260 and the GTX 285 and was launched by NVIDIA for the sole purpose of competing with the HD 4890.

The GeForce GTX 275 has the same number of stream processors as the GTX 285 – 240, but the memory configuration is equal to that of the GTX 260 – 896 MB.

Palit did something very different with their version of the GeForce GTX 275, they replaced the reference cooler design from NVIDIA with a dual 80-mm fan cooling

solution. This would normally be seen a few months after the launch of a new card, but Palit has done it right from the start. The outer housing of the card, that holds the 80-mm fans, is made of not-so-good quality plastic, but it serves the purpose of just holding everything in place at least.

We benchmarked this card using an Intel QX9650, running at 3.0 GHz and 4 GB of DDR2 memory at 1066 MHz. We used two resolutions with our game benchmarks – 1600 x 1200 and 1920 x 1200; both resolutions with 4x anti-aliasing and 4x anisotropic filtering. In comparison to a GTX 285, this card does fall short; but it outperforms a 4890. We got higher scores in all the benchmarks we ran which included PC Mark 05 (Graphics: 15579), 3D Mark Vantage (P13585), Doom 3



(181.5), Unreal Tournament III (139), F.E.A.R. (196) and Crysis (19).

This card falls under the high-end category and if you intend to purchase a high-end card on a budget under Rs. 20,000 then you should not look any further. A Radeon HD 4890 will cost about Rs. 19,000 in comparison, this would be the better buy among the two.

Contact

Tirupati Enterprises

Phone: +91-93392 07519

Email: mail@tirupati.net

Web site: www.tirupati.net

Price: Rs. 16,000

Specifications

240 Stream Processors

Graphics Clock: 633 MHz

Processor Clock: 1404 MHz

Memory: 896 MB GDDR3

Memory Clock: 1134 MHz

RATINGS

Features	8
Performance	8.5
Build Quality	7.5
Value for money	8
Overall	8

G DATA InternetSecurity 2009

A suprisingly good antivirus suite

Contact

ACI Infocom Ltd.

Phone: +91-22-4037 1999

Email: gdatasupport@aciinfo.com

Web site: www.gdatasoftware.com

Price: Rs. 1,500

Requirements

Windows XP/Vista
512 MB RAM

G DATA is a German company and their latest product – InternetSecurity 2009 is one of the latest security suites to hit the Indian shores.

At first glimpse, everything expected in a good security suite is present in the main menu itself. The antivirus component has two virus detection engines. You can choose to use both the engines or just one.

Instant messenger integration is one of the other features. It even includes all-in-one messengers such as Trillian. Similar integration is available for Outlook and the spam filter can be customised by adding keywords that could indicate spam mail. A tag is also added to the mail indicating suspicious mail that could be spam. The suite even checks up

with some of the online spam tracking sites that updates list from them.

Parental control is the other feature and it lets users monitor internet access and even block times of the day. Categories of content can be blocked away through a simple checkbox list. This list of categories can also be updated like the virus database.

The settings for each of the components is changed by clicking an Options link on the top of the window. It's not a common Option window though, which means that to change the firewall settings, you first have to enter the firewall menu and then go to Options.

The antivirus disk also acts like a backup disk when your system cannot be cleaned with



the OS running. The bootable disk runs a Linux distribution that allows you to access your drives, download updates and lets you scan your drive for viruses. G DATA runs three processes in the background and some 40 to 50 MB of memory is consumed in all.

Overall, it's a very good package, and all you'll need. It's very simple to use and has a few useful and unique features. At Rs. 1,500, the price isn't too steep either, and it's a good solution to opt for.

RATINGS

Features	8
Performance	7
Ease of use	6.5
Value for money	7.5
Overall	7



Dell has launched a new series of netbooks for school and college kids. This series is called the Latitude 2100 and has nice rubberised rugged bodies. These netbooks come in a choice of colours

Dell Studio XPS 16

16-inch heavyweight

The Studio XPS 16 sports a 16-inch screen, with an Intel Core 2 Duo T9400 processor, and an ATI HD 3670 GPU. By default this laptop comes an Intel Core 2 Duo P8600, but Dell allows you to upgrade to the T9550.

The back of the lid has a strip of leather, aluminium and plastic, giving it a slick look. The e-SATA/USB combo port, optical

drive, card reader slot and a USB port is located on the right side. Two headphone ports and one microphone port are located on the left side, with a display port, VGA-out, HDMI-out and two USB ports. There are touch buttons present above the keyboard that control certain functions such as Wi-Fi, multimedia controls and the eject button. The keyboard is a full QWERTY, with well-spaced keys that have a white backlight.

With the exhaust at the back, it's sad to see Dell overlook the fact that the lid, when open, blocks it. This makes for one hot laptop after a few hours of use — quite a silly, and easily avoidable design flaw.

This particular laptop has a 16-inch WUXGA RGB LED display that has a resolution

of 1920 x 1080, which basically means a full-HD screen. RGB LED displays have the best colour gamut for notebook displays. The viewing angles of this screen are also great, and you can see clearly from either side — the glossy screen, however, undoes all this goodness. This display, again, is an upgrade, and the default configuration has a WXGA WLED display (1366 x 768).

The RGB LED is a joy to watch movies and HD clips on, but we noticed some colour banding, and in areas where yellows and blues blended, there were some really weird greens being formed.

The onboard speakers are pretty loud, and they're located on either side of the keyboard.

The battery only lasted for 1 hour and 10 min, but that's what you expect from high-performance desktop replacements.

The Dell Studio XPS 16 starts at Rs. 67,900, with the configuration Dell sent us, the price went up to Rs. 78,394, which includes a 500 GB hard drive and the WUXGA RGB LED screen.

Contact

Dell India

Phone: 1-800-425-4026

Email: dell_enquiries@dell.com

Web site: www.dell.co.in

Price: Rs. 78,394

Specifications

Dimensions (W x H x D): 384.9 x

24.1 x 254.6 mm

Weight: 2.91 kg

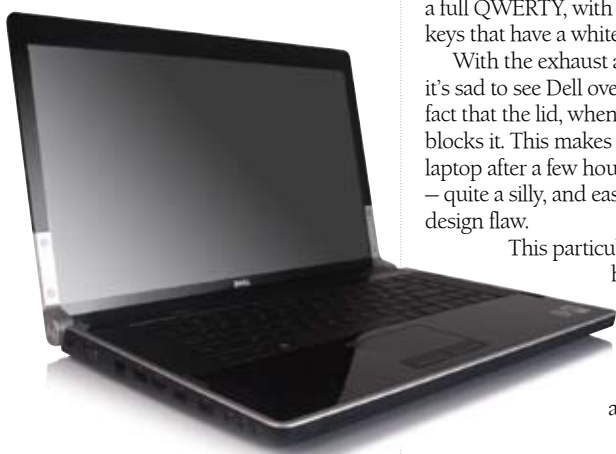
Processor: Intel Core 2 Duo

T9400 @ 2.53 GHz

GPU: ATI Mobility Radeon HD 3670

RATINGS

Features8
Performance8.5
Build Quality7
Value for money6.5
Overall7.5



Norton Utilities 2009

Simple and effective

Symantec's net spans over a large area of system maintenance and security suites. The Norton Utilities suite is designed to keep your system in check.

Installation, registering and updating of the suite takes place in one single go. The design of the interface is clean and very simple to use for anybody who hasn't seen any of the recent Norton applications.

One of the interesting features is the custom search wizard that lets you create your own scan to check and delete scattered and empty folders. Another great feature is the service manager, which lets you choose from two service presets. Norton can turn off the services not needed to save memory.

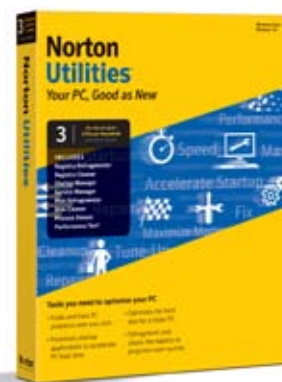
Making changes to the startup applications list is also possible for all other users. This is something that people can do through the Windows Registry,

but Norton Utilities makes it less complicated. Other than these, the typical set of registry and folder cleaning features are available along with application history clearing. Support for third-party applications and even browsers such as Firefox and Opera are present.

There's even an in-built performance test that can be useful to check any performance difference before and after a complete system cleanup.

The help file is a very basic quickstart guide, and more detailed documentation is available as a PDF file on the disk, but that lacks any images to explain things.

The application only uses around 15 to 16 MB of RAM while running. Unlike antivirus software, Norton Utilities doesn't run all the time, except if you want it to constantly monitor the registry for any changes being made to it.



The price for Norton Utilities is set to Rs. 1,880 for a single user and three PC license. The pricing is average and with regular updates, this can be a nice utility to have around especially if you're the type of person who installs and uninstalls software very often.

Contact

Symantec India

Phone: +91-22-3067 1400

Web site: www.symantec.com

Price: Rs. 1,880

Requirements

Windows Vista / Windows XP SP2 and above, 300 MHz processor, 256 MB RAM, 200 MB disk space

RATINGS

Features7
Performance7
Ease of use8
Value for money6.5
Overall7

Out with the old, in with the new

Three new entry level DSLRs have been launched by Sony to replace their existing range. The A230 replaces the A200, A330 replaces the A300 and the A380 replaces the A350



The Wireless Gigabit Alliance might speed up Wi-Fi to gigabits speeds using the 60 GHz band. This Wi-Fi might not be able to pass through walls

Bazaar

Samsung R610

Don't forget your reds, and bring on the gloss

Contact

Samsung India

Electronics Pvt. Ltd

Phone: +91-11-4151 1234

Email: shailja.m@samsung.com

Web site: www.samsung.com/in

Price: Rs. 62,339

Specifications

CPU: Core 2 Duo P7350 2 GHz

Chipset: Intel PM45 + ICH9M,

Memory: 3 GB DDR2

Display: 1366 x 768, 16:9 glossy

Graphics: NVIDIA GeForce Go

9200M GS, 512MB GDDR2

HDD: 320GB (5,400 rpm S-ATA)

RATINGS

Features	7.5
Performance	8
Build Quality	7.5
Value for money	7.5
Overall	7.5

This laptop has a red border styling that is found in Samsung's T-series LCD monitors and TVs. This border protrudes slightly and allows you to see the indicators for charging and Wi-Fi, even with the lid closed.

Other than the usual ports available on most laptops, this one also comes with an HDMI-out. When a disc is loaded into the optical drive, we noticed some vibration on the palm rest, but not too much.

Under the lid, one of the first things you will notice is the number pad next to the standard QWERTY keyboard. The inclusion of the number pad could have been done better though, because the Delete key is now all the way over on the top left, and the arrow keys are shifted down,

causing you to keep hitting up when you want to hit down. Key feedback is good, and the spacing ideal.

The display is good, and there was minimal banding when viewing some HD clips. The screen offers some terrible viewing angles, and is too glossy to boot. The speakers aren't loud, and are actually quite terrible.

The performance scores, however, more than make up for all this. With 3D Mark 05, 06 and PC Mark 05 the scores obtained were average, but in *Doom 3* and *FarCry*, at 1024 x 768 and medium settings, we got fps scores slightly above 40, which is really good for a laptop. With CineBench R10, the CPU got a score of 4172. The R610 took 99.5 seconds



to convert a 100 MB .vob file using the DivX Converter. It took 265.3 seconds to transfer 4 GB of sequential data and 325.8 seconds to transfer 4 GB of assorted data. This laptop is able to play 1080p with ease, but the battery only lasts 1 hour and 27 minutes.

Priced at Rs. 62,339, this laptop will be good value for money and we recommend this to anybody who is on a budget of upto Rs. 65,000.

ZOTAC GeForce GTS 250 AMP!

An expensive proposition

The GTS 250 graphic cards are the rebadged versions of the 9800 GTX+ and the variants that come with 512 MB of memory are basically the same as the 9800 GTX+ cards. The difference in power and PCB design comes only with the 1 GB version of the GTS 250. Other than that, the PCB of the GTS 250 is an inch shorter than that of the 9800 GTX+, but this design is not followed by all manufacturers and the one we have from ZOTAC is of the longer kind.

This card is the 1 GB version, and ZOTAC has used the reference cooling solution from NVIDIA

which takes up two slots. The game *XIII Century: Death or Glory* and 3D Mark Vantage have been bundled along with this card.

This AMP! edition card comes with a core clock of 750 MHz (standard, 738 MHz), Shader Clock 1890 MHz (standard, 1836 MHz) and memory clock of 2300 MHz (standard, 2200 MHz). The number of shaders have not changed and remain at 128. The length of this card remains the same and so has the cooling solution, but what's changed here is that instead of two 6-pin connectors there is a single 8-pin connector.

Performance of this card was tested in Windows Vista using an Intel QX9650 3.0 GHz and 4 GB of DDR2 memory at 1066 MHz. The fps results that were obtained with this card were on the higher side with all the benchmarks at resolutions of 1600 x 1200 and 1920 x 1200 with 4x AA and 4x AF. 3D Mark Vantage also gave us a GPU score of 6847.

The GeForce GTS 250 could be considered either the highest card of the mid-ranged graphics cards or even the lowest of the high-end cards as this falls under the GT-200 series. Overall, the ZOTAC AMP! version of this card is priced at Rs. 10,500 which is where the 9800 GTX+ cards used to be. But with the recent price drop of graphics cards, if you are willing to spend Rs. 14,000, we would suggest you get the GTX 260 which would devour this card whole.

Contact

Aditya Infotech Ltd.

Phone: +91-11-4666 5666

Email: sales@zotac.com

Web site: www.zotac.com

Price: Rs. 10,500

Specifications

Core Clock: 750 MHz

Shader Clock: 1890 MHz

Memory Clock: 2300 MHz

Memory Size: 1 GB GDDR3

Memory Interface: 256-bit

RATINGS

Features	7
Performance	7.5
Build Quality	8
Value for money	7
Overall	7.5



Demigod

War, RTS, RPG and Action, all in one package. Could you ask for more?

166

Chinatown Wars

A GTA game where you have to make your own Molotov Cocktails instead of just picking them up

168

Twttrovrkill

Sometimes you just wish a pudgy tat would come along and gobble up all those small blue birds tweeting away to glory

On a silent night, if you listen hard enough, you can hear it, even if you are far away from any kind of technological contrivance. The cacophony of a million (around four million on the last count actually) small blue birds with yellow beaks, tweeting. No seriously, imagine listening to 80 tweets per second. We could generate a sound clip and let you hear it on our DVD*, but you would never forgive us. That's how active the tweetosphere is. It's more than any man can stand, but the small blue birds in the tweetosphere, who call themselves tweeple, have no intention of stopping. Their sole purpose is to take over the world, 140 characters at a time, and they are finding a lot of innovative ways to do so. From the depths of outer space to the depths of the large intestine, and everything in between, the small blue birds are everywhere.

Aditya Madanapalle

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The roving tweeters

Five of the many small blue birds are not even human. Hell, they are not even on the planet Earth. One of them is floating around in Earth orbit, three of them are on Mars, and one is on Saturn. These tweeters are robotic probes that update their minions of followers about their activities. The Mars Science Lab (<http://twitter.com/MarsScienceLab>), for example, is one of the better tweeters around, and gives human beings a run for their money – at human relations. Tweeter is a social networking site, and The Mars Science Lab understands the rules of the game. It answers tweeple's questions about outer space, the engineering, about its mission, and responds to praise and criticism. When it is not replying to people, it posts thoughts about itself, like the gem "Soo happy that Wall-E won the Golden Globe!" Ah well. Asimov should have seen this coming. The Mars Lab is a rover waiting to go to Mars. The Mars rovers Spirit and Opportunity (shortened to Oppy), share one Twitter page for some strange reason (<http://twitter.com/MarsRovers>). Oppy is the more active of the two, and has a little more sympathy from the tweeters too. It has faced a lot of issues over the years, and the tweeple never fail to bring up old issues. However, Oppy is not too touchy about such things, and responds

to most questions level-headedly. Including things like having a wheel stuck in Martian soil for five weeks. Poor thing. Both Oppy and Spirit are females, getting a few followers with their wiles, using emoticons when necessary. The only problem with this dual-identity is that sometimes you don't know which of the two is tweeting. However, the whole enterprise is not devoid of a scientific undercurrent, and Oppy recently reported a "history of wind and water" on Mars. One of the few tweeters we wish had an extended word limit. Cassini is a very savvy, if a little haughty, tweeter (<http://twitter.com/CassiniSaturn>). Despite the 12,000 odd followers, which is more than many humans can hope for, Cassini follows none. Cassini updates followers with regular images from Saturn, which are pretty staggering to begin with. The more important questions are answered, and Cassini uses hashtags more than all the other rovers and The Mars Science Lab put together. Maybe Cassini is a trend setter, but is nothing compared to Phoenix. Phoenix (<http://twitter.com/marsphoenix>) was the coolest rover to hit alien soil. In her time, she could put the nerdiest geeks set loose on the internet to shame. She found ice (the *WATER* kind), on Mars, and reported it with a tweet that contains the word "woot!" This is image macro material, really, and hell, we'll throw one at you too. Pity paper does not playback GIF files. Phoenix put up polls, answered questions, encouraged students to study science and beamed back videos. In the more boring moments, she just talked about the Martian weather. The overwhelming 40,000-odd followers had no problems whatsoever. Is all the past tense hanging ominously over you? Unfortunately, the Phoenix rover was exploring the cold Martian polar regions, and the solar panels could not keep the

rover powered up. You can tell bright little kiddies who are interested that she is in "sleep mode", which isn't far from the truth. She can be re-activated, but that is unlikely, as the sad truth (bright little kiddies stop reading) is that she is slowly getting entombed in ever growing layers of ice (the *DRY* kind).

A selection of tweeting gadgets

A high-tech "digital creative agency" by the name of Poke, were across the street to a baker. Someone had the bright idea of putting a prototype Wi-Fi adapter lying around in the office to good use. They took it across to the baker, installed it in the oven, and set it up so that every time a batch of fresh goodies came out of the oven, it would be announced in the tweetosphere. The whole setup is in London, but you can have a look at twitter.com/albionsoven. Albion's Oven is the only bakery in the world that currently has this set up, but if you own a bakery and want one, you can try your luck at bakertweet.com.

One of the best things about the web is positive or negative re-enforcement. You let everyone online know of your activities, and you are bound to get some feedback. That is the idea behind tweet-a-watt. The designers basically took a standard meter that records the amount of electricity consumed, and fit it out with a wireless connection. Every user's twitter page will have steady updates of their electricity consumption, and everyone in the tweetosphere will know about it. If any one person's carbon footprint is exceeding normal limits, his or her followers are bound to send a few tweets asking him to cut down. Of course, we're wondering how much electricity would be saved if everyone just stopped tweeting to begin with.

A biomedical engineer by the name of Adam Wilson had a bright idea. Instead of writing it down, he connected a mind reading device to his head, and have it tweet it. The software used is the same grade as that used to treat those with paralysis. The interface is a modified version of experiments that allow those with handicaps to interface with computers. The Twitter account itself is down, but the messages that were posted had horrible spelling errors. Rest assured that such a device is far away, and won't trouble you with yet another endless source of tweets.

The bowel twitter movement

You were waiting for the intestine bit weren't you? We'll indulge you, but just this once, mind you. A few days into Twitter, and any user is bound to discover that you can tweet from your phone. A few days



Tom Clancy's HAWX

We review Ubisoft's latest game from the Tom Clancy stable — an arcade combat flight simulator

170

Assault on Dark Athena

Riddick is back in a video game, after a five year hiatus

172

Geek Review

We get our hands dirty with the Nintendo DSi

180

Feature

into tweeting from your phone, and a tweeter is bound to walk into a toilet with the phone in his pocket. Sooner or later, there comes a point in every tweeter's life, where they are sitting on a pot with the phone between their fingers. A search on Twitter should yield the results for those interested in what happens next. However, there are some people who have gone far beyond what is perfectly natural.

Randy Sarafan learned of Twitter and found one fundamental philosophical problem which every tweeter faces eventually. Twitter encourages you to answer the question, "What are you doing?" Now the problem is this — if you are doing something, you are doing it, and not tweeting. If however, you are tweeting, what you are "doing" is tweeting, which means you can't be doing anything else. You can tweet you are breathing, reading what you are typing, and typing, but that's about it. This problem makes the whole of the tweetosphere a lie. When people tweet about what they are doing, they have already done it, or at least, taken a break to tweet. The best normal tweeple can hope for was to tweet as soon as they had done something. This just wasn't good enough for Randy Sarafan, he wanted to tweet as he was doing

some things. What Randy Sarafan wanted to do was to ensure that there is no tweet lag.

Now to ensure that the tweets are realtime, there had to be some mechanism which would tweet developments automatically. Now Randy Sarafan was your regular everyday guy in at least some respects, and spent most of his day sitting on a chair. What kind of activity, could a chair possibly update in real time? Why, the discharge of bodily gasses of course. Now the clever bit was building the chair, the entire set of instructions are available at tinyurl.com/o29jek. Randy got his ultra-cool toolbox out, which included a laser cutter by the way, and rigged together a chair that tweets every time he farts. The most important component, is a natural gas detector. The component used is of industrial strength, and is primarily used for detecting dangerous leaks. This leads us to understand that Randy's "leaks" are



pretty dangerous, and the unfortunate chair that tweets every time it is farted on, thoroughly reflects this. You don't need to read much between the few lines at twitter.com/officechair to make out the desperate pleas for help. The chair didn't see that one coming, you see, and we are pretty sure, neither did you.

The sane-as-Dr-No guys at hacklab.to thought that the 1337est h4XX0r HQ on planet earth required the 1337est h4XX0r

toilet on planet earth. You probably guessed the rest. Yes, they rigged the toilet so that every time someone flushes, it tweets about it (twitter.com/hacklabtoilet).

The simple part was fixing a mechanism that records the flush, and

then relaying it using a dedicated Ethernet connection. Yes, some people's toilets have net access, while others don't even have toilet access! The difficult part came out later (no, not that way), when they started testing it. There were a number of considerations they had to make. For example, a single flush may not actually take care of the matter, so it is sometimes necessary to flush multiple times. Tweeting these instances must be avoided, so they set up a time-delay between consecutive flush-tweets so that the same action does not get recorded twice over.

Secondly, the entire process was automated, so the toilet had a list of phrases to tweet each time it got flushed. Initially, the

toilet had a list of eight phrases to choose from, but it needed more variety. The coders decided to give it a list of fifty phrases. Then something happened to the toilet that happens to the best of 1337 h4XX0r rigs. The toilet ran out of RAM to process the phrases, and started behaving oddly. So the coders moved the phrases into another kind of memory, and the problem was solved. Not only is it a toilet that tweets at every flush, it is an open source toilet that tweets at every flush. The instructions for building the toilet are available at tinyurl.com/pyj77t and the code for it is at tinyurl.com/dhwr3p. The instructions are in English, but the code has German comments. Still,

if you can understand the code, you can figure the useful part out, and maybe even learn a little German by reversing the logic of the code. Fortunately, the guys at hacklab stopped right there, that does not mean you shouldn't go further. At the end of the page outlining the instructions for building the tweeting toilet, are hints at further additions to the setup you can make, including acidity and volume sensors. That's enough indulgence.

** Look out for some of the music on next month's DVD though, if 80 tweets per second is the kind of music you are into...*





DEMIGOD™

Ravi Sinha

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While some shortcomings overshadow its expansive cross-genre vision, Demigod still deftly combines RTS, Action, RPG and resource management elements into an enticing smorgasbord of war gaming.

You can choose to play one of eight Demigods and upgrade them with new items and abilities as they level up during a match. There are two types of Demigods: Assassins -- standalone creatures that excel in hand-to-hand combat, and Generals -- commanders that possess unique support abilities. Your objective changes depending on the game type: Conquest involves annihilating your enemy's citadel while in Slaughter, you have to defeat all enemy units.

The gameplay and the mood vary admirably from character to character. For example: the Demigod Rook's 'Shadow of the Colossus' inspiration accentuates his role as a walking titan of archery and laser towers while Oak's tactics center on buffing up fellow soldiers to topple the enemy amongst a Helm's Deep-like tension. No, there's no story, no greater purpose for these mystical beings pummeling the tar out of

each other -- only Skirmish and Tournament modes existing in a vacuum. You prepare teams of Demigods, choose a map, and fight. The game's appeal lies in its customizability. Even the most novice player can instantly create a short instant-action match while skilled RTS nuts can tinker to their hearts' content, settling into a marathon of flag captures, portal sieges and beastly duels. Gold can be spent to buff up your Citadel, add new units (such as angels and priests) and improve the stats of existing buildings.

Time spent playing is notched as achievements, where different ranks are obtained depending on deeds accomplished. The list includes "Kill 50 Demigods", "Kill Demigod 10 Levels Higher", and so on. While offering some bragging rights, the achievement system also provides a much needed direction in the absence of a plot.

Demigod's graphical beauty is equal parts scale and artistry. Each unit is meticulously detailed and the Demigods animate smoothly, both in battle and in death. The environments are your rote medieval fantasy settings but they amply show off stunning atmospheric fog, realistic textures, and multiple real-time shadows. The score is cinematic with sweeping orchestras that erupt at eminent moments. The voice-acting and sound direction is also top-notch -- from the

battle cries of Demigods to the toppling of Citadels.

Demigod does a whole lot right but fudges up the basics of RTS design more often than not. The game degenerates into one enormous cluster of chaos, as units disregard orders and generally riot. This isn't a big deal when playing as an Assassin but it quickly kills the uniqueness of a General when your units are bent on playing "Tag, you're it!" with archery trebuchets. While formations would have lessened the pandemonium, they're surprisingly absent. Guiding a Demigod from one distant point to another, especially on the larger maps also gets tedious: dodgy path-finding ensures that a point-click-and-forget mode of travel is also futile -- a unit will invariably find itself trapped in a corner when he's not taking the long way around. Couple both with deaths a-plenty and you get an unappetizing recipe for frustration. Another irritant -- you'll be constantly informed of progress throughout a battle. It's helpful and imperative to know your status, but the game constantly updates you on the availability of upgrades, flag captures -- every minutiae! Being informed about your army attacking enemy HQ or of your crumbling towers to the east, while you're defending the west, quickly becomes repetitive and annoying.

Despite coming from developers with excellent titles under their belt, Demigod doesn't make claims to being revolutionary. Deep down, it's still a game that forsakes tactics for old-fashioned, special attack-filled mobbing. There are few games that cater to such simple pleasures while still offering an immersive Tolkien-esque audio-visual experience, and Demigod easily makes the grade. Though working your way up in difficulty against the computer will suffice, the lack of any tutorials can be extremely off-putting to newbies. Players will doubtless find the game's real appeal to be online play, even with DoTA still reigning in popularity. Despite its flaws, you really won't find what Demigod provides anywhere else, be it a lean season in gaming or not. However those searching for an epic single-player quest may feel short-changed. **D**

Developer: Gas Powered Games, Stardock, Publisher: Take Two, Atari, Number of Players: 1-8, Genre: Real time strategy, Action

SCORE: 8/10

System Requirements:
3 GHz Processor (Multicore supported), 1 GB RAM, 256 MB 3D Video Card (ATI Radeon 2600 / Nvidia GeForce 7600 or better)

Developer: Rockstar Leeds and Rockstar North
Platform: Nintendo DS
Distributor: E-Xpress
Price: Rs. 1,699

Score: 8.5/10

Grand Theft Auto: Chinatown Wars

Faiyaz Shaikh

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A fascinating aspect of the current generation of Nintendo platforms is not the hardware per se, but the way in which development studios around the world have used the features offered by the hardware. A recent example is *Grand Theft Auto: Chinatown Wars*. Not only have the devs managed to fit almost the entire Liberty City into the relatively miniscule capacity of a DS card, but they have expertly used the touch-screen and the microphone interface of the DS to great effect.

Chinatown Wars is presented through a rotatable camera and a perspective that is somewhere between a top-down and an isometric view. The top screen is where the game's action is displayed and the bottom screen functions as a PDA; for most of the game. True to the GTA tradition, the game offers several distractions to keep you entertained outside of the main story; distractions which double-up as a great way for earning some serious cash. These include all of your favourite gangster things—kidnapping, extortion, assassination, drug-dealing and of course, stealing cars. However,

what sets *Chinatown Wars* apart from other games is the more hands-on approach to the execution of said skills. Let's take one of the most common things that you'd do in a GTA game—steal cars. While we are used to the mechanic of just pushing a button next to a parked car and driving it away, this game will often test your thieving skills. Depending upon the type of car you are attempting to steal, the game will challenge you



to hot-wire the car before time runs out. This can range from simply turning a screwdriver into the ignition keyhole, to hacking a digital lock by using your PDA. Getting your hands on some Molotov cocktail is just as interesting—you need to buy some fuel from a petrol pump, fill up bottles with the liquid fire, and make a wick with a piece of cloth to complete the apparatus. These are only a couple of examples of how the developers

have used the input mechanism to introduce a level of depth and immersion to the game.

Chinatown Wars follows the exploits of a 25 year old spoilt son of a mob boss set out on a mission of revenge (his father's death) and delivery (a family sword). We all know that Liberty City is no city of angels; and predictably, she does not pull any punches for the protagonist of the game: No sooner than you land at the city's airport, you are greeted by a couple of wise guys that shoot you in the head, steal your family sword and throw you in the ocean to swim with the fishes. But since a dead protagonist doesn't make a GTA game (yet), you miraculously survive the Liberty City's welcome party. You are then given custody of a safe house and thrown in the thick of a power struggle: It appears that the death of your father and the aging of the incumbent don have led to a power vacuum, and as nature abhors that phenomenon, there are many takers eager to fill the void. Without giving too much of the plot away, the game's main storyline will give you an opportunity to work with many of these splinter groups to take control of Chinatown and subsequently investigate

a snitch in the 'family'. The game has some very interesting character archetypes — from an unhinged gangster that likes to pull out the heart of a man while he is still alive (and not in the romantic way), to a good-for-nothing narcissist with hopeless aspirations to becoming a mob boss. The banter between you and some of these colorful characters is the best we have seen in a GTA game — the script is wonderfully funny and infinitely entertaining.

One thing that really feels wrong with the game, at least at the onset, is the movement system. Maybe it is due to the unique (and arguably awkward) camera angle that the game employs, or perhaps we are just too used to the analog stick these days — but driving and player movement feels a bit odd during the early of hours of game play. You do get used to it, and quick, but there is a slight learning curve here. Furthermore, if you are among those who hate the way GTA lacks a mid-mission checkpoint, don't expect *Chinatown Wars* to be any different. Minor annoyances apart, this is a solid release on the Nintendo DS family of consoles. *GTA Chinatown Wars* deserves to be a part of every DS owner's game collection. **A**

Tom Clancy's HAWX

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Tom Clancy's *HAWX*, an abbreviation of High-Altitude Warfare eXperimental is one of the strangest flight simulators we've seen. It appears to be a flight simulator, but is more properly a futuristic arcade air combat game. Once you're in the cockpit, you can fly and turn the plane the way you want, and almost never stall. You have a virtually unlimited supply of fuel and ammunition. This makes the game very enjoyable for about the first five minutes or so. It's fun to blow

up tanks flying upside down and very close to the ground, which is something you could never do in the classic air combat simulators such as the F-22 Raptor.

The first few levels are very enjoyable. New enemies keep showing up, and a variety of systems on your part help. Unfortunately, it is all too unrealistic, you launch missiles in what looks like a dogfight, instead of when the enemy planes are blips at the edge of your radar. The enemies are numerous, but too passive; getting locked on hardly ever happens, and even if you run out of flares, you can evade them easily. Even if the missiles

do hit you, they don't do any critical damage. The game uses a number of in-game guiding systems, to help you navigate. One of them shows up trails of yellow frames that you have to follow to successfully complete the mission. For example, approaching a protected anti-aircraft gun at a right angle to destroy it, or to avoid detection by a radar. Another mode, which gives you an external mode, is more of a trial-and-error sort of game play, where controlling the plane becomes ridiculously difficult from being ridiculously simple.

The worst part about the game is the terrain. Although the game claims to be high-altitude warfare, you stay pretty close to the terrain most of the time, as a lot of levels involve taking out or protecting ground units. All the buildings and the features in the terrain are smaller than what they would be if they were scaled proportionally to the plane. If you are flying low over the buildings, it is easy to mistake the city to be lower down, as they appear so tiny on screen. Then you crash into a building that is half the size of your plane, and you have to load from the last checkpoint.

The game has a strangely gripping storyline. Initially, you work for the US Army, and are then hired by a private security firm by the name of Artemis. In fact, Artemis hires out your entire squadron. Now, Artemis contracts out missions to

Publisher: Ubisoft
Developer: Ubisoft Romania
Platform: PC

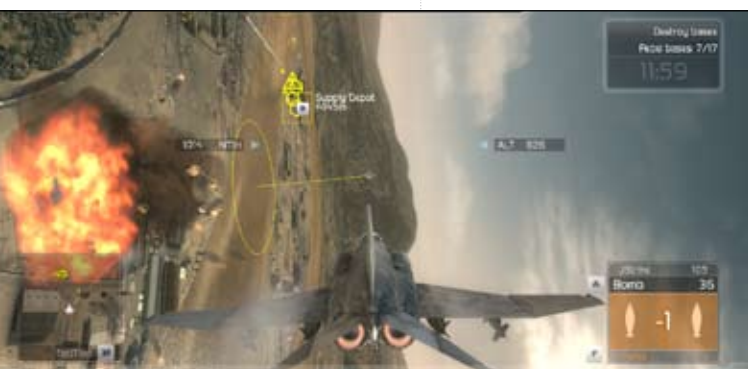
Score: 4/10



Lock on four targets at once



Fly upside down without stalling



Deploy bombs while flying sideways



different private organisations and governments. The tongue-in-cheek remarks about the US Army is fun, but one of the missions makes you attack the US Army itself. The game will appeal to you if you are a patriot in the US. Not a good time to have such a storyline.

The problem with the game is this – the missions are too long for casual playing. Serious players won't like the arcade style of the flight simulation, and the action is too slow, for those who like FPS games. The game is neither real enough nor unreal enough, and a compromise between the two simply doesn't make sense. **D**



Chronicles of Riddick: Assault on Dark Athena

Score: 6/10

Developer: Atari
Distributor: Milestone
Platforms: Xbox 360, PS3, PS2,
PC
Price: Rs. 999 (PC)



He won't attack if you are healing



Pity. They may become drones though.

Aditya Madanapalle
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The disk comes with two games, *Assault on Dark Athena*, and a remastered version of the 2004 game, *Escape from Butcher Bay* as a bonus. *Escape from Butcher Bay* is a reworked version, with better graphics. *Escape from Dark Athena* is a sequel to the previous game. The game throws you in a beach with industrial surroundings. The initial level is a tutorial level to learn the controls of the game. When you crouch, everything turns blue, and you enter a stealth mode. There is a toggle for the nightshine – Riddick's trademark ability to see clearly in the dark. Everything gets really bright and purple in this mode, and it feels great initially

if you have seen either of the movies. In the introductory level, you come across a few "drones". These are something like remote-controlled android zombies. Nice concept for an army, only, they behave really dumb. Some of them just walk back and forth ignoring everything that you do. However, the first level sets the tone of the game, making sure that you sneak up on enemies instead of fighting them outright. You navigate across a few tunnels, and suddenly, everything goes black.

Someone must have kidnapped you and taken you aboard the ship – called Dark Athena. Pretty soon into the game, you receive a set of blades, which are your primary weapons for most of the game. For some strange reason, you are in a vent above the captain

(called Revas), and you reach out and pluck out her hairpin. There is no real explanation for this action, except when you return it to her well into the game. Why this happens, or if there is any deep symbolic meaning behind borrowing and returning a hairpin, we cannot say. The cutscenes that kick in at this point quickly become very boring and dreary. By the end of the game, it feels as if your head will explode if it hears the word "darkness" one more time. There might be a meaning to "in despair, I find opportunity", or something like that, but it makes no sense in the game whatsoever. Riddick has a dry, monotonous, dead voice throughout the game, with none of the mischief and the dry, sarcastic humor from the movies. Vin Diesel is thoroughly and completely

wasted as a voice actor in this one. You don't need a dark and brooding voice to say "tell me how to open the cells", that's just overkill.

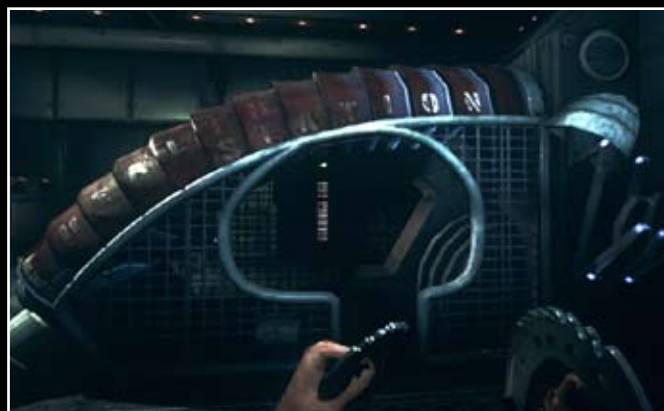
The gameplay however, quickly gets to you. Despite all the drones with rotten AI, sneaking up to them and finishing them off with the blades is a pleasure. At least for the first third of the game, you get no real guns, only a tranquilizer dart gun. You have to navigate through the ship till you come across a kind of prison, where the captain and her mercenaries have kept a number of captives. This is where the game amps up a bit. The voice acting of all the secondary characters is amazing, and they really rile you up to go ahead with the game. For the next couple of hours, the gameplay takes you



Those blades are evil. Not too many moves though.

in circles as you backtrack from section to section trying to get together parts, and opening sections and crawling through walkways. We honestly don't know why every FPS makes you crawl through all the narrow vents. We also don't know why they have huge fans in bottomless pits. You have to navigate these, and other obstacles, such as a giant spotlight that does not really try to spot anyone, but just goes back and forth. The game gets frustrating around this point because your objectives tell you very little about what you need to do or where you have to go. There is a lot of blind exploration required before you find the right way out, which has its own delights.

Eventually, you will free all the prisoners, and that's when all hell breaks loose. The mercs go berserk, but you get an unbelievable weapon in your hands. It's like playing a video game within a video game. You get to control one of the drones! You charge in through the mercs with your guns blazing, and the pleasure of holding and controlling a gun about halfway into the game hits you like a tidal wave. In a short span of time, it gets even better, when you get to control a full-blown mech. These are one of those giant robots with huge machineguns and rocket launchers. Unfortunately, for all the power, the mechs seems to be low on ammo almost all the



Mega healing pods takes your health to whole new levels



Look carefully, and you get directions. Only sometimes though.

time, so you have to re-supply yourself at stations dedicated to the job. You also fight other mechs at this point.

After a little bit of that, you finally kill of Revas, take an escape pod a-la R2D2 and shoot out from the ship. Just when you think you have escaped, Revas suddenly wakes up again, and shoots you down.

You crash land into the planet nearby the merc ship. You find yourself on the beach you began the game with, and this time around, you actually look at the planet around you. You do a little more of drone killing. You find out that the merc ship is "harvesting" drones by killing people on the planet, and converting them into the killer



No matter where you fall, you hardly ever get hurt



Using the drone guns to shatter glass

android zombies. Eventually, you work your way back to the ship, controlling a boss drone, in an attempt to take down Revas and the mercs.

The game gives a good half a day of gameplay, if you keep at it. Some of the sections can be irritating, as there is no way to know where you have to go or what to do next. The lightshine aspect of the gameplay is totally wasted, used only to navigate in dark tunnels and the vents that are too common in first person shooters. You imagine that the lightshine can be used to spot and kill enemies in the dark, but there is no such luck – it's just another sneak mode. A lot of the gameplay involves moving back and forth over the same sections, which makes it very easy for a player to give up.

The music is great, and sets the right tone for the gameplay. The game looks good with all the settings maxed out, and looks pretty neat even with all the settings on minimum. However, there is nothing extraordinary about the game, and does not look like something that has come out in the last year. The game feels dated, by a factor of half a decade. While not being a bad game as such, it broaches no new ground as so many games of today are doing. This one is only for the die hard fans. ■

Virus alert

Certain parts of the FBI and US Marshals computer networks had to be shut down as they had been infiltrated by an unknown virus. The cause of this virus is still not known

Another iPod...

Apple is set to launch a tablet PC some time in 2010. This tablet is rumoured to be similar to the iPod Touch, but bigger in size

Coffee with Arem



Keith Arem is Writer, Producer, Creative Director and President of Los Angeles based PCB Productions. based PCB Productions.

Kumar Jhuremalani
kumar.j@thinkdigit.com

Tell us a bit about your work

I write, direct, and produce. I run PCB productions in LA, where have five recording stages and work on video games, movies and television.

Which movies have you worked on?

Currently, we're doing two films – *Frost Road* and *Ascend*.

Ascend is based on a graphic novel I wrote a few years ago.

How did you get into games?

I had started in the music industry as a recording artist in the US with Capitol Records. I was part of the band Contageon. Later, I got into scoring movies and music.

The music from my albums and movies was a perfect fit for doing video games. I started working with Virgin

Interactive and became their staff composer. I was promoted to be their audio director and started directing all their titles. I was there for seven years and built recording studios. I then got into writing, directing and producing for them. In 2000, I started my own company, PCB, that focused on digital content.

How different is it between music and writing?


It would seem very different, but in a lot of ways it is the same. Music and creating things for music is very similar because you are creatively trying to match the tone of the creative style of the property that you are working on. Writing is exciting as a medium. If you're writing a graphic novel, or a movie, or a game, they all have unique aspects and you have to cater to that medium.

Were you always inclined

Keith Arem has worked on games such as *CoD4* and *Spider-man*. We met up with him at Taj Lands End and had a casual conversation with him over coffee

towards working with sound from the start?

Yes, I had a background in art, writing and music. I always wanted to do something in the other creative sides as well. Games allow people to create and work on a lot of different areas. They don't just have to do one thing.

In the film industry, you tend to focus on one aspect and that's all you do. But in the game industry, you are required to do a lot of different things and I was just fortunate enough to do several things and be successful in different areas. 



To read the full interview with Keith Arem, visit www.thinkdigit.com

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Geek culture : *Androids*

The concept of Androids (robots that look like men) has been around for centuries, with many mythologies and fairy tales describing

automated clay or wooden figures of human beings given some kind of movement by divine intervention. Pinocchio is an example. Technology has caught up, but our androids are a little awkward and slow on the uptake. Moreover, men are more interested in making gynoids, female-looking robots. We wait for the world domination.

Movies

Terminator 2 (1991)

Terminator 2 showcased a deadly CGI Android made of a mutating liquid metal alloy that could shapeshift into likeness of anyone it came in contact with.



Bicentennial Man (1999)

The film, based on Asimov's book traces Andrew the Android's life over two centuries. He starts off as an Android servant, and becomes a man with equal rights.



The Second Renaissance (2003)

Two episodes in the Animatrix series, *The Second Renaissance* shows the other side of the machine vs. human war story; makes you almost sympathise with those androids.



Books

The Hitchhiker's Guide

Douglas Adam's Hitchhiker's guide trilogy of 5 and a 1/2 books introduced Marvin the "paranoid android". The radio plays and the books together made the word "android" common.



When HARLIE was one

One of those classics works of fiction where the Android in question thinks he is a human. A psychologist has to help HARLIE come to terms with his "condition".



I, Robot

Contrary to popular belief, Asimov did not write all the stories in the collection called I, Robot. Asimov however was the editor, and compiled the collection of nine short stories dealing with robotics.



Androids

Geminoid

Professor Ishiguro of Osaka decided to make a android twin of himself. He used his own body as the mould, and even gave the robot his hair. Then he programmed in AI similar to his own behavior.



Jules

Jules is the brainchild of Hanson robotics, the people who stuck Einstein's head on a decepticon, if you remember. This one has pretty realistic AI, remembers conversations, and has more motors on his face than the rest of the body.



Gakutensoku

Believe it or not, this is a servos and wires version of a gears and rubber tubes robot made way back in the 1920s in (where else?) Japan. Gakutensoku 2.0 has a lot of facial expressions, and can write on paper with a pen!



Digit Diary

Whoever said pigeons are great at navigating was an idiot. A pigeon navigated right into a small space between the toilet window and the grill, and couldn't navigate its way out. For four days, the toilet was haunted by the steadily weakening noises of a pigeon in distress. Rossi thought he would help things by wedging open the toilet door with a chair, and the entrance with another chair. The pigeon, however, stayed put. Vijay took pity and asked the watchman to free the pigeon, and the watchman caught the weak little thing in his hand-

kerchief. Seconds after he set it free, however, a very happy pussycat walked away, its mouth too full to meow.

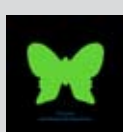
The team moved into the office for the Anniversary Issue, and needed a few provisions. Ahmed gave us his computer, his mattresses, and some pillows. Our eyes are on his 42" Plasma screen next. Rossi however, is not so kind hearted. All Robert wanted was Rossi to bring his guitar to office, but Rossi refused. The whole team pleaded like crazy, but Rossi didn't budge, and was as adamant as the pigeon. The team was reduced to listen to Crazy Frog on the Genelecs that had come in for testing.

How we unwind



Movies

Afro Samurai: Story about a black samurai on a quest to be No. 1 and at the same time avenge his father's death.



Music

Left Right Left Right Left: The new free album from coldplay. Also everyone got to run their favorites through the Genelecs.



Game

Edge: A great puzzle game if you have an iPhone.
Braid: We can't have enough of the demo. It's on the DVD.

Are you game?

DIGIT
COMMUNITY

We have just concluded the first of the "Are you game?" workshops in Delhi and believe us it was a Sunday well spent. What started out to be a small 30 minute session turned into a two hour discussion on computer hardware, what are the good brands to purchase keeping in mind the after-sales support, performance etc., what console is better (not telling you the answer) which are the good games, over-clocking your machine and LAN parties. We also had a discussion on the page 3 circuit of gaming... yes there does exist one. Check out some snaps of the event, and pre-register yourself for the next one that happens in your city. **Details on page 36!**



tech art

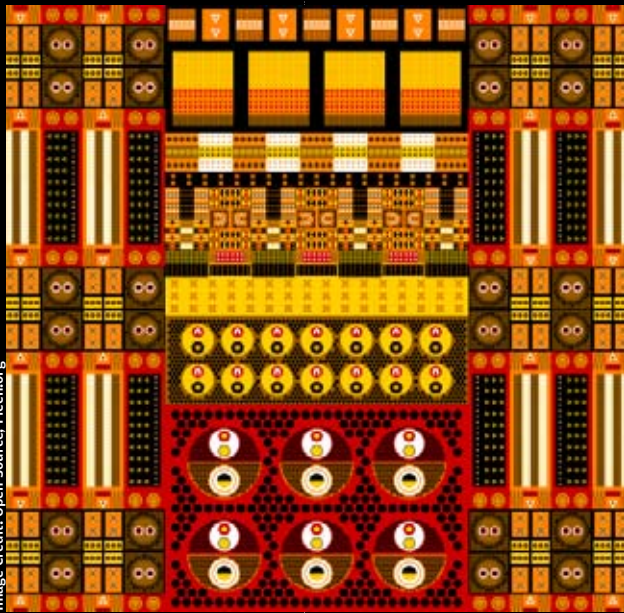


Image Credit: Open Source, Fleen.org

Algorithmic artists, or algotists use computer code to generate works of art. The role of the artist is to write the code necessary to draw the piece of work. Although code can be written in a very specific manner, so that an artist can get exactly what he wants, often the artist allows some calculations on the machine side, and allows for pseudorandom values to influence the work. In this way, a number of different pieces of work can be generated using the same algorithm. Small tweaks and changes in the algorithm will draw largely different kinds of artwork. For algorithms and artwork, head over to <http://fleen.org>.

Mars first imaged using crayons

HISTORY



What if we were to tell you that the first images of Mars were made by crayons. Humans and their impatience will never seize to amaze us. The first image was taken by the spacecraft Mariner 4 on July 15, 1965. Well it actually took a total of 21 images, using a television camera, alternating between red and green filters and saved on a tape.

The images started transmitting to the Jet Propulsion Laboratory (JPL) after 8.5 hours due to signal loss as Mariner 4 actually going around the planet. Finally the image was being sent to JPL as a stream of 8-bit numbers. This transmission lasted until August 13. The image was originally supposed to be processed by the lab's imager, but as we mentioned, people at JPL were just too eager to see what Mars looked like.

So what was the next step? Well they decided to print the numbers and allocated brightness and different pastel colours to strips of the paper. The end result was the first ever image taken by Mars in crayons.

For those who came in late

Muddled by so many terms used in the mag? Here's your short guide to the tech lingo

Arcade: Gameplay that is unrealistic and designed for having fun only.

Build: A version of a software built for a specific purpose. The licensed software in the DVD for example, are *builds* for Digit.

FPS: A first person shooter, a type of game in which you play from the point of view of a person, with a gun.

CES: Consumer Electronics Show, an annual exhibition where tech companies showcase their latest gadgets.

Netbook: A type of laptop that is used for simple tasks such as sending e-mails and writing documents, that are not demanding on the machine's resources.

Cloud: The cloud is an online pool of data. All the clouds together can be called the cloud, but an organisation or even an individual, can have a cloud of their own.

3 years on...

Work on the DSi began towards the end of 2006

Did you know?

The DSi was originally designed to accept two game cards

Adjust your screen

Press select and hit the volume buttons to adjust screen brightness from within a game



Nintendo DSi

From *The House That Mario Built* comes a system with larger screens, faster processors, more RAM, an internal flash drive, an SD slot, and two cameras. But is it worth a purchase?

hopes to increase the number of people who own a DS within a household: according to statistics shared by Nintendo, in Japan, there are an average of 2.8 DS users per household, but each of those households only possesses, on average, 1.8 DS consoles. The gameplan is thus to increase that 1.8 to 2.8, if not more, and thus to make more money.

The how is where the DSi comes in.

This time, it's personal

Note the 'i' in DSi – “what will you and ‘i’ do”, Nintendo asks. To make the unit more personal, the DSi introduces some hardware changes. The most visible is the addition of an external camera; with a twin snuggled in the middle of the unit's hinge. These two cameras are not meant to replace your digital camera, nor your cellphone camera, for that matter – they are VGA cameras, not megapixel giants, and are meant to encourage casual snapping of friends and

family at social gatherings; and then adding a personal touch (more on that later). The DSi also introduces an SD slot to the handheld family. The SD card is meant to support another personalisation aspect of the DSi: a digital store called DSiWare which will sell software ranging from free to \$8 and above – games, calculators, photo frames, route maps, TV listing, clocks, and such – through which one might further personalise their DSi, and thus one might be more likely to buy a new unit, rather than lend or borrow from a friend, or family.

The DSi also introduces other hardware changes – the speakers are more subtle in appearance but sound much more capable thanks to a new chip; the power switch is now a power button below the D-pad; the volume slider has been replaced by two volume buttons; and the aforementioned D-pad is much more tactile offering a marked improvement in diagonal

The success of the Nintendo DS surprised everyone, Nintendo most of all. Here was the ugliest hardware produced, seemingly burdened with a dual-screen and microphone gimmick – surely a desperate gamble by the House of Mario against the sleek, sexy, Sony PlayStation Portable. Five years, and two iterations later, the DS, which was once the “third pillar” of Nintendo's business,

is now leading the charge with more than 100 million units of hardware sold. Nintendo is clearly printing money here, and the DSi is the latest stratagem to ensure that the printers do not run dry.

Why DSi? After all, the DS Lite is an astounding success, why replace it? The thought behind the DSi handheld is simple: everyone should own one – it is ‘your own Nintendo DS’. With this mantra, the Japanese giant

DON'T LEAVE HOME WITHOUT THESE

You just bought a DSi and now have 1000 points to burn. Here are the best DSiWare titles to plonk those points on



Paper Airplane (200 points):

Manoeuvre a paper plane through an obstacle course for a challenging experience that you will find hard to put down.



Birds and Beans (200 points):

You are a bird. Beans are falling from the sky. The challenge is to collect points before a bean hits you on the head and kills you.

Power to the people

Lightly press the power button once to soft-reset and exit to the main menu

FREE! FREE! FREE!

Get 1000 points free by accessing the DSi shop before October 5, 2009

Winamp for AAC

Want to convert your MP3 music to AAC for use with the DSi? Use the free version of Winamp

Geek review

movements within games.

The DSi loses the GBA slot of the DS and DS Lite, which makes certain accessories – such as the paddle attachment of Arkanoid DS, the key grip of the Guitar Hero: On Tour game, the RAM pack for the DS Web browser, and the rumble pack – deadweights on the new console. And of course, you can no longer play GameBoy Advance (GBA) games on the DSi. This change makes the unit about 12 per cent thinner than the DS Lite but also slightly longer. The increased length is used to offer larger screens – now at 3.25 inches each, up from the older model's 3-inch screens.

While Nintendo hasn't revealed any spec changes, the DSi is powered by two ARM-based processors – ARM9 and ARM7, with the main processor clocked at 133 MHz. Its internal RAM has been increased four times to 16 MB. It also comes with 256 MB of flash storage, with the possibility of expansion through the SD slot. The DSi supports SDHC, and we successfully tested its operation with a 32 GB SD card.

Manufacturing fun

There are significant software changes made to the OS of the DSi: from the mundane (yet overdue) support of WPA security for wireless access (although older DS titles will not be able to access WPA-compatible routers and access points), to the significant revamp of the entire software interface and introduction of several key programs.

The underlying philosophy for the new software seems to be interactivity and fun (although the latter is subjective). Take the camera app to begin with: you can snap pictures by hitting the left or right shoulder buttons on the

DSi, using either the external camera for friends or family, or the internal camera for self-portraits. Photos can either be stored in internal memory or on the SD card. And then – and this is where the subjective fun aspect lies – you can apply 'filters' to photos. These

filters let you morph photos, or add sparkle, hearts, flowers to a photo, add/remove colours from a photo, compare and juxtapose, draw moustaches, snap on glares... you get the picture. Some might be endlessly entertained by this aspect of snapping and playing; while others bored by merely reading about it here, but the intent is to "have fun with photos in social situations", rather than, "take high-quality photos as mementoes".

A sound app shares the philosophy of interactivity. Here you can record your own voice via the DSi's microphone; you can also 'play' with your personal music collection accessed via the SD slot. Note that the DSi only supports the AAC audio codec. You can play with the pitch and speed of sound files as well as apply filters to sounds which add voice effects such as helium (for that chipmunk effect), transceiver (a radio effect), 8-bit (to hit it old school), and even allows you to play a track backwards. The music player offered is competent enough and offers a decent bunch of visualizations on the top screen, supports playlists, and even lets you join in a song via preset clapping, drumming, or cymbal sounds.

\$\$\$

The DSi introduces an online shop called DSiWare, wherein you are encouraged to spend. To that end, Nintendo even

CAVEAT EMPTOR!

Wii Points and Nintendo DSi points are not interchangeable. If you redeem them at the Wii Shop, you cannot use them at the DSi Shop, and vice-versa

doles out 1000 Nintendo DSi points free with the purchase of a DSi console – a limited time offer, but one made with the philosophy of 'the first one is always free', for sure. This online shop is region-locked and the US version, to which we had

access, offers little to blow money on as of this writing (a total of 15 games plus one free browser). Access to the DSi Shop requires a wireless router or access point and also requires purchase of the aforementioned DSi points (each point is approximately a US cent in value). Software sold here ranges from free to 800+ points. Currently, free gets you an Opera-powered web browser – capable, if not nearly as useful as its Wii counterpart. You can purchase points via the DSi, but you will need an international credit card and a location-specific billing address – if you have a US DSi, you will need US details; if UK, then UK details, and so on. Note that the Japanese unit does not offer an English interface. You could use a web site to purchase said points, as we did using www.maximuscards.com. Purchase through the DSi Store is straightforward, fast, and downloaded software is transferable to an SD card.

Is it worth the upgrade?

If you have a DS Lite, should you upgrade to the DSi? The answer is – it depends. Do you play a lot of GBA titles and do not have a GBA/SP/Micro? If yes, then the DSi will not be a replacement system but will be another console to carry. If the DSi is your first DS system then the answer is an obvious

YES – there are many great titles to own and enjoy on this handheld. Furthermore, the DSi Shop and thus the DSiWare introduced are worthwhile additions. There are already some good games to pick up (see box), and to some these games are reason enough to make the upgrade. There is also the promise of future DSi-enhanced, and DSi-only games. Games that will utilize the additional horsepower and the added cameras – Legend of Zelda: Spirit Tracks (working title) is already rumoured to offer camera functionalities to DSi owners. Note though: you wish to pick up the DSi for its two cameras, then don't. The cameras are nothing great, photos shot take up a green or blue tinge, and their low-light performance is abysmal. Further, there is only one DSiWare game that makes significant use of the cameras (Wario Ware: Snapped) and this too falters more often than not – playing this game is a frustrating exercise in finding just the correct lighting conditions or the game's facial recognition aspects fail.

However, the DSiWare library is the best reason to pick up a DSi. But here DRM rears its ugly head: DSiWare titles are region-locked and you cannot purchase a game sold on a UK store, using a US console. It remains unclear whether DSi-specific retail titles will be locked to regions as well. On that aspect at least, the DSi is unequivocally a step back. Another point to consider is that the DSi costs more than the DS Lite that it replaces – by about \$40.

So what's our verdict? If you love to spend time with Nintendo-style downloadable titles, then you should immediately pick up the DSi, for everyone else we would suggest waiting for the inevitable price drop and DSi-specific retail games.



Real Soccer 2009 (800 points):

Once a retail game, it offers 60 international and 98 club teams from all over Europe. Full touch controls bring gesture based soccer to the DSi. You can also use the camera to snap pictures to paste across the stadium, the ball, and even player's faces. A must-buy for soccer fans.



Art Style AQUIA & Art Style PiCTOBiTs (500 points each):

Two great puzzle games that you must play. Just buy them already.

Working tirelessly behind the scenes, these fifty people make Digit what it is



Semantic search

You can be certain that some kind of human editorialisation – judgement – will be involved in most new approaches to search. The problem lies of course, in the fact that in some areas, one man's fact is another's heresy. I first became properly aware of this in our industry when reporting on the strange case a few years ago of Microsoft's encyclopedia, Encarta. It turned out that many entries in Encarta would vary depending on the country in which it was to be published. I even found a Microsoft spokesperson on record as stating "Basically, we rewrite the facts for each edition." So, the facts, according to Microsoft, depended upon what country you happened to be in.

One good example was the invention of the telephone. Many potential inventors worked along similar lines, but in the Italian version of Encarta it stated that "the first rudimentary telephone apparatus was invented in 1854 by Italian inventor Antonio Meucci". This chap Meucci received no mention in the UK edition of Encarta. There, of course, the accolade went to Alexander Graham Bell.

I do not know if Microsoft still does this kind of thing, but it is so obviously the wrong way to go. For a start, if there is a dispute over who invented some widget, surely that fact should be mentioned in all references. The British edition of Encarta should have mentioned the Italian as at least having an input into the invention – his work was 22 years before Bell secured his patent. Ideally, the British and Italian versions should have the same information, balanced as objectively and accurately as possible.

Now, apply this to semantic search. I would hope that we would have that kind of balance. However, one simple test: the answer that WolframAlpha gives to the question "Who invented the telephone?" is only Bell. Meucci does not even get a mention – Bell is presented as an objective fact, and this is simply wrong. Even Wikipedia does much better than that, much to my surprise. Read what it says – it makes it quite clear that Meucci had a very good claim, but it was Bell who successfully filed the patent.

Similarly to the example of telephone invention there are many other facts and opinions that are in dispute across cultural or national divides. Surely, one of the great benefits of the internet is that we should be able to have access to both sides of any story, and make up our own minds which we find the most compelling. The internet

helps break down international barriers to information. It does not automatically remove all bias and prejudice, but it certainly helps you find a more objective picture. The last thing we need is some "authority" imposing its world view.

One of the reasons that I like the approach taken by Facility is that it does not restrict itself either to blind searching in the manner of Google or to editorialised computation like WolframAlpha. This means that even if some unwitting bias enters into the editorialised part of the search, there will be plenty of other sources delivered to you which should be free from such bias. It will be interesting later to ask this search engine from Italy just who invented the telephone! Will Bell get a mention? Even if he does not in the main editorialised section of the results - although I doubt that will be the case – he should show up in the section from encyclopedias.

Clearly, users of these new systems will need to use as much care and judgement as they do now when using search engines. Many years ago, when search engines such as AltaVista started to become available, many people were surprised to find that they had to develop a skill in using the search engine, and had to be thoughtful when composing a particular search request. I remember some colleagues being quite proud when they had managed to compose a search request that brought out exactly what was needed, and without it being buried among 50,000 other results.

Just because we are entering the world of semantic search does not mean that such care and attention can be dropped – my simple example with WolframAlpha demonstrates that. We will all need to remember that we will have to work hard and thoughtfully with these new systems. We will be on a learning curve if we are to get the best from these new search engines and benefit from the objectivity that should be a primary feature of using the internet as an information resource.



Edward Henning, Editor-in-Chief

"Many years ago, when search engines such as AltaVista started to become available, many people were surprised to find that they had to develop a skill in using the search engine, and had to be thoughtful when composing a particular search request"

A handwritten signature in black ink that reads "E. Henning".

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