

# digit

YOUR TECHNOLOGY NAVIGATOR

## Which Linux is right for you?

6 Flavours tested to find the

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AUGUST 2004



The All-rounders

25+ Multi-Function Devices  
Put Under The Scanner

**I Got The Power!** UPS Solutions  
That Keep Your SoHo On The Go



The Wireless Phenomenon  
Five Business Leaders On Why  
They Shifted to Wi-Fi

**Video At The Workplace; Cell  
Phone Jammers...** Technology  
Solutions For Your Business



Kapil Gupta's Firm Made  
Rs 40 Lakh Off The Net.  
Here's How You Can Too!

**PLUS**

Arm Your Mobile Workforce  
The Complete Picture on  
Photo Printers





**Maulik Jasubhai** Publisher

# Publisher's Note

## Waking Up To A Brand New Day

**I**NNOVATION IS A peculiar challenger—it keeps staring at you all the time, but almost always waits for you to make the first move.

Grappling with this challenger has been a delightful and rewarding experience—both for us, and for our readers.

When Ernst and Young certified our print run of 1.2 lakh earlier this year, we were humbled more than proud. That *Digit* is India's undisputed leader in the tech media segment bears no repetition. Therefore, it would have surprised many when we decided it requires change—a complete makeover that would give it a new skin, a new personality.

Why, many asked? *Digit's* readership is by far the largest in the tech media segment, and despite new entrants in the market, has held on to its No 1 position with the possessiveness of an Australian cricket captain holding on to his World Cup.

But change and innovation have been deep, underlying philosophies at *Digit*. We were India's first magazine to give a free CD, and later, two. In December 2003, we became India's first publication to give a movie VCD free (*Ice Age*). In August 2003, we bundled a free Linux DVD.

Our competitors followed by giving DVDs once in a while, or copying our packaging all the while. Even their CD nomenclature was similar. We were humbled again.

Imitation, as the Mahatma said, is the most sincere form of flattery.

From August 2004, we decided to pleasantly surprise our readers once again. *Digit* is now India's first magazine to give a DVD free with every issue—4.3 GB of the best software, the best games, the best entertainment. And we won't be

surprised if this time too, competition follows our lead.

As a magazine, too, *Digit* has evolved. It underwent this makeover because our reader is now more technology-aware than ever before. Technology is no longer on an esoteric geek plane, but something he uses every day, in every imaginable (and perhaps, unimaginable) way. It is no longer just about inanimate hardware and mute software; it is now about people, and how they use it in real life situations. It is about what technology can do for us, in ways we sometimes did not even realise it could.

I hope you enjoy your favourite magazine's new avatar, and continue to be fellow travellers on this exciting journey.

[maulik44@jasubhai.com](mailto:maulik44@jasubhai.com)

PS: I would like to introduce Sachin Kalbag, *Digit's* new Executive Editor. He has been with us for six months, and brings with him 10 years of media experience—print, radio and Web. In between qualifying for the final rounds of BBC Mastermind, reading up on world mythology, and listening to Django Reinhardt, he teaches journalism in Mumbai. Apart from that, he says, he pretty much does nothing.

Meanwhile, our dear Sumod shall continue to be the 'geek on board', guiding you through the labyrinth of core technologies.

# Editorial

## Welcome to the Fourth Wave

**A**lvin Toffler's Third Wave is receding. Or is it? Conventional wisdom would say no. Toffler's First and Second Waves — the agrarian and industrial economies — are long over, and it is the information society that defines this age.

Stock markets react more sharply to Wipro's fortunes than a cement major's; software exports touched Rs 80,000 crore last year, three per cent of India's GDP; there are more cellphones than landlines in several Indian cities; and laptops are no longer being bought only by jet-setting executives.

Yet, it is becoming increasingly evident that the Third Wave is now making way for the Fourth. Not because technology is no longer relevant, but because it has stopped fascinating us. We are used to it, we take it for granted, but most importantly, we want to know how to use it best.

Therefore, the Fourth Wave will not be *about* technology, but *how* we exploit it.

Consequently, more than ever before, we are being subtly pushed into understanding what technology's new manifestations are, and master them. It is these avatars you shall see in *Digit* from now.

They will reflect how we — post-modernist children of a society travelling at hyperspeed — take a pause and look at technology. We always knew we interacted with technology, but could never put a finger on how we did it. *Digit* has made an attempt to do just that.

You will find stories that thrill, inform, educate, and entertain. 'Enter' launches you quickly into the magazine, at the pace you are used to when playing *NFS Underground* — furiously fast.

It progresses to 'Digital Passion', with stories that fuel the pursuit of technology knowledge; of people who hold technology dear to their hearts.

The 'make-technology-work-for-me' feel is reflected in 'Digital Tools', with articles that place you ahead of your peers at the workplace, or otherwise. It is replete with tools that maximise your productivity, and is aimed at the individual as well as the SoHo segments.

Naturally, then, the next stop is 'Digital Business' — tools to maximise returns on investment and cut costs to give muscle to the bottom-line of small and medium businesses, a segment

Photo: Mexy Xavier



**Sachin Kalbag** Executive Editor

**“The fourth wave won't be *about* technology, but *how* we exploit it”**

that holds tremendous promise. We finally leave you with 'Digital Leisure', to understand how technology has permeated our lives beyond the workplace. This is where you relax, and spend some quality time with technology, having fun all the while.

You can then hit 'Esc', the perfect exit to the magazine, and one that leaves a sweet after taste, just like dessert after a hearty meal.

When you read the new *Digit*, you may realise that the Fourth Wave was always upon us, only we never realised it. It is a thought that may make us smile, and if it does, we just may have a great time ahead together.

sachin\_kalbag@jasubhai.com

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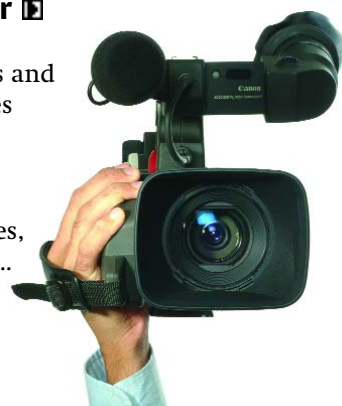
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**Rainbow Islands: Candyland**  
**Starsiege: Tribes**  
135 MB, Full Version



Full Version

### GAME VIDEOS

**LOTR: The Battle For Middle Earth**  
90 MB

### SOFTWARE

**Probe Profiler Freeware 5.2.1**  
**VB.NET to C# Converter 1.1**  
**GLBasic SDK 1.4**  
**MSS Mobile Development Environment (MDE) 4.2**  
**ASPapp Portal 3.1**  
**RecruitOffice DB Silver**

### CONTRIBUTIONS

**PowerUtils 1.8**  
**Win Locker**  
**RemoteAdmin 1.0**  
**Tweakz**  
**Medico**



### SMALL GAMES

**Pteroglider**  
**Rainbow Islands: Candyland**  
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## DIGITAL TOOLS

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Create your own bootable CD with all the essential DOS and Windows software

### SYSTEM TOOLS

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**Hathor Media Server 1.3.1.62**  
**RightMark Audio Analyzer 5.3**  
**XPlay 2.0.8**



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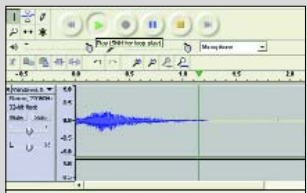
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**ATI Catalyst 4.7 (98)**  
**Windows XP SP2 RC2**

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**ARTICLES IN PDF**  
**Q & A**

## DIGITAL BUSINESS

### PRODUCTIVITY TOOLS

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**Mozilla Thunderbird 0.7.1**



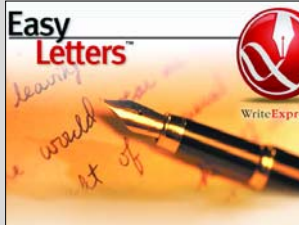
**MemoKeys**  
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**CyberCafePro Server 4.1**  
**WriteExpress Easy Letters 2002**

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The Growing Importance of XML and Web Services  
Eleven Steps to Successful Data Warehousing  
Intelligent Disaster Recovery Option  
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## DIGITAL LEISURE

### EBOOKS ON CLASSIC LITERATURE



**A Dog's Tale**  
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**Letters of Mark Twain**  
**Short Stories**

### BOOKMARKS

**JustLinux.com**  
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**Linuxlookup.com**  
**Linuxhelp.net**  
**Linuxquestions.org**  
**control-escape.com**

### MUSIC

**Jack Johnson - Flake**  
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**JEZA - Watching the cellphone**  
**Splat - Once in a Lifetime**  
**Wind that Shakes the Barley - Maid on the Shore**

### MOVIE TRAILERS



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## The designer who made the difference

Digit's new look will not be complete without a mention of **Hashim P M**, whose fine sense of design has driven this magazine's new personality. The 35-year-old unassuming Master of Design from IIT Bombay's Industrial Design Centre spent innumerable days (and nights!) defining Digit's design vision, and then perfecting it. Hashim runs his independent design studio, Design Difference, out of Cochin. You can write to him at [designdifference@vsnl.com](mailto:designdifference@vsnl.com), or visit his Web site [www.design-difference.com](http://www.design-difference.com).

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Phone: 55221051, 27894167, 3362980



## Virtual Reality

Sony Labs have devised Transticks—removable media that act as a virtual wire and as a shared memory card. The virtual wire can be used to connect laptops to slide projectors, while the cards will allow two computers to share memory on a server.



## A Video iPod

UK mobile supplier Peripheral Corner has launched "Swiss Army Knife of gadgets"—a portable video player with a hard disk. It has 40 GB, ready for MP3, MPEG 4 video and JPEG pictures, which are downloaded from a PC via USB 2.0.



Illustration: Anil Deshmukh

# Enter

## Geet Sethi Sportsman

Geet Sethi, six-time world billiards champion, Padma Shri, Arjuna Award winner, national snooker champ, and founder of sports portal, *Khiladi.com*, speaks to *Digit* on technology, technology, and well, more technology.

### What does technology mean to you?

Technology speeds up communication and eases work. Gadgets help simplify and streamline lots of activities.

### Is technology only for geeks?

Technology touches every part of our life—transport, communication, even in mundane services like booking tickets online. We will be wrong to say technology is for geeks only.

### And how do you use it everyday?

For communication, mainly. I use my Palm Tungsten T for e-mail. I use my Bluetooth-enabled mobile phone for easier communication, and my Sony Vaio notebook. I use the laptop to write columns. At home I use audio-video systems. Not to forget, my laptop!

### What gadgets do you usually buy?

I'm interested in PCs, audio systems, and MP3 players. I think the Apple iPod is beautiful.

### Do you keep up with latest tech trends?

I read lots of foreign magazines like *Fortune*. Sometimes keeping up to date is difficult especially if you play lots of events on the professional circuit.

## WEB BATTLES

# War of the Searches

Politics makes for strange bedfellows. So do e-mail and search wars.

Take Yahoo! and Google. Until a year ago, both were best of pals, with Yahoo! even being a long-time investor in Google.

Back in 2002, Yahoo! took on Google as its partner to power its search. In February 2004, the two companies parted ways: Yahoo! began to test its own search engine.

And recently, Google launched Gmail, starting off the e-mail-storage domino-effect.

Then, in July, Google acquired Picasa, an online photo-management

company that makes software for organising digital photos. In May this year, Picasa's technologies were integrated into the Blogger service of Google, in order to help simplify the process of publishing and sharing of digital images within the context of Blogger.

The latest is that Yahoo! has acquired Oddpost Inc., a startup that has "gained the reputation for making it easier and more enticing

to communicate on the Web," according to MIT's *technologyreview.com*. And according to *internetweek.com*, "Oddpost technology will play an

important role in developing of the next generation Yahoo! Mail."

Yahoo! spokesperson Mary Osako said in an official statement, "The acquisition of Oddpost provides Yahoo! with outstanding technological expertise, which will be brought to bear on products across the Yahoo! network, such as Yahoo! Mail."

So why did Yahoo! want Oddpost? Oddpost's application provides regular e-mail, photo sharing, and news feed aggregation. The application functions like a desktop application without the need to continually refresh pages, through a combination of DHTML, XML, and JavaScript. The application remains accessible from any location. Ostensibly, the new Yahoo e-mail service

**With Google taking over Picasa and Yahoo! acquiring Oddpost, the two giants are ready for a face off**



Illustrations: Manish Benkar



## Security Watch

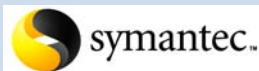
**W32.Beagle.AG@mm**

**Also known as:**  
WORM\_BAGLE.AH,  
W32/Bagle.ai@MM

**Infection Method:** This mass-mailing worm uses its own SMTP engine and opens a backdoor on TCP port 1080. It sends e-mails to addresses found on the victim's computer. These include attachments that have .com, .cpl, .exe, .scr, or .zip extensions. The 'From' address is spoofed. It also copies itself to folders that have 'shar' in their name. It uses fake file names (ACDSee 9.exe, Porno Screensaver.scr, etc) to fool the user into executing it.

**Damages:** It generates a flood of e-mails, and thus slows down the PC, clogs mail servers and degrades network performance. It also kills processes associated with anti-virus applications.

**Removal Instructions:** Download its removal tool from <http://security.response.symantec.com/avcenter/FxBeagle.exe>. Close all applications, disconnect the system from the network, disable 'System Restore' and run this tool. Reboot the computer and run the tool once more.



would incorporate some of this.

In addition to this, Yahoo! offers RSS newsfeeds, which Google does not.

So what's next? Yahoo!'s Content Acquisition Program (CAP), of course. Yahoo!'s CAP plans to map the deep web, or the invisible web, the part of the Web currently uncharted by crawlers. What Google will do about that remains to be seen.

### SMART PHONE

## A phoney future

We knew this was coming. "All the credit cards, keys, money-all that



stuff in a purse or wallet-should go into the phone," Takeshi Natsumo says. "By having the phone with you, you shouldn't need anything else but your clothes." Natsumo, MD for i-mode strategy at NTT DoCoMo, the biggest cell-phone company in Japan, is talking about

DoCoMo's plans for a new smartphone.

i-mode, DoCoMo's wireless Internet service, is planning on nothing less than a phone that will act as a remote control for your life. This "remote control" will include cash, credit cards, other commercial cards, driver's license, business cards, bank documents, cheques, and even your house and car keys. Sounds futuristic?

But that's exactly Natsumo's vision for right now. The phone will feature a Sony chip, called 'Felica', that lets it pay at checkout counters, serve as personal identification, unlock doors, operate household appliances, and buy various kinds of tickets, amongst other tasks.

DoCoMo's first target is Japan's railway stations, which house restaurants, department stores and more. In addition to stores, the Felica phones can replace the cards that Japanese currently use to move through turnstiles.

Naturally, such ubiquitous computing has its perils: what if a phone is used by a hacker to "download" money from another person's phone? Also, DoCoMo will have access to too much info about a customer. It is fear about such issues that may delay mass deployment.

By the way, read our feature 'Good-bye laptop,

**DoCoMo's wireless service, i-mode, is set to come up with a phone that plays remote control for your life**

## HOT



### MFDS

Why buy many, when one will do! Multi-functional Device (MFD) sales are on a rise as users are preferring a single-point solution for their scanning-printing-copying and faxing needs.

## NOT



### Low-end Scanners

Entry level scanners that served us faithfully all these years are being pushed to oblivion by printer-scanner-fax-photocopier combos that save money and desk space.

Hello Smart-phone' in Digital Passion to get an idea of what the future smart-phone can do.

### PRIVACY MATTERS

## Darling, may I read your e-mail?

In privacy-crazy America, a new ruling by a Boston federal appeals court may seem outrageous. It ruled that e-mails may be read by anyone, without a search warrant.

The court ruling says that if an e-mail has been stored on a server for even a millisecond, then, ostensibly because it's not entirely yours, the privacy that you assumed the e-mail should be accorded does not exist.

There's also a difference



## One Silly Question

Which browsers do you know and prefer?



I prefer IE because it's like a phone number. I'd never want to change it.  
**Rajat Mishra, Bangalore**



IE, MS Explorer and MSN Explorer. I use IE. It's easy to use.  
**Ashwini Ramakrishnan, Navi Mumbai**



IE, Opera, Netscape. I prefer IE6 as it's user-friendly. Opera isn't for first timers.  
**Sachin Chandna, New Delhi**



I know only IE and Netscape. But I prefer Internet Explorer.  
**Laxmi Ravikumar, Chennai**



I only know IE and Netscape. I prefer IE because I am used to it.  
**Priya, Mumbai**





## The Digital World

A round-up of technology news from across the globe

### LOS ANGELES

Are cyber cafes responsible for truancy and youth violence? The Los Angeles City Council thinks so. This powerful body has now passed an ordinance restricting the number of hours during which minors can visit Internet cafes. It has also made it mandatory to install video cameras for security.



### VATICAN CITY

Two million books, manuscripts and other literary gems at the Vatican Library in Rome will now have Radio Frequency Identification (RFID) tags, making them easy to identify and manage. At last count, the library has tagged more than 50,000 of its 1.2 lakh volumes in its public reading rooms.



### UNITED KINGDOM

London-based 33-year-old millionaire pirate Mark Purseglove has been jailed for three and a half years for bootlegging music CDs worth 15 million pounds (Rs 131 crore). He pirated CDs of bands such as Oasis, David Bowie, Eminem, Michael Jackson and The Beatles. He printed covers of illegal music CDs and sold them for 12 to 15 pounds apiece.

### JAPAN

The Japanese telecom ministry announced that bags of schoolkids in Tabi will be tagged with RFID to monitor the little ones on their way to and from school. Parents will receive updates about their kids' whereabouts.



### FRANCE

France has become the latest government to embrace open source software, when it replaced 1500 Windows NT servers from Microsoft with MandrakeSoft. The deal was struck by the French Ministry of Equipment.

### SINGAPORE

Twenty-three-year-old student Kimberly Yeo typed 26 words in just 43.24 seconds to create a new world record of the fastest SMS ever, beating the previous world record of 67 seconds.

between read and unread messages: you'll need to figure out the logic here. If a message has not been read by the recipient, prosecutors would have access to the message only through a search warrant. But if the message has been read and remains on the service provider's server system, a subpoena, rather than a search warrant, is enough for a prosecutor to open and read it.

At the backdrop of all this is the wiretap law, which requires prosecutors to prove their need for a wiretap. The law applies to

But despite all the legalities, the law will not make much difference to most people, because most major ISPs have explicit policies against anyone reading their customers' e-mails.

Still, one wonders if this ruling is a result of the Big Brother phenomenon. Will there come a time when the US government will actually have access to all e-mails? Only time, and more lawsuits, will tell.

3G

## No porn please, it's a phone

Vodafone, a major UK mobile carrier, has implemented an adult-content blocker on its 3G service. 'Adult content' refers not just to porn, but also to gambling sites and other such. The move has made for mixed reactions: child protection groups have lauded it, while some users say it is troublesome. One needs to go to a Web



e-mails only when they are in transit, not once they are resident on a server. It all seems logical now: you're not tapping a wire if you're reading a resident message!



## Three Incredibly Useful Sites

Hunt for your ideal soulmate

### Indian Dating



<http://www.indiandating.com/>  
Launched in 1998, this is the granddaddy of Indian dating sites. Photo profile creation is free. Search the database with simple search, or use the advanced search tool for specific results. You can also look for a particular member by using the handle or keyword search.

### Indian Friend Finder



<http://www.indianfriendfinder.com/>  
Part of the international Friend Finder Network, Indian Friend Finder has Indian as well as an international database of singles, pen pals and activity partners. Get access to Indian Friendfinder Magazine with dating and relationships tips.

### Fropper



<http://www.fropper.com/>  
Formerly called DesiCupid.com, Fropper (short for Friend Hopper) encourages users to build relationships – be it platonic or romantic. Its USP? An instant messenger. Users can also start a free private network which is first reviewed by a panel of experts before allowing it to go online. It also has a premium membership section.

# Beat That!

## Phonebook > Delete > Hairdresser

Every month, the *Digit* team will come up with a funny caption for a photograph. All you have to do is come up with something funnier, and beat them at their own game!

Send your captions to [beatthat@thinkdigit.com](mailto:beatthat@thinkdigit.com) and win an **Optical Mouse** from **Logitech**



Photograph Jiten Gandhi

site and register using a credit card to turn the filter off.

Vodafone said that the implementation of such a system on a network with such a large consumer base was bound to have its teething problems, but there's no shortage of complaints.

Amongst those who didn't like the content blocker were one customer who

found himself blocked not just from adult content but all his corporate e-mail. One user was prevented from

**Vodafone has started an adult-content blocker on its 3G server. It will block porn as well as gambling sites**

reaching the Sky mobile site because the news site "might contain stories inappropriate for people under 18". Yet another said the system simply wasn't working, because when he

typed in "porn" in Google, he was able to surf porn sites within seconds.

In January this year, all major UK network operators agreed on a code of practice designed to restrict access to adult content with the aim of protecting children. They signed up to have their filters in place by the end of 2004.

### CONVERGENCE

## A TV on your lap

Ever wished for a laptop that you could use as a TV set? Of course you have, but then there's the hassle of attaching a TV tuner card, starting up a special software, and so on, right?

Toshiba has come up with just what you might want: a laptop it calls Qosmio, which allows you to watch TV without booting the computer up. Combine this with what Toshiba says is the best laptop display in the market, and you've got a great product on your hands. Analysts say this is the beginning of a trend that will last for years to

come. The Qosmio will be Toshiba's first laptop to fully integrate audio and video features, including a bright, near-TV-quality display, DVD drive, TV-



tuner, and enhanced speakers. A user could click on the TV with the laptop's remote control, or watch a DVD movie without having to go through the process of starting the OS.

There's a caveat, however: if you want to pause a show, or record a broadcast onto the hard disk, you'll need to boot up the system. But then, imagine watching TV and recording a clip onto your hard disk, just with a mouse click, and having access to the clip ever after.

Even though you can



### Best Buys



#### Cheap handhelds

Find some cool offers for PDAs from Tungsten, Sharp and Mitashi. The **Rediff.com** ValuStore also has a Palm Internet Watch for Rs 3,000. Some handhelds are priced as low as Rs 500. Of course, those are the basic models. For some more features, you'd have to shell out anywhere between Rs 1,200 and Rs 2,000.

<http://shopping.rediff.com>

#### Cool digicams

It's raining digicams at **Sify.com**, at unbelievable discounts. Get Rs 8,000 off on a Rs 14,999 5-in-1 SlimCam. Or save a whopping Rs 6001 and grab the DV3 Camcorder originally priced at Rs 12,500. It's nearly 50 per cent off on most of the goodies, including a Spy Pen Digicam.

<http://sify.com/shopping>

A selection of best offers from popular e-com sites



already watch TV on any computer with a TV tuner card, with this kind of convenience, it probably won't be long before the DRM, RIAA and MPAA guys come in.

## IM MERGING

## Even three make a company

Microsoft, AOL and Yahoo! have announced an agreement that will link their instant messaging networks. This, however, is for business users only. The combined network would get to more than 400 million customers globally. The agreement is aimed at making instant messaging as widely used as e-mail is, without the network compatibility problems associated.

"This agreement represents the dawn of the next era for instant messaging, which will unleash the true potential of real-time communication and collaboration in the workplace," said Edmund Fish, senior vice president at America Online.



The new system will be based on Microsoft's Live Communications Server 2005. It will serve as the hub that will connect the messaging systems.

Nate Root, a senior analyst with Forrester Research, says: "This is a very significant announce-

ment. The value here is for corporations. Corporations will now have the ability to span the instant messaging landscape."

However, for now at least, the three companies have no plans to integrate instant messaging outside corporate workplaces. "What this does not do," Root said, "is the holy grail of instant messaging, which is to allow anybody on any network to send a message to anybody on any other network."

The new service being would have features that include recording and saving of messages sent over IM, and a guarantee of secure communications, which the free IM services do not provide.

Corporate use of instant messaging is widespread, but it remains to be seen whether companies will be willing to actually spend on the new service, thereby formalising instant messaging.



## Trust busters

Recently, we decided to buy a pack of VCDs from Indiatimes Shopping. Registration done, we were the



proud owners of a 15 per cent discount coupon. A few clicks and pages later, it was time to enter the coupon number and wait... Imagine our surprise when it threw up an "Already used" error!

We then scoured the site for a Customer Support link. There wasn't one. So we sent a whining e-mail via its Feedback Forum. A week passed and a month thereafter. No sign of a reply. We caught sight of their toll-free shopping number and dialed to give them a 'blast'.

But no sooner had we dialed than a curt, cold voice (reminded us of ice) 'informed' us that we can just "place" orders not "complain" about one! Not cool at all.

There are variants of this method - in some cases, different algorithms in the pool combine and discard properties according to the Darwinian principles of crossover and mutation, in order to arrive at the optimal algorithm.

The relation to Net downloads is that a lot of the data transmitted over networks is repeated. If all data were to be transferred afresh each time, it would mean a waste of resources. To solve this problem, data is cached at certain servers, and for a certain period of

time. But where, and for how long, is not a trivial problem. It is for this problem that the genetic algorithms were developed.

The scheme could, at some point in the future, be

## GENDER



## BENDERS

### Kartik Iyer v/s Sapna Lokahnde Connecting routine peripherals —mouse, monitor and keyboard



Kartik, 19, commerce undergraduate, is confidence personified. He connects the mouse and keyboard in one stroke. But he gets confused over why the monitor cord is double-ended. Stalemate. It takes over a minute till he solves the mystery. He inserts it into the right slot. Finally. The machine hums to life after he switches on the mains.



Sapna Lokhande, 19, a commerce undergraduate, laughs nervously before she begins. Did she expect something tough? She does a mental toss-up, and chooses the mouse first. The keyboard is also connected. But Sapna, too, is stuck at the monitor cord. Finally, everything falls into place.

## DOWNLOAD

## And now, evolution for technology

Darwin's theories of evolution may soon dictate how soon a download completes.

Scientists at the University of Karlsruhe in Germany are developing genetic algorithms that would help in speeding up Net downloads.

A genetic algorithm is one that has been "bred" by the principles of Darwinian evolution: for example, from an initial pool of algorithms, the ones that give the best results are chosen for the next iteration, and so on, until one algorithm emerges the winner. This is the "optimal", or best, algorithm.

**Scientists in Germany are developing genetic algorithms that would expedite Internet downloads**

**WHATWHENWHYWHEREWHOHOW**  
**W5H**  
 WHATWHENWHYWHEREWHOHOW

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 Find the people you need through the people you trust

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That means you can find jobs, locate employees, and close deals faster and more reliably than ever before.

**Start your Network**

**LinkedIn.com**

### What is LinkedIn?

How many people in your phonebook? 50? 350? Maybe, even a thousand. How about increasing that contact list to more than a few thousand—from across the world. LinkedIn allows you to do just that. It is safe too, since new contacts are made only through trusted connections.

### Who founded LinkedIn?

Reid Hoffman is the man behind LinkedIn. Currently on the board of directors of four other business consultancies and Web sites, Hoffman is also an angel investor with interests in several sites.

### When did LinkedIn begin?

Interesting story. Sometime in 2002 LinkedIn's founder Reid Hoffman spent five days looking for a Flash designer for his erstwhile company PayPal. None of his contacts could send him the ideal person. Finally, a colleague suggested her friend's friend for the job. Hoffman knew the time for a networking site had come.

### Why choose LinkedIn?

In one word—credibility. Very few sites have earned the trust of its users, and LinkedIn is one of them.

### Where is LinkedIn located?

Close to our best online friend, Google, at Mountain View, California. Networks are spread worldwide.

### How do I use LinkedIn?

Create a profile on LinkedIn just as you would create a profile for an online email service. A profile allows you to search for people connected to your through your network for job listings, mentoring, financial services and venture capitalists from different countries and sectors.

used to allow caches to automatically “evolve” their configuration. “Further development could involve different rules suited to each individual host or subnet involved in the internet,” says Pablo Funes of the University of Karlsruhe. “One can even imagine each host evolving its own optimal rule.”

### DVD COPYING

## Sharing is not loving

Marking a shift in the way the movie industry has reacted to the threat of online piracy, a group of media and technology companies, including Microsoft and Disney, have agreed to allow consumers to make legal backup copies of “next-generation video discs”, and share the content on portable devices. Next-generation DVDs will deliver superior video and audio, although technology and media companies haven't yet reached a consensus on which competing DVD format will prevail.

The announcement comes in the wake of all the hubbub about piracy, file sharing and copying of media.

The group of companies also includes IBM, Intel, Matsushita Electric Industrial Co. Ltd. and Warner Bros.

Today's DVDs are protected by the CSS (content scrambling system), which prevents copying. The computer and consumer electronics industry have pushed to allow easier, more seamless sharing of media between TVs, computers, and portable players. The alliance has named its yet-to-be-developed content protection technology “Advanced Access Content System (AACS).” The system will be available for licensing



later this year.

The new AACS system is logical. If you have a DVD, it should be legal to have a backup of it on your hard disk, just as it's legal to have a backup of a cassette tape. But it's anyone's guess what this move will do for DVD piracy, and how far it will be successful in maintaining legitimate use of copying facilities.

### INDUSTRY

## Shalom, India!

Intel and Motorola might leave Israel in favour of India and China as their new international hubs, Gartner's Israeli representative said in Jerusalem last month.

Baruch Gindin, Gartner's Managing Director for Israel and West Asia, has warned Israel's Knesset Science Committee that there is a serious risk that the two companies might leave Israel in favour of the “better” and “thrifter” alternatives offered by India and China, Israel's Maariv International magazine reported.

This seems to be an issue of serious concern in Israel right now, because of the contributions that the two companies currently make to the Israeli economy.

Although nothing is confirmed as yet, India

could well benefit from the extremely strict tax laws in Israel. India could also benefit because of its cheap labour.

A new report, released in July, indicates that the world semiconductor industry is expected to record a 50.9 per cent increase in financial expenses in comparison with 2003, with equipment expenses surging by 63.5 per cent. Gindin made his remarks in reference to this report.

Gartner has recommended that the Israeli government resolve this problem by changing tax laws, and by launching a global campaign highlighting the advantages of the prospective scene in Israel.

Israel is deeply entrenched in the semiconductor industry. It also designs and manufactures

machinery used in the manufacture of semiconductors. The shares of 140 Israeli companies are traded on the US stock exchange.

This is rated as the highest from any non-North American country. So why the proposed shift to India?

Apart from tax laws and cheap labour, these companies also have a wider talent base to choose from. It remains to be seen whether the Israeli tax laws will be changed soon, and whether, therefore, this is the beginning of a trend—and in the meanwhile, Indians can look forward to more jobs. ■

**Intel and Motorola, who may leave Israel soon, are eyeing to set up hubs in India and China**





**36** All About  
Photo Printers



**42** 30 Days With  
Apple iPod



**48** [DeXter]'s  
Laboratory

# Digital Passion

Fuelling the pursuit of technology knowledge

**Meera Vankipuram**

**D**eepak Pawar's modest workplace in Mumbai is like any event management office—replete with executives scampering to get the work done to perfection, telephones buzzing incessantly, logistics coordinators talking with their clients, and visitors entering and leaving the premises with elegant alacrity.

The office also has a peculiarity that most workplaces don't. It smells of obsession—Pawar's passion for all things on the bleeding edge of technology.

Pawar, managing director of Midas Events, craves for gizmos just as Sachin Tendulkar craves for Pepsi—*yeh dil maange more*. His O2 Xphone, for instance: If technology were fashion, then O2 is its Tyra Banks—sexy, hard-

working and intelligent. This smart phone with PDA functionality, is pricey—at around Rs 20,000 in the grey market.

"I like to own stuff that no one else in India has managed to get their hands on," says the 35-year-old Pawar. "My motto is, if someone else has it, I don't want it."

His subsidiary gizmo list: A Compaq iPAQ 4850 pocket PC, a Nokia 7610 camera phone, a digital guitar, a 30 GB Apple iPod with the iTrip FM transmitter, and a Bluetooth and WiFi-enabled IBM ThinkPad T41 notebook.

A cool laptop is also something that Rohit Gupta has—a Dell Inspiron 8500. In India, where buying a laptop is still mostly determined by the company you work for, Gupta decided to invest in one of his own. It's certainly not at the top of the notebook charts, but at \$2,780 (approx Rs 1.3 lakh) it's certainly

one of the most desired. With a configuration that goes something like this: Pentium 4 2.4 GHz mobile processor, 512 MB DDR RAM, 60 GB hard disk, 15.4-inch wide screen with WSXGA resolution, a combo-drive, a 64 MB

nVidia GeForce4 4200 Go graphics card—who wouldn't.

Gupta, scion of the multi-crore Gupta Group, a mid-level conglomerate that has interests in finance and trade, says he is going to attack the Nokia 6230 next. And a digital video camera after that.

Pawar, on the other hand, wants a smart robot next; something that could take calls, and perhaps even check email regularly and report to him. "I had the Sony AIBO (the robotic dog that made news a couple of years ago), but I gave it away because it was just

## Main Story

# Welcome to Gizmoland

**Premium Nokia handsets, Tungsten T3s, Apple iPods, high-end IBM notebooks – just some of the gizmos that India's tech elite is buying. Meet the men behind the gadgets**

Photograph: Jiten Gandhi



## Main Story

another expensive toy—not very smart.” When it comes to technology, humility is not a virtue that Pawar possesses.

And why should he, when his office and car are enough to send a geek into a tizzy.

His office is WiFi-enabled, and his Mitsubishi Pajero SUV is fitted with a Bluetooth-enabled phone, a Waypoint GPS receiver, the iTrip, a Pioneer S1 audio and video player with digital surround, and an unbreakable solar panel to recharge batteries while on treks.

he would have spent the rest of his life, had it not had a closing date. “The people at the stalls were a bit taken aback at my interest and my inquisitiveness. My knowledge comes as a surprise to them.”

He loves his old stuff, too. He has kept his first ever PDA—a damaged O2 XDA—at his office, as an antique piece. But he currently uses a Compaq iPAQ Pocket PC. His favourite acquisition is the Nokia 7650 the first phone with a one mega pixel camera.

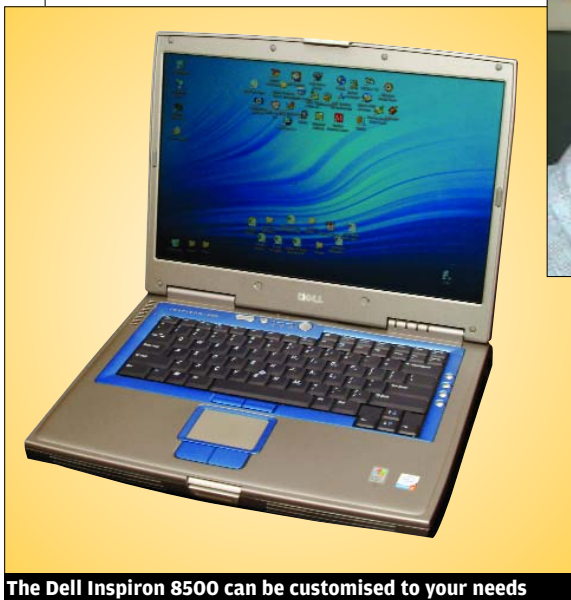
Another cool one is the Yamaha digital guitar—a gadget that outputs both analog and digital signals, and thus can be connected directly to a PC to record and create music.

Not surprisingly, his event management company offers Web casts of high-profile events. Pawar also advises Bollywood biggies on which gadget to buy, the next time they are abroad. His

gizmos? Well, they come in “mostly through friends, from all over the world.”

On the other hand, Gupta’s Dell came through an auction site. Like all of Dell’s products, Gupta could customise his laptop. He settled for a configuration that cost him Rs 1.3 lakh. But he also got a three-year global warranty from Dell. “I’d love to own all the gadgets in the world, if I could afford them.”

Girish Mistry, veteran photographer and Dean of the Shari Academy, one of the only two professional photography institutes in India, swears by his Canon EOS 10D. On its



The Dell Inspiron 8500 can be customised to your needs

He uses his Waypoint receiver whenever he is abroad—especially Europe (“Amsterdam is my favourite place”) or in the US. When in Europe, he uses the TOM TOM Navigator software to get around, using his GPS receiver and PDA. Pawar is also a regular visitor to CeBIT, the world’s premier technology fair, held annually in the German city of Hanover, where



**I’d love to own all the gadgets in the world, if I could afford them**

**Rohit Gupta**  
Director, Gupta Group

## Top Ten

1. 40 GB Apple iPod with the iTrip FM transmitter
2. Bluetooth and WiFi enabled IBM ThinkPad T42p notebook
3. Dell Inspiron 8600
4. Nokia 6600
5. Nokia 7610 camera phone
6. Sony Ericsson P900
7. PalmOne Treo 600
8. PalmOne Tungsten T3
9. O2 XDA II
10. Toshiba e805 Pocket PC



**If someone else has it, I don’t want it**

**Deepak Pawar**  
MD, Midas Events

## Have Money, Will Buy

Celebrities of all kinds—from the Indian film industry to corporate biggies, find gizmo-buying the ultimate aphrodisiac. Or so it would seem, considering the gadgets they sport: If singer Shankar Mahadevan takes his Sony Ericsson P900 everywhere, actors Amitabh Bachchan, Preity Zinta, Shah Rukh Khan, Abhishek Bachchan, Vivek Oberoi, and Kamal Hassan are possessive of the Apple Powerbook.

So are musicians A R Rahman, Sandeep Chowta and Lucky Ali.

**Shankar Mahadevan**



**Preity Zinta**

also for Kolkata-based ad guru Ram Ray.

Model-turned-actor Marc Robinson owns a Nokia 3205, while cueist Geet Sethi dotes on his Palm Tungsten T.

Actors Sunny Deol

**Shammi Kapoor**

and Shekhar Suman are quite the gadget freaks and have made their

The Apple iBook is also the hot favourite of Shammi Kapoor, as

also for Kolkata-based ad guru Ram Ray.



homes wire-free. So has Anil Kapoor, who uses Philips Pronto, a home automation device.

Celeb photographer Atul Kasbekar’s gizmos include a high-end Hasselblad 503 CW, a Fujifilm S2 Pro (35 mm) and a Nokia 6600.

Fashion designer Rohit Bal swears by his brand new Nokia 7600, the eye-shaped 3G phone.

iPod, the bestselling personal digital music player, has found fans in Sachin Tendulkar, Shah Rukh Khan,

Infosys managing director Nandan Nilekani, DJ Aqueel and singer Lucky Ali.

If film world biggies are on to the gizmowagon, can politicians be far behind? Former Rajya Sabha member Vishvijit Prithvijit Singh, who ran Congress’ e-campaign, owns an Apple G-4 laptop, while former IT Minister and BJP spin-doctor Pramod Mahajan

is devoted to his laptop and mobile phones.

**Rohit Bal**



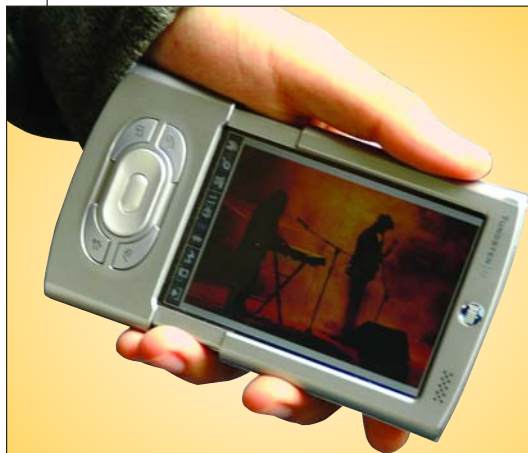
**Sachin Tendulkar**



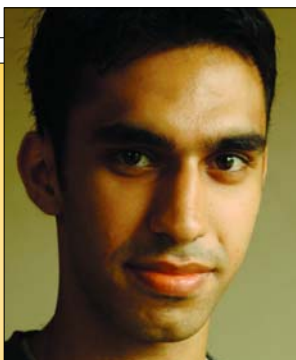
**Pramod Mahajan**







An object of desire: The Palm Tungsten T3



**I click photos on my Nokia, and show it to clients on the T3**

**Aneesh Bhasin**  
Digital Imaging Professional

own, the EOS 10D is just above the mid-range professional series cameras, and costs about \$1,300 (Rs 60,000). However, it comes with the amazing feature of a 90-degree tilt shift lens, which means that the camera can swivel on its axis, something that makes "impossible angles possible," Mistry says.

With a maximum aperture of 2.8, the EOS 10D has automatic colour and temperature bracketing and an individual Kelvin temperature setting, per frame. Auto-bracketing enables a user to shoot up to three frames (cold, daylight, warm) at once. "We can then pick the ambience of our choice. This feature makes the colour meter and the big box of filters redundant," he says.

His other little digicam gadget is a QP colour correction card—another first in India—to simultaneously colour correct an entire batch of pictures. While processing the image, the QP card helps create a digital image as close as possible to the subject.

His other favourite is the Ideazon keyboard, again something that isn't available in India, yet. It has removable sets of shortcut keys—one each for Photoshop, 3D Max, Dreamweaver, QuarkXPress, and other such imaging and desktop publishing software.

Aneesh Bhasin, a digital imaging professional from Delhi, says he is inseparable from his Tungsten T3, the top-end handheld from PalmOne, the same company that makes the supersuccessful Treo 600,

probably the coolest PDA-phone you'd come across today.

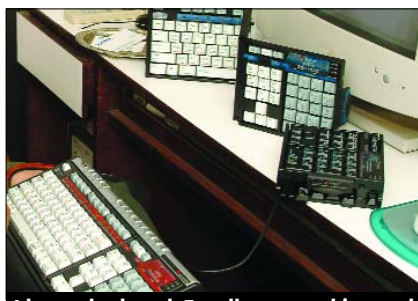
Bhasin carries his T3 everywhere he goes. Yes, everywhere! The T3, which costs about \$400 (almost Rs 18,400, but available in India for Rs 30,000), comes packed with a 400 MHz Intel PXA255 XScale processor, and 64 MB inbuilt memory.

He even uses his T3 to connect to the Internet. Says Bhasin: "My T3, phone and computer are all Bluetooth compatible, so I can also shift files from one gadget to another, dial numbers and multi-task quite a bit."

The T3 is power packed—it has Image storage ("I click photos on my Nokia, and show it to clients on the T3," says Bhasin), a voice memo recorder, a universal remote control, the works. "The T3 is certainly more efficient and convenient than a laptop. It does just about everything," says the 19-year-old.

The T3's Omni Remote Pro feature lets you control any infrared remote controlled device such as a television, VCR and even the air-conditioner.

Says Aneesh, "The Omni Remote Pro has a longer range than ordinary remote controllers, so I can operate devices from anywhere in the house!"



Ideazon keyboard: For all your graphics needs

**My EOS 10D makes impossible angles possible**

**Girish Mistry**  
Professional Photographer



The peripatetic Bhasin is currently working on a book for professional photographers; and his T3 features prominently in it. The book, however, will not be on his obsession, but a workflow management tool, sponsored by corporates such as Adobe, Nik Multimedia, Corel, Ideazon, Lowproe and Sandisk.

Pawar, meanwhile, sits in his office, dreaming of his next big gadget. He promises it will be the Motorola MPx100, a smartphone that could just be next Treo 600 on steroids causing more envy among Pawar's tech-crazy friends. But that is just the situation he would love to be in. ■

meera\_vankipuram@thinkdigit.com



## Price List

### Palm Tungsten T3

www.palmone.com

Price Rs 29,900

### O2 Xphone

www.o2.co.uk

Price \$550 (Rs 25,300)

### Apple iPod

http://www.apple.com/ipod

Price \$499 (Rs 23,000) for 15 GB

### Dell Inspiron 8500

www.dell.com

Price \$2,780 (Rs 1,27,880)

### Nokia 7610

www.nokia.com

Price \$650 (Rs 30,000)

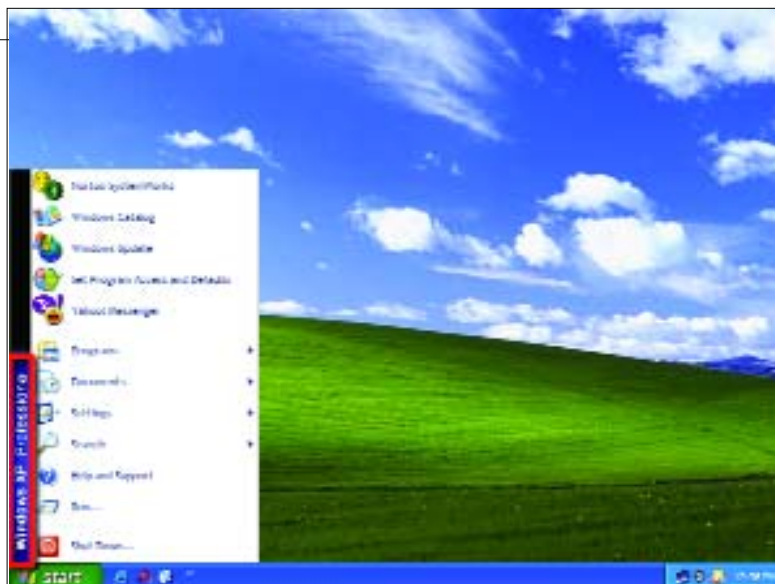
### Canon EOS 10D

www.canon.com

Price \$1,300 (Rs 60,000)

## Changing the Windows Logo in the Start Menu

Every month, Digit will pose a question that will set you thinking. Digit challenges you to take a crack at the problem. Send in your answers with your full name, address and contact details to [takeacrack@thinkdigit.com](mailto:takeacrack@thinkdigit.com). Digit's Test Centre will select the correct answers. In case of multiple correct entries, the winner will be decided by a draw of lots. For starters, we have published the solution to a specific challenge here.



### Challenge

In Windows, the name of the OS appears vertically in the Start Menu. Can you change this and put "Digit" there instead? Note that in XP, the change can be seen only if you are using the Classic Start Menu.



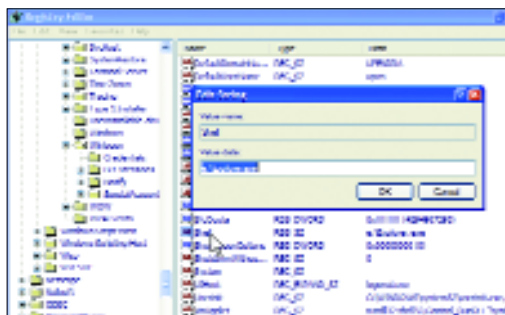
### Solution

The text "Windows XP Professional" or "Windows 98" or "Windows 2000" is a bitmap image embedded in explorer.exe. To edit this file, you will need a tool called Resource Hacker. Download it from <http://www.users.on.net/~johnson/resourcehacker/>. Do back up the files you will be changing before you proceed.

Start Resource Hacker, and open C:\windows\explorer.exe. For Windows XP, expand the Bitmap folder in the left pane, expand the 167 folder and then click 1033. In the right pane, you will see the bitmap image with "Windows XP Professional" on it. Right-click 1033 in the left pane, and choose 'Save [Bitmap : 167 : 1033]'. Enter a directory and filename and click OK. For Windows 98 and 2000, go to Bitmap > 157 > 1033 to find the bitmap.

Next, edit the bit map using an image editor such as Photoshop, but do not change its colour depth and dimensions. After you have made the changes, save the file as a bitmap image.

Now, embed this new image into explorer.exe. Keep Resource Hacker open and ensure that the tree (Bitmap > 167 > 1033 for Windows XP, and Bitmap > 157 > 1033 for Windows 98 or 2000) is

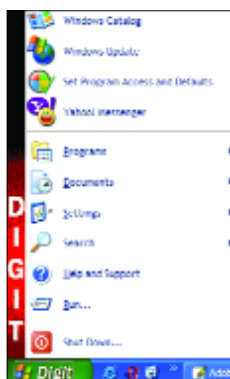


Change the value of the Shell key using the registry editor

still expanded. Right-click on 1033 and choose 'Replace Resource'. Next, click 'Open file with new bitmap', point to the edited bitmap and click the Replace button. Now, go to File > Save As and save this file in another location. For example, we saved this file in the E:\ folder as E:\explorer.exe.

Next, in Windows 98, simply restart your computer in MS-DOS mode, and replace C:\windows\ explorer.exe with E:\explorer.exe.

With XP or 2000, you will need to make a few changes to the registry. Go to Start > Run, type 'regedit' and hit [Enter] to open the registry editor. Navigate to HKEY\_LOCAL\_MACHINE \SOFTWARE\Microsoft\ Windows NT\Current Version \Winlogon. In the right pane, change the value of the 'Shell' key from Explorer.exe to E:\explorer.exe. This done, restart your computer to view the results.



Your Start Menu should look like this

## THIS MONTH'S CHALLENGE

Can you overclock your graphics card safely without causing a crash?

The winner will get a fabulous cordless keyboard and mouse



Sponsored by

**Microsoft Hardware**

Price **Rs 3,648**

### Rules and Regulations

1. Readers are requested to send in their answers by the 15th of the month of publication.
2. Employees of Jasubhai Digital Media and their relatives are not permitted to participate in this contest.
3. Readers are encouraged to send their replies by e-mail. Jasubhai Digital Media will not entertain any unsolicited communication.
4. Jasubhai Digital Media is not responsible for any damage to your system that may be caused while you are solving the problem.

### Caution!

Test the edited explorer.exe before you edit the registry in Windows XP or 2000. Press [Ctrl] + [Shift] + [Esc] to bring up the Task Manager, switch to the Processes tab, right-click explorer and click 'End Process'. Now, go to File > New Task (Run...) and enter e:\explorer.exe or the location of the edited file. If all's well with the file, you see the changes immediately. You can now edit the registry to make the changes permanent. If you use Windows 98, and are unable to boot after replacing the file, press [F8] while booting and choose Command prompt. Here, replace the edited file with its backup and restart the PC.



# Suren Joshi's Carisma

Aparna Krishnakumar

**H**is girlfriends call it the "Disco car" from the hit song in the movie *Kal Ho Na Ho*. He just calls it a fast, entertaining car. And his nickname in the big bad world of modified cars is Landspeed.

To call Suren Joshi a car freak would be under-rating the word—he is more than that. He is devoted to his car, and at an age when his peers would be chasing girls, or even jobs, Joshi spends half his time modifying his car, and the remaining half in his other favourite pastime—sleeping.

It helps that he, along with his mother, owns a garments export business with factories in the south Indian city of Tirupur, and Mumbai. Money, therefore, is only the small matter of how much to withdraw from the ATM.

He has always been different, this Suren Joshi. Which is why when most people who want to modify their cars with one screen for people to watch movies, he installed three in his 90-bhp Mitsubishi Lancer. Not satisfied with it, he also installed a Rs 22,000 DVD player. And just in case people called him a visual person rather than an audio enthusiast, he installed 2000-watt speakers with amplifiers, which cost him a further Rs 57,000.

Joshi, now 21, has been a technology addict ever since his teenage days when he hacked into the servers of a local daily newspaper in Mumbai, and then promptly called up the editor to inform him about it. The editor did not waste time hiring him and asking him to plug all the loopholes in their information systems.

At 17, he was a Microsoft Certified Software Engineer, and in addition to his ethical hacking, Joshi says he even helped the Mumbai Police solve a kidnapping case by tracking down the kidnapper's whereabouts through his email messages.

Two years ago, he gave up

studying for good ("I am just a 12th standard pass") and left for the United States to do a course in modelling. He came back with a diploma from the Barbizon School of Modelling, a leading modelling institution. His latest passion is to enter the world of fashion modelling full-time.

In the meanwhile, the car receives as much attention as a first-born would from her parents. He recently installed an RPM Auto gauge that monitors his gear movements; a voltage meter that allows him to check the fluctuations; steering wheel, gears

**LCDs, DVD players, 2000 watt speaker system, neon pedals, NOS—this aspiring model has a car that has his neighbours and friends drooling**

**"I only laugh when people ask me weird questions like 'Why do you have so many clocks in your car?'"**



Inside 21-year-old Landspeed's "Disco car"

and hand control set from Momo, another world leader in car racing accessories. He has even installed neon light fittings to his clutch, brake and accelerator pedals.

He has spruced up the Lancer engine into a 125 Bhp beast - thanks to a Performance Filter with spark cables, a sturtbar, a Zulex and HID lights. has transformed his 85-90 horsepower Lancer to a 125 horsepower flying one. His analogue dials, however, elicit "weird questions from my friends like 'Why do you have so many clocks in your car'," says Joshi. "I can only laugh."

By the way, the rest can envy Suren. ■

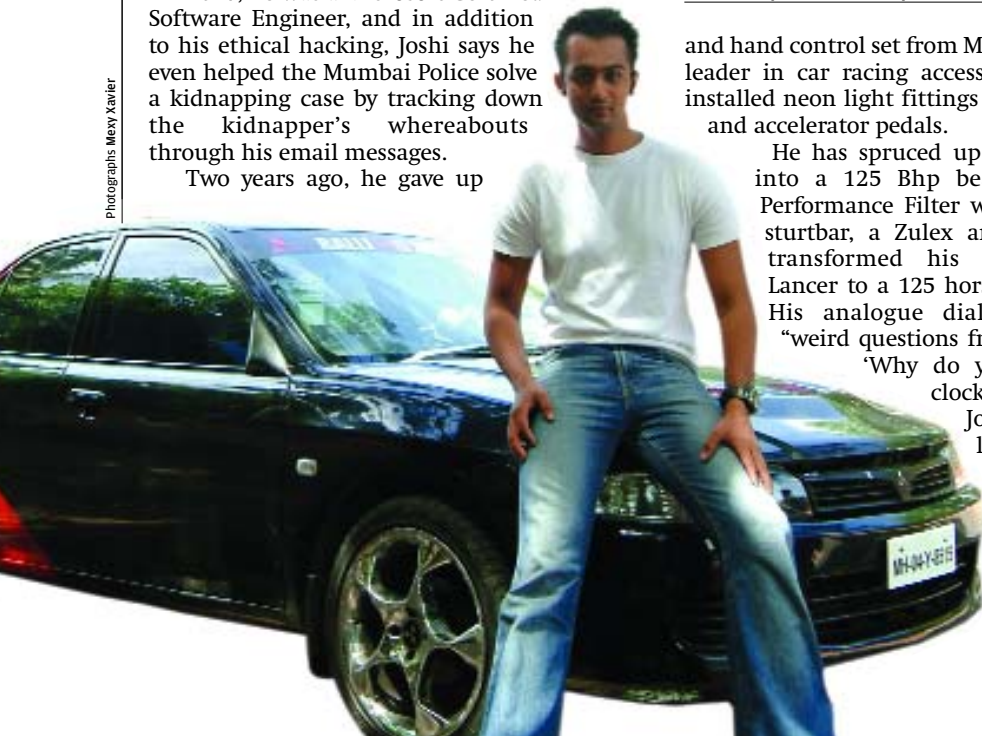
aparna\_krishnakumar@thinkdigit.com

## Gadgets

**Car**  
90-bhp Mitsubishi Lancer

**Audio System**  
Pioneer 2000 watt Speakers with amplifiers- Rs 57,000  
Pioneer DVD player- Rs 22,000

**Other Drolware**  
3 LCD screens (Rs 46,000), HID Lights- Rs 20,000, American make NOS- Rs 80,000, RPM Auto gauge; voltage meter hand control set from Momo, neon light fittings to his clutch, brake and accelerator pedals.



**Bhaskar Banik**

**I**nkjet printers have now become standard equipment with PCs: any new PC comes with one. This has mainly been due to the sharp decline in prices. Owners, too, have evolved from using printers primarily for printing text documents, to using them for more creative and image-intensive purposes, such as printing graphs, charts, pictures and decorative banners. This change in usage patterns has been not just because owners need to do more, but also because of advancements in printer technol-

ogy that facilitate such needs.

Digital photography is taking off in a big way: every other person either has a digicam, or is thinking of getting one. The idea of instant photographs has caught everyone's fancy, too. These printers cater to the segment of users that want to print photos using their home printers. Photo printers are optimised for photo printing, and in fact, text printing on these printers could even be slower than on a regular ink-based printer.

### **Underneath the skin**

Ink-based photo printers differ from regular ink-based printers in a few critical ways. First, they

# Photo Finish

**Move over the usual ink-based printers, photo printers are here to take digital photography to a new level**

require a greater variety and number of colour cartridges. Most photo printers support light cyan and light magenta in addition to the regular cyan, magenta, yellow and black, making for a total of six separate cartridges. The addition of the light shades means that more subtle variations in colour can be reproduced accurately.

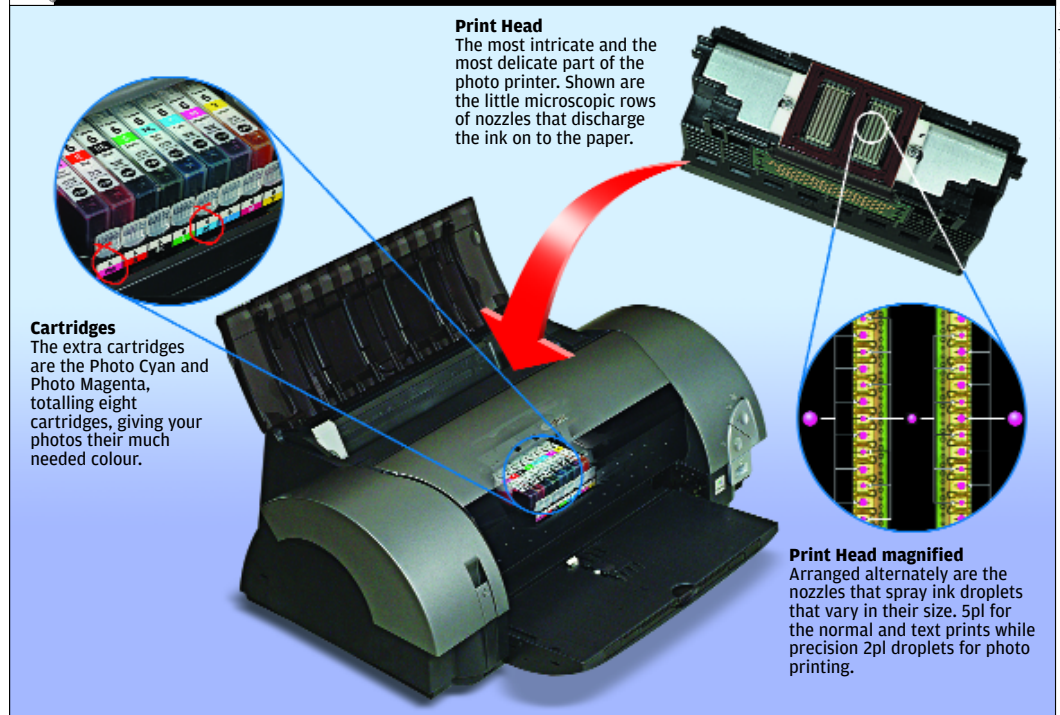
Second, there is a reduction in the ink the printer sprays. This increases precision and provides more control, which in turn improves picture quality—less ink sprayed means there is less liquid to smear the print. The thinner layer of ink dries faster, and this in turn means the ink doesn't spread from the point it was applied to. The increase in printing resolution means curves can be smoother, colour gradients can be better controlled, and greater detail can be brought out.

Another, different technology is thermal-dye technology, known as dye-sublimation printing. This is different from ink-based technology, and is suitable only for photo printing. A dye-sublimation printer has a long transparent sheet made up of the four colours—cyan,





## How a photo printer works



Graphics Solomon Lewis

magenta, yellow and black. This transparent sheet is actually a film made up of the coloured dyes. When a photo is printed, the print head heats up.

This print head consists of thousands of heating elements, which heat the dye on the film and cause it to vaporise and diffuse into the glossy paper. The temperature on the print head is precision controlled for each heating element, and accordingly, the dye is vaporised on the paper.

This is what results in the varied hues and colour tones. This technology has a definite advantage over ink-jet photo printing—the colours diffuse on to the paper, it does away with the thin film-like effect that occurs with an ink-based printer. Photos printed with these printers also have a longer life span since the colour has permeated into the paper—making the photo less vulnerable to fading and distortion.

### What do you really need?

Before you buy a photo printer, first consider some important factors:

- ❑ Think about your usage pattern. If you need mostly text prints, and printing photos is just a new fad as far as you are concerned, you will be better off with a good quality inkjet printer, which would be more than sufficient for your needs. When you need a quality print, just go to your nearest digital photo shop and get one.
- ❑ Plan your budget: look at the costs of consumables and try making a rough calculation of your expenses.
- ❑ Decide on the technology you want to use. Do you want the absolute best, or can you compromise a little on the quality as long as you get a photo printer?

Photo printers are available in all shapes and sizes, are based on different technologies, and you have a range of manufacturers to choose from. When it comes to buying a photo printer, it can become pretty confusing to choose one. We present you with a few buying tips:

- ❑ Give speed a consideration. If two photo printers, based on the same technology and offering the same quality prints are compared, and one printer offers faster printouts, it makes more sense buying that one, even if it costs a bit more.
- ❑ Check for the various available printing options. Can you print borderless prints? Can the printer print 4 x 6 prints as well as A4 prints? Does the paper tray support various sizes of paper? Also check if the printer supports dual trays, which will reduce the hassle of changing paper types for documents and photos.
- ❑ Is portability your concern? Opt for a printer that makes for less hassle and more usability. You should be able to get a printout without messing about too much with the controls. However, be ready to spend a little more for a portable printer.
- ❑ Check if the printer supports memory cards and printing directly off a digital camera. Some photo printers are infrared-equipped, so you can directly print off mobile devices such as camera phones and PDAs. Of course, these devices do not yet support really high-quality images, but that may change soon.
- ❑ Usability features on a photo printer should include one-touch printing. This is not a feature you absolutely need, but comes in handy in situations where you just want to print without fiddling with the settings.

**Photos printed using the thermal-dye technology have a longer life span, and are less vulnerable to fading and distortion**

## Quality with consumables

The quality of your photo printer may be excellent, but your investment can go right down the drain if the consumables you use are not up to the mark. If you are stingy in choosing the ink cartridge and the paper that you want the prints on, you will have to be prepared for poorer quality. Here are some tips to make sure you don't land up in a difficult situation:

Models available				
Vendor	Model	Technology	Price	Application
<b>Hewlett-Packard</b>	HP PS 7260	Inkjet	Rs 6,499	4 x 6 prints, borderless printing. Targeted towards the home segment.
	HP PS 130	Inkjet	Rs 8,999	4 x 6 prints, borderless printing. Support for memory cards. Home segment.
	HP PS 7960	Inkjet	Rs 16,999	4 x 6 prints, borderless printing. Support for memory cards. Home/SoHo segment.
<b>Canon</b>	I905D	Bubble Jet	Rs 21,995	4 x 6 prints, borderless printing. Support for memory cards and PictBridge. SoHo segment.
	I990	Bubble Jet	Rs 25,995	4 x 6 prints, borderless printing. Support for memory cards and PictBridge. SoHo segment.
<b>Epson</b>	CP-300	Dye-sublimation	Rs 16,995	Portable printer, only for photo printing. 4 x 6 prints. Targeted towards the home user.
	Photo830	Inkjet	Rs 7,500	4 x 6 prints, borderless printing. Support for memory cards. Home segment.
	Photo R310	Inkjet	Rs 13,495	4 x 6 prints, borderless printing. Memory cards and PictBridge. Home/SoHo segment.
	Photo 2100	Inkjet	Rs 54,900	Photo printing only. A3+, A3, borderless printing. SoHo/Professional segment.

## Paper type

Make sure that the paper quality you have is the best available for your particular application. If you want a regular photo print, you can use two types of paper—glossy or matte. Both have their disadvantages. Glossy paper is susceptible to accidental fingerprints after you get a print done; matte paper will not offer the finish that glossy paper does. It's up to you to decide. Regular matte paper starts at around Rs 12 and goes up to Rs 100, depending on brand and company. If you order it in bulk, a price reduction is possible. On the other hand, regular glossy paper starts at Rs 25 and can go up to Rs 150, depending on the quality and thickness.

## Paper quality

Check for the thickness of the paper and the whiteness. Whiter backgrounds will result in a high-contrast image print, which improves the overall quality of the image. Thickness is important—it can make or mar the image. Some papers may be too thick for the kind of printing you do, while other papers may be so thin that the ink permeates through to the other side. This type of paper is especially risky for dye-sublimation printers, which use heat to print different colour densities on paper. Thick papers, on the other hand, can cause the pick-up mechanism to jam, especially when you want to print cards or calendars.

1/2 Pg H AD





## Who needs photo printers?

**P**hoto printers are available for home as well as for businesses. At home, they serve the purpose of having a photo lab as and when you need it. Borderless printing, which was not possible except in print labs, is now possible at home. You can print in regular sizes, and also photo print on stickers and other media.



HP 7960

For businesses, a photo printer may be advantageous if you need good quality prints regularly. For example, if you need to send out a few exclusive, high-quality invites to some clients, you may find it difficult to get it done from your regular print shop. Photo printers can be useful for creative designers, architects and engineers; there are many applications, such as AutoCAD, which make a photo printer a very handy thing to have.

### Ink quality

A basic principle: Don't ever be stingy with your colour cartridges. If you demand the best, use the best. Saving a few rupees by using a fake or refilled cartridge will not give you the output that you expect. Always use manufacturer-branded or recommended cartridges and papers. Technologies such as HP's PhotoREt colour layering technology or Epson's water-proof ink technology are not possible with refilled cartridges.

### What do I buy?

The HP 7960 is an interesting model. This printer gave the best results for photo printing in tests, and, at Rs 16,999, is targeted towards the mid to high-end consumer segment. It comes with frills such as a memory card reader, and direct connectivity to an HP digital camera, but lack of PictBridge means non-HP cameras are not supported—PictBridge is a standard that allows you to directly connect a wide range of digicams directly to your printer.

The Canon i905D is comparable to the HP printer. It supports PictBridge technology, and is priced at Rs 21,995. Image printouts turned out to be of very good quality. However, it is not very good at text printing. The Epson Stylus Photo 900 has decent image quality, but loses on connectivity options. Also, the prints lack tonal balance, where the HP excels, and the Canon follows suit with almost similar quality.

While all these are good desktop photo printers, Canon's new portable solutions, the CP-200 and the CP-300, priced at Rs 11,195 and Rs 16,995 respectively, are viable options. These printers, based on the dye-sublimation technology, can provide you with instant photographs anywhere, since they can run on a portable battery. Since portability is the main criterion here, both printers support PictBridge technology, giving you printouts directly from your digital camera. Dye-sublimation-based portable solutions are also available from Sony, Epson, HP and Kodak. Offering a variation in terms of both features and price, these manufacturers have models that suit every budget. ■

*bhaskar\_banik@thinkdigit.com*

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# Goodbye Laptop, Hello Smartphone!

**The smartphone of the future will be able to play high-end 3D games, let you watch TV on the go, replace your credit card, help you locate your lost dog, have pro-level video cameras... And yes, you will also be able to talk!**

**Ram Mohan Rao**

**W**hen Alexander Graham Bell invented the telephone, the first thing he said to his assistant who was two storeys away, was: "Watson, come here, I need you." In 1876, that phone was the epitome of smartness. It allowed you to do something that no one could ever do before—talk long distances without breaking your vocal cords.

One hundred and twenty-nine years later, in 2005, Bell's invention will look something like a gadget that might blow the beegesus out of the loyal PC (and a lot of other gadgets). Your humble cell phone will allow you to browse the Web at high speeds, send e-mail, click photos, scan pictures and send them 3,000 miles across the globe, instruct your air-conditioner to start 10 minutes before you reach home, play high-end 3D games, watch TV, replace your credit card by paying your bills at the mall, help you locate your lost dog, read a book of your choice while you are travelling, listen to your MP3s at high bitrates for crystal clear sound... The list—and it is not even a wish list—could go on and on.

Oh, by the way, you will also be able to talk using the phone.

By the time you read this, we are already half-way into getting such a smart device out into the market. But that is the key phrase—half-way.



**Petfrog**

**P**etfrog, the device featured in the picture alongside, is an 'Integrated Fusion Device' of the future as envisaged by Frog Design, a US-based design company. Petfrog is the first wireless communication and computing concept with integrated hardware, software, and content user-interface. It is a PDA, personal computer, digital media player, camera, karaoke machine, and more. All functionality converges into one seamless platform resulting in an 'all-in-one gadget'.

## **? Rings a bell?**

**The phone of the future will allow you to:**

- ❑ Browse for movies, music, photos and slide shows right from your TV.
- ❑ Listen to your MP3 collection on your home stereo.
- ❑ Watch feature-length movies from the Internet in the comfort of your living room.
- ❑ Use catalogs to quickly access related content.
- ❑ Synchronise - Connect to your Windows-based PC and you can take your content on the go with you.
- ❑ Publish - Using the Content Server on your PC, publish catalogs to other users.
- ❑ Browse - Browse through your content on more than one PC or a network.

## **Cell as credit card, and more**

NTT DoCoMo, Japan's premier mobile service provider, debuted their cell phone-as-a-credit-card prototype in June, but it will be some time before cell phones replace the credit card. That's where the problem lies. The features are scattered, and no single device has yet incorporated all the features. When that happens—and it is only a matter of time—your laptop just may become redundant. Perhaps a few other devices, too.

Today's high-end smartphones are equivalent to the 486 PC you used eight years ago. The new-age smartphone will have immense processing power, and playing high-end 3D games by the end of 2006 will be passé. This means that RAM



Model: Ashu Kakkar Photo: Meey Xavier Imaging Parag Joshi



capacity will shoot up, and we may see the emergence of a graphics card that's beyond our current imagination of a mobile phone.

Around the same time, the touch pad will become *de rigueur* for most phones. A graphics artist will have powerful image applications on his phone, the compulsive document creator will be able to create presentations on the fly (you can do that even now, but with certain restrictions), and the field executive will have all the software needed for such things as e-mail and contact information. Good-bye laptop, hello smartphone.



By this time, voice would be the default way to dial, not just numbers, but also Web sites and e-mail addresses. The phone cradle will evolve into a docking station capable of communicating via Bluetooth, with all kinds of devices: keyboards, mice, monitors, and so on. The device will have expansion slots or adapters for memory, other I/O devices such as a touchpad, tablet, etc, an external camera, and a game console. A pull-out module will have a keyboard and trackball, and there should be a slot for a laser projection keyboard.

A large hard disk capacity should allow users to record TV programmes as well as video-conferences conducted using the phone. With two displays, it will be possible to do more than one thing at once—for example, talking while surfing, or talking while jotting down notes.

## Quad-band phones

Phones by then would have become quad-band, a development that would not raise any eye-brows whatsoever. A new chip allows phones to choose what protocol—WiFi or 3G, for instance—is best suited for communication in a certain area; such chips will become routine, and phones will automatically select the network that's best to talk to another device. Synchronising with PCs will be seamless, and input will be Bluetooth-enabled and seamless too: phones will feature a wireless Bluetooth-connected smart pen for handwriting-recognition, and a cordless headset.

The big question when it comes to entertainment will be: will personal entertainment



## The Indian Connection

It will not be long before India hops on to the smartphone bandwagon. Officially, that is. Even though it's discouraged by authorities, the grey market still brings in most of the latest products from across the world. For instance, the Sony Ericsson P900 and the PalmOne Treo 600—both among the best in the currently available smartphone category—were already available in the grey market before they were launched officially.

Officially, though, look out for the Panasonic X700, which will be launched simultaneously in India and Europe. LG is not far either: It recently launched the G7100, the "first ever camera phone with a 270-degree spin screen and a slide-mounted VGA camera", according to P Valecha, Product Group Head, mobile phones, LG Electronics India.

Harit Nagpal, chief marketing officer, Hutch, says it is a given fact that smartphones will make it big in India. "The smartphone category is a niche, albeit a growing one, in India. The mobile will become the single access device delivering a host of wireless services—whether it is for voice telephony, a stock trading desk, a game console, whatever you want. We are seeing a movement towards a single access device."



Sony Ericsson P900

devices become obsolete if phones become a complete audio-video solution, suitable for audiophiles and videophiles? A device that can do this will double up as an MP3 player and FM radio, iPod-style.

The second display will be a high-resolution one, for TV, games, and so on. The camera, meanwhile, will be capable of up to 6 megapixels (and more, later) by end-2005. There will be a slew of models that feature videocams, and these will have an extra flip for the videocam preview. High-quality stereo speakers will complete the audio-video subsystem.

Scanners will also become part of the phone, to help people instantly scan telephone numbers, names, URLs and e-mail addresses, in addition to barcodes. Future smartphones may also incorporate SIM chips that can be used to scan and purchase items from supermarkets, with the correct accounts automatically being debited or credited.

By then, the phone would have become part of our clothing, and that would make convergence take on a whole new meaning! ■

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You are going to have the equivalent of a persistent T1 line in your pocket. That's it. It's going to happen

Jeff Hawkins  
Inventor of Palm Pilot



## What and When... Digit peeks into the future

### Late 2004

- ❑ Camera resolution and focus will improve, and the 3-megapixel camera would make an appearance. Samsung already has a prototype out.
- ❑ Phones will double up as MP3 players and FM radios, with hi-power outlets for headphones.

### Mid 2005

- ❑ Videocams will become part of standard equipment.
- ❑ Phones will be equipped with scanners that can read phone numbers,

business cards, e-mail addresses and URLs, and dial them.

- ❑ If RFID takes off, its modules might be incorporated into smartphones, and you will be able to read barcodes with your phone—and make purchases from supermarkets with the accounts being debited and credited seamlessly.

### Late 2005

- ❑ Speech modules will be more comprehensive, allowing for speech-based typing, and

indeed, everything that's speech-based.

- ❑ Applications will become more advanced; the move will be towards 'more of a computer', with hard disks storing all data.
- ❑ Pull-out modules with keyboards and trackballs will become more common.
- ❑ Chips that seamlessly move between wireless and cellular protocols will become ubiquitous.

### Mid 2006

- ❑ Fingerprinting technology to identify

the user of the phone and preventing theft will be more advanced; currently, these systems can easily be foiled with the right knowledge.

- ❑ GPS connectivity will become a more universally available option, with maps being displayed on the phone that aid in driving and even walking to your destination.

### Late 2006

- ❑ 3D displays will become common.
- ❑ Most phones will come with a cordless earpiece-

mouthpiece combo.

- ❑ Remote controlling of household appliances will be a feature that several models offer.
- ❑ The phone will be closer to replacing laptops—the device will dock to peripherals wirelessly, a la laptops, through a docking station. Laptop use will have reduced dramatically.

### 2007

- ❑ Advanced image-editing and other such software will appear. Virtual, or projection keyboards will be standard.

# The Apple iPod

Sachin Kalbag

Here is an account of my introduction to, interaction with, and finally introspection of the world's coolest personal music player. ☐

sachin\_kalbag@thinkdigit.com

**A** week after the Apple iPod Mini was launched in New York early this year, a grand total of 100,000 pieces were sold, easily making it one of the fastest selling gadgets of all time. iPod Zombies were just about everywhere. I hoped to the Lord Almighty that I would become a part of this exclusive club.

new crops up. How do I create folders in iPod? Hmm...

**Day 1**  
The iPod arrived today. My wife's gift. I said: "Oh my god, it is whiter than I thought." I also had mixed emotions—I have the iPod, but it's the 15 GB version. Only 3,700 MP3s. But as they say, a Rolls Royce is a Rolls Royce, whether it is 10-ft long sedan or a 25-ft limousine. I gulped my gigabyte greed and accepted life. The 15 GB version costs \$300; a 20 GB comes at \$399, and a 40 GB even more. Can't afford it!

**Day 10**  
Transferring my "huge" collection of 900 songs took me 23 minutes. Finally, the sound of success. I rotated the touch-pad dial. It gave me options, but I wanted to keep it simple—I just played the songs at random. I have heard good sound systems before, but the iPod takes the cake in personal entertainment.

**Day 2**  
Today was "Impress your Friends and Colleagues Day". **The iPod made more news at office than Sonia Gandhi.** Thank you, Mr Andy Warhol; I got my 15 minutes of fame today. Even the big boss, who goes to San Francisco with the same nonchalance as others visit Bhopal, asked about it. The office walls looked green today.

**Day 18**  
Tried creating folders again. Failure. How do I do it? Think. Think. Looked up Amazon. A whole new iPod industry has risen out of nowhere. Blogs, review sites, fan sites, assorted accessories, including the really cool **iTrip that converts your iPod into a local radio station.** How cool is that! It costs \$40. Someday, someday...

**Day 4**  
Time to load existing songs into the iPod. First search for the USB cable. Damn! Wife did not buy the USB cable. **"The USB cable would have cost \$50 more."** Yikes! I had to search for a FireWire port to insert the FireWire cable. Finally found one. All I had to do was transfer songs to that laptop, and then listen at leisure. I will do it tomorrow.

**Day 22**  
I had almost forgotten my iPod. I refused to let it out. What if it is endangered by accidental falls? The iPod has a hard disk, and can go kaput if it falls.

**Day 5**  
The transfer from a Windows PC was not easy. When installing the iTunes software, I saw a Network Error dialog box. A network error? I continued. The install stopped in between. No dialog box this time. Remember King Bruce and the spider? Tried again. Success. iTunes installed.

**Day 28**  
I revisited my iPod. Still pristine white. Look at the scratches. Sacrilege! Almost had a cardiac arrest. Never share the iPod. It also began skipping five seconds. I was scared. I used the Microsoft principle on an Apple product—restarted. It worked. God exists!

**Day 7**  
I converted my audio CDs into the iTunes format. Complicated process. Something

**Day 30**  
I finally figured out how to make folders. It was raining outside. Euro 2004 was on. Rain outside, live football inside, iPod music in my ears, and finger chips within reach. How's that for a state of male nirvana?





**W**e don't yet know whether this beauty will become the Enzo Ferrari of the PC gaming world. What we do know is that it has some of the world's best Force Feedback effects, an 8 way D-pad, 9 action buttons, progressive gas and brake control with two wheel-mounted levers and stable analogue foot pedals, two wheel-mounted gearshift levers, and a central clamping system. Besides, it also has a radio frequency unit to control the gadget, so you can might as well say goodbye to the messy wires.

For a mere matter of a yet-to-be-decided price point (knowledgeable sources say \$100, or Rs 4,600), you also get the official Ferrari logo on the wheel. Why? Because, my dear sir, this is the exact replica of the original Enzo Ferrari wheel!

Smell burning rubber, already?

## Thrustmaster Enzo Ferrari PC Gaming Wheel





Sumod Hajela

The 1000 MB capacity captures your attention, but in truth the huge storage is only the foundation for Gmail. When Rediff offers 1024 MB free, and Yahoo!, Hotmail, etc. chip in with their few hundred MB sops, it is not the same—they still have a folder hierarchy based interface that will not scale. Google throws away the folders in favour of Labels. You can ‘apply’ several labels to a mail, as opposed to ‘putting’ the mail into one folder. Once you get used to labels, folders will feel decidedly primitive. The concept and the technology have been languishing for decades, but Google is the first to implement it on a scale that makes a difference. Score one for Google.

The Gmail interface is one huge JavaScript file, weighing in at around 250 KB. Sign-in and wait while this downloads. But once it is on your computer, the interface is simply blazing. The JavaScript processes all your clicks right on your computer, instead of relying on the server to decide what to do next. The only data needed from the server is your e-mail contents. Contrast this with almost all other Web-mail applications that force a full page reload on every click. Yahoo! recently bought Oddpost, the guys who first made this concept work for e-mail way back

Even in using it as just another Web-mail service, you will find the Gmail bookmarklets <http://snipurl.com/7ryw> handy. GmailTo will simply pop-up a Gmail compose window. GmailIt goes a step further—it will set the subject line to the title of the open Web page and put its URL in the body. The tiny GTray utility <http://snipurl.com/7ryt> will sit in your system tray and keep track of new mails in your Gmail account, like any e-mail notifier.

If you like Gmail enough to switch to it as your primary Web-mail provider, you may want to migrate mail from your existing Web-mail accounts to Gmail. One neat way to do this is to chain a tool such as the free Yahoo! POPs <http://snipurl.com/7ryp> with a mail redirection/forwarding tool like the free Mail Redirect <http://snipurl.com/7rys>. Mail Redirect will download mails from your Yahoo! account through YahooPOPs and transfer them to your Gmail account. Migrating from Hotmail is even easier with the free GetMail for Hotmail <http://snipurl.com/7ryn>, which does this in just one step!

You can turn your Gmail account into a standard POP3 account and download mail from it using a regular desktop email client with tools

# Google Gets the Geeks Going

Let alone leading the race for the 1000 MB storage space, Google has been enterprising in replacing folders in the mail box with ‘labels’

in 2000. This interesting approach does have its accessibility drawbacks though, and Mark Pilgrim does a great job of presenting

them at <http://snipurl.com/7ryx>. These kinks, too, will eventually be sorted out, and you can safely credit Google with bringing yet another useful technology to front and centre. Welcome to the next wave of browser-based application interfaces.

Put a fast text-only interface, together with a flexible cutting edge organisation model, bring to it Google’s history of hackery and top it off with “Invite Only” exclusivity and you have the perfect recipe for a Geek popularity contest. Enough has been said about the ridiculous extents to which profiteers took this opportunity. Now that Google invites are worth about as much as two free Yahoo! accounts, that side-show is finally winding down.

Meanwhile, the geeks who did get these accounts early on have been busy making them more useful. Soon after Gmail launched, there was an explosion of utilities, many for things you could already do with existing Web-mail services and some unique to Gmail. Mark Lyons, an independent programmer, says “As an e-mail packrat, I jumped at the opportunity to have all my e-mail easily searchable. I decided to import my old e-mail from Netscape Communicator 4.7 (which had messages in it dating back to 1994). There was no upload feature included with Gmail, however. So I wrote one.”

such as ‘Pop Goes the Gmail’ <http://snipurl.com/7ryj> or FreePOPs <http://snipurl.com/7ryl> with the Gmail plug-in. Of course, that will completely negate the advantage of the new e-mail interface. Depending on your situation, moving your mail from your local mail client to Gmail might be a better idea. Mark Lyons’ Gmail Loader <http://snipurl.com/7rx2> is probably the best tool around for this. While it directly supports Mozilla/Thunderbird, Eudora and many Unix mail clients, Mark shows workarounds for others such as Outlook.

Filling up a 1000 MB mailbox would usually take some time, but Aaron Pratt filled his up in about a month. He used his Gmail account to run a public experiment <http://snipurl.com/7rxh> to test Gmail’s spam filter. If you are in a hurry to fill up your 1000 MB with something more useful than spam, you could try the Gmail backup script <http://snipurl.com/7rxt>. You can use it to save files to Gmail and download them if the need ever arises.

Put these tools to work and your Gmail account becomes much more useful than what you got when you signed up, and they work with standard Internet protocols and open-source contributions—in keeping with the honest hacker ethic.

But there is a little catch. You can’t legally use most of these tools. The Gmail Terms of Use states in Clause 5: “You also agree that you will not use any robot, spider, other automated device, or manual process to monitor or copy any content from the Service.”

Google is just another big corporation, after all. ■

Sumod Hajela, Associate Editor (Technology) is Digit’s Alpha Geek. His pastimes include creating new software during lunch hours, and mastering just about every computer-related technology that there is. Write to him at [sumod\\_hajela@thinkdigit.com](mailto:sumod_hajela@thinkdigit.com)



# [DeXter]'s Laboratory

**You know the cartoon character. Now meet his real life doppelganger. He guards his lab... er house with joysticks and writes programs to close windows and doors!**



Shiv Manas

## Upendra Singhai

**S**hiv Manas' flat in Mumbai's upscale Colaba area could be just about any other accommodation allotted to senior government officials—his father, Damodar Das, is chief marketing manager at Andhra Pradesh State Road Transport Corporation. It is larger than most flats in Mumbai, is subdued, and has the quiet elegance of any south Mumbai apartment.

Shiv, 18, is a second-year engineering student at a Navi Mumbai college. He has a lot of friends in college, and spends most of his time with them. His online nickname: [DeXter]. Yes, including the capital X and the brace brackets. "I don't want to get into some copyright problems with

Cartoon Network," he says tongue-in-cheek.

At home, however, he is a different creature. On a day when there is no college, he spends around 18 hours a day on his trusted PC. His PC room is also his den, a place from where he controls his home's security system, which he built on his own.

Guests at the Das household have gotten used to ringing the bell and Shiv getting an e-mail notification, or an alarm bell ringing (if the person at the door is expected beforehand, then the PC is programmed in such a way that the guest hears a welcome sound), or a call going to the Das mobile phone if they are not at home. Depending on Shiv's whim, the PC also sends him an SMS, pages him or sends him a fax.

He calls it a trigger-based security system—he is yet to name his small innovation—and by now his parents are so used to it that they don't even talk about it.

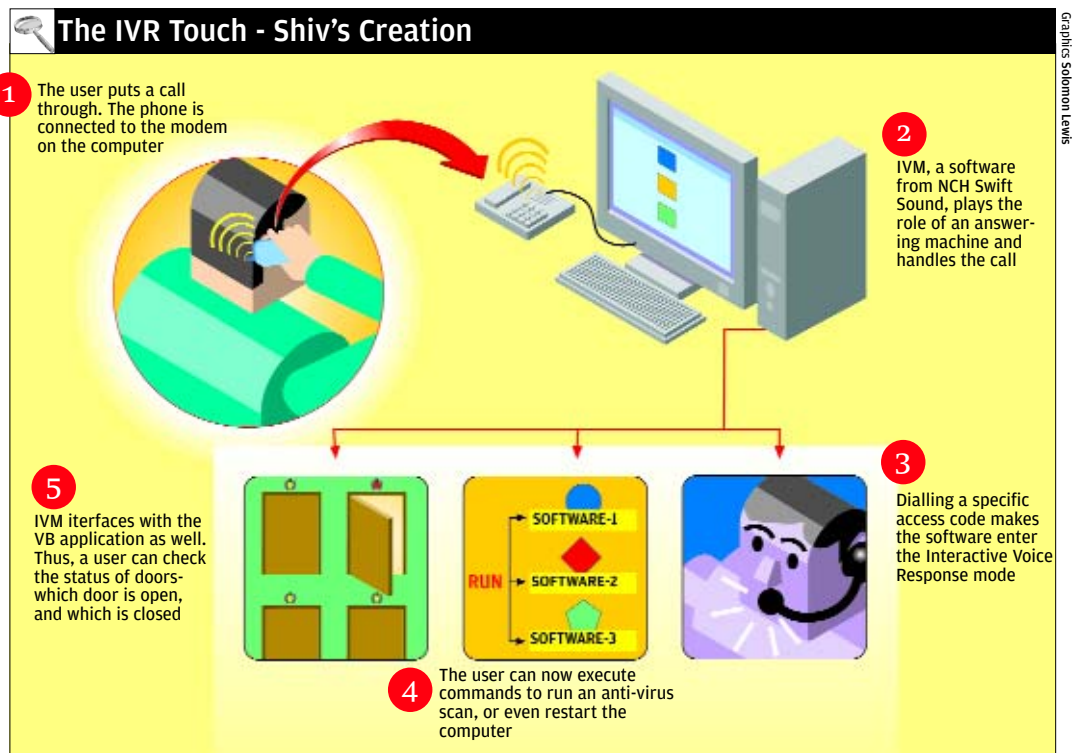
All that Shiv uses is a joystick, an IVR software and a little bit of programming.

## How does it work?

The trigger-based security system is just that, but it's Shiv's clever programming that makes it what it is.

If Shiv wants to step out of his house, he enables the system such that whenever a door or window opens or shuts, a switch or a trigger attached to it—a joystick, in this case—gets activated, and PC reacts as programmed.

The triggers are connected to the PC through the game (MIDI) port on the sound card. He has also developed a program that detects any movement by constantly monitoring the game port for 'On' and 'Off' signals. Says Shiv: "An 'On' signal means the door is closed, and an open door gives an 'Off' signal." When someone enters



Graphics: Solomon Lewis

## Write in

Assembled something just as geeky? Tell us about it. Write to [firsthand@thinkdigit.com](mailto:firsthand@thinkdigit.com)

a protected room, the trigger gets activated and the program alerts the user.

The good news: this system is scalable up to eight triggers from a single port.

Manas has added a smart touch – an Interactive Voice Response (IVR) program that alerts him if there is a ‘security breach’. The 18-year-old explains: “When nobody answers a call at home, the program picks up the call and behaves like a regular answering machine. However, when I dial a number assigned to the security system, the program behaves like an IVR system. I have a choice of either remote controlling the computer or the security system. The program then tells me whether there has been a security breach or not.”

The program itself is customisable—you can write it to sound an alarm, send an e-mail to a predefined address, and so on. The activity log lets you take a look at everything that’s been happening since you left the room.

Customising can be done in great detail. Shiv will be able to:

- ❑ Receive an e-mail (or an SMS) every hour detailing the scene at home while he is out gallivanting.
- ❑ Disable the system via a phone call at a time when a guest is expected.
- ❑ Program the system to identify window movement in case it’s quite windy. Perhaps even



### ‘I want a laser-switch system next’

#### Why a trigger-based security system?

My mom suggested the idea of a burglar system. As for the triggers, I thought using them would be interesting. I felt it was way out of the ordinary.

#### How long did it take to put this together?

It took just a day.

#### Are you just another geek?

When I don’t have to go to college, I spend 16 to 18 hours on my computer. But I have other hobbies like

collecting coins and sports cards. I play the piano and the tabla. I also dabble in painting occasionally. Besides, I love to spend time with my friends. Most of the time, though, we talk about technology. And yes, I plan to become a systems administrator.

#### When you are with your friends, do you use technology terms as swear words?

(Laughs) Not really, but whenever I am irritated by some conversation, I start reciting the value of Pi (3.1415926... which goes on and on and on). The person usually shuts up.

#### What’s next?

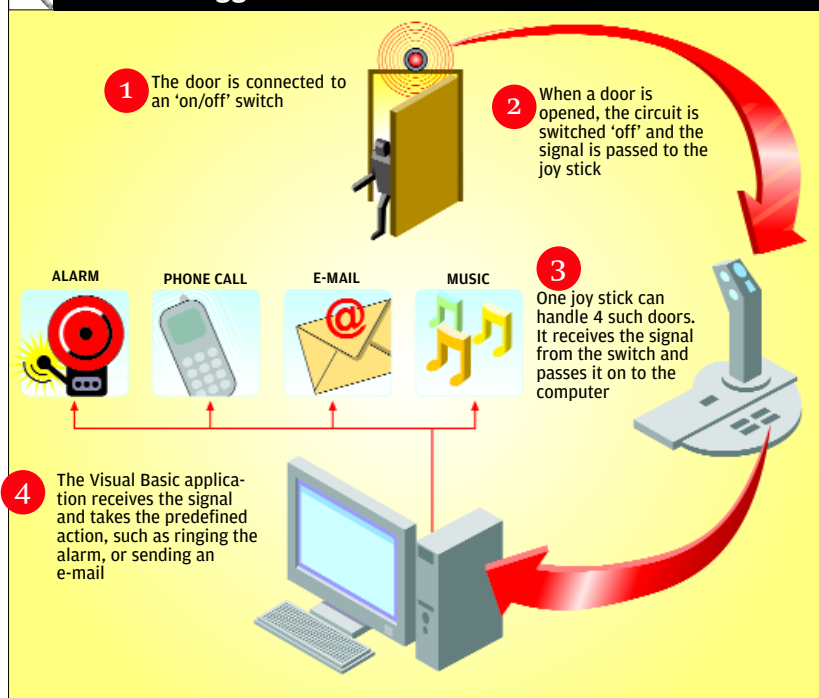
I want to put together a laser-switch based security system—the stuff you see in movies.



Photograph: Mery Xavier

Here’s my musketeer!: Shiv with his security system

### How it’s Trigger-Secure



close a door if it has been left ajar due to wind.

- ❑ Get the PC to set off an alarm if an individual uses the PC beyond the allotted time.
- ❑ Get a phone call if someone tries to switch off the PC.

### Future track

Shiv says that this system can be upscaled in terms of hardware as well as ideas, although it will be some time before this happens.

For instance, it could ask, “Who is this?” when someone enters the room. The person could then speak into the system, which will have a voice-recognition software that will convert speech into text and send an e-mail to you.

You could also control electrical appliances through the PC, or a phone, or even through e-mail. The possibilities are practically limitless. ■

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## Buzzword of the MONTH

### Phish Scam

Conmen using phony e-mail messages and fraudulent Web sites lure victims into giving away critical financial data online. Often, phish scam-

mers pose as PayPal, the popular tool for international online commerce payment. Users are fooled into revealing their credit card details when they try to buy online on Web sites that look real and have credi-

ble-sounding domain names. On an average there are around 3000 phishing attacks across the world every month, says the Anti-Phishing Working Group, a body sponsored by Microsoft, among others.





**54** Go Beyond Google



**70** The Right Linux For You



**83** UPS Solutions for your SoHo

# Digital Tools

Technology For Personal and SoHo Productivity

**Saurabh Kumar**

**A**s the world goes belligerent on outsourcing, and big companies in India make money that would make traditional big ticket manufacturing outfits cringe, a diminutive company in New Delhi is quietly creating a small revolution. It is earning projects from across the world—not by sending project and account managers on whirlwind US trips, not by advertising on prominent online sites, and not by having a huge staff on its business development team.

It relies on the old faithful—the World Wide Web—for procuring new projects and earning money. In dollars.

At last count, Synapse Communications, the company in question, had earned nearly \$85,000 through overseas projects using a Web service called elance.com, a Web site that launched in 1999, and is today an acknowledged leader in the Services Procurement and Management market.

Just about the right raw material you need to jumpstart your earnings—as an individual or as a professional outfit. Synapse Communications, for instance, has been a software development company for over eight years, but as Chief Operating Officer Kapil Gupta says, “Elance provided us with a focused platform. We have been growing at a rapid pace, and Elance Online has provided us with good business opportunities.”

**Use your skillset to work for global clients sitting at home.**

**Jumpstart**

## A Web of Opportunities

**New Delhi-based firm Synapse Communications earned more than Rs 40 lakh by bidding for worldwide projects online. Are you next?**

In English, this means that you, as an individual or a company, can bid for a project in various categories—software, creative writing, photography, 3D graphics, image editing, Web site design, banner ads, logo design, the works. Think of any topic, and Elance Online allows you to place a project or bid for one.

Elance was set up by an IIT Bombay graduate Beerud Sheth in 1999, a year after two Harvard Business School scholars—Thomas W Malone and Robert Laubacher—published an article in the Harvard Business Review titled, “The Dawn of the E-Lance Economy.”

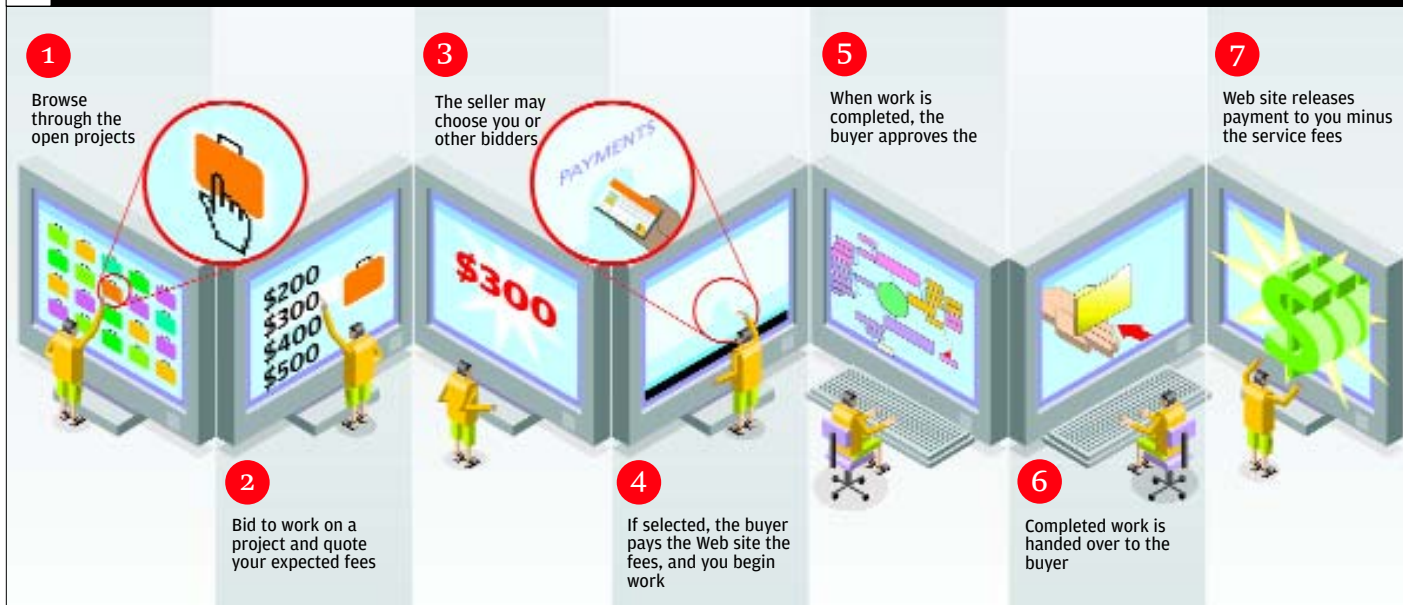
Among other things, the article spoke about how “the devolution of large, permanent corporations into flexible, temporary networks of individuals” was already underway. They also wrote about how the Internet will lower business transaction costs, and how these lower costs will change the “economic equation.” They bravely predicted that this kind of business will define work in the 21st century.

Based on this philosophy, Sheth (also a Massachusetts Institute of Technology postgraduate) and his Elance team created their first product—the Elance Online Service Marketplace—in 1999. Ever since, it has been the link between thousands of business and service providers from

Illustration: Mahesh Benkar



## How it Works



Graphics: Solomon Lewis

all over the world.

It is not easy getting a project, though. For every assignment, there are likely to be several bidders, and the experience each time may not be a pleasant one. Says Gupta, "Getting projects on Elance Online is a mixed bag. Because the client is on the other side of the world, and we never meet, it does create issues at times."

The process, although seemingly easy, is not fixed; it varies from project to project, and most

Not that Elance Online is the only site that caters to freelancers from across the world. For software programmers and creative professionals, sites such as Guru.com and rentacoder.com have been around for ages. Guru.com, for instance, has a tie-up with remit2india.com where you can collect payments from clients abroad. Rentacoder is free, but is restricted to small projects that could be executed by individual programmers. This is one reason

why Synapse does not bid on rentacoder.com.

On Elance Online, the cost of bidding could be quite high, even if the returns over a period could be higher. Prices range from \$12 (Rs 560) a month for writing and translation assignments to \$1,195 (Rs 56,000) a year for software, technology, design and engineering categories. In addition, there is an 8.75 per cent service charge. Besides,

even if the first wire transfer of funds is free, each incremental transaction would set you back by \$10. This pricing mechanism allows Elance Online to keep the site free of any riffraff, although there are still some who do not honour their commitments.

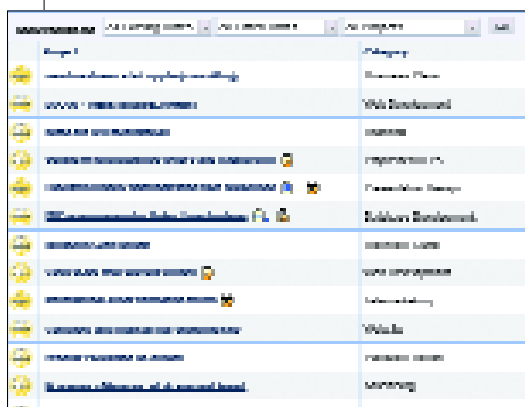
Another problem, as Gupta points out, is that Elance

requires that payments be routed through them. "But Elance does not provide any guarantees since they simply act as a common meeting ground between the service providers and the buyers. About 40 per cent of payments on Elance result in defaults."

**Elance is all about open opportunities. There is no hard and fast rule to get a project. You need to keep on striving.**

**Kapil Gupta**

COO, Synapse Communications Pvt. Ltd.  
Used Elance.com to jumpstart his business



**Choose from a variety of projects from different fields**

times you end up disappointed as the project may be awarded to someone else. Your experience at Elance itself counts, and it usually takes that one breakthrough to get you set. As Gupta says: "Each project and each client is different. There is no single way that can describe the steps from start to finish."

On the positive side, however, the site offers a well-defined selection of the most popular job categories—from photography to developing .Net applications. And since most of the work is done through the Net without any human interaction, it does not really matter how educated you are, or how big your company is, as long as your work is credible and is of the highest quality.

Indians, especially, love this site because western project managers tend to give big projects to Indians, because they quote rates that are 50-70 per cent lower than their American counterparts for the same quality of work, if not better. Sounds familiar? The outsourcing debate just got a new point■

saurabh\_kumar@thinkdigit.com



Meera Vankipuram

**S**un Microsystems' Net usability guru, Dr Jakob Nielsen, calls the Internet a procrastination apparatus. We agree, and perhaps can even add a corollary—it also teaches us to always find the easy way out, more so when it comes to research.

The World Wide Web is both an information treasure house, and a well-laid trap.

Reliable, credible research comes at a premium, and finding the right place on the Web can be tricky. Professional research sites, hence, assume even more impor-

and specific research sites make more sense.

For instance, vivisimo.com, a metasearch site that aggregates content from various search sites and collates them in order of relevance. Researchers across the world swear by it, and it was rated second, only to Google, in a survey by about.com, conducted in May 2004. Let's focus on research sites, however, and look at six sites covering different professional fields:

### IT Papers

[www.itpapers.com](http://www.itpapers.com)

Arguably one of the largest online libraries for technical white papers, Web casts, and case studies. Itpa-

site, though, and at \$7 (Rs 330) a page of 225 words, it seems expensive. But, if you want to download large documents, it would cost you \$133 (Rs 6,250). This site is reasonably priced if you want large documents that can be accessed via e-mail, by fax, by courier, or by postal mail.

# Go beyond Google

**For a cost that is astonishingly low, you can get the best research available to you at your fingertips. Here's how**

tance—they are credible and can be quoted in your internal research papers, presentations, forecasts for market growth, etc.

Since they are created by independent industry experts, the research is reliable. Academics, too, publish journals that are posted regularly on the Web.

One research site that is not an academic enterprise is about.com, which has information neatly categorised, and each category and its topics are lead by experts in a specific field—all of whom are carefully chosen through a strict screening procedure. Unfortunately, for most of us, searching for anything on the Web, starts and ends at Google.

But Google, for its versatility and immense intelligence, has its limitations (see box: *Five Reasons Why Google Doesn't Always Work*).

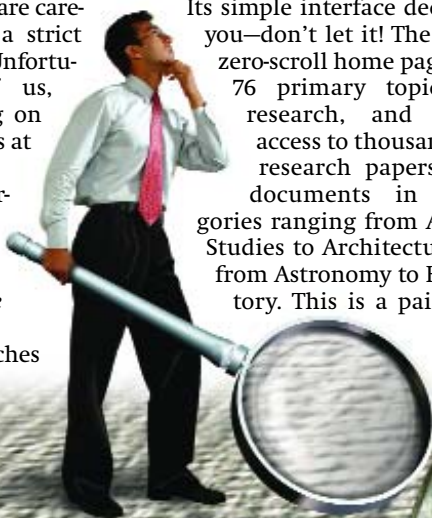
Perhaps metasearches

pers offers free membership, and lets you access downloads, detailed descriptions, and personalisation features. You can also request for white papers from this directory, and contact vendors directly as well. Information technology topics include data management, hardware, Internet, networking and communications, software, security, platforms, OS, etc.

### Academic Research

[www.academicresearchpapers.com](http://www.academicresearchpapers.com)

Its simple interface deceives you—don't let it! The site's zero-scroll home page has 76 primary topics of research, and gives access to thousands of research papers and documents in categories ranging from Asian Studies to Architecture; from Astronomy to History. This is a paid



## Statistics related to India

[www.indiastat.com](http://www.indiastat.com)

Even if information about India is available at different sources, it is difficult to collate credible information. Welcome to Indiastat.com, a comprehensive resource on India-specific, socio-economic statistics "culled from various secondary level authentic sources." The site is a research aggregator, providing analyses and condensed statistical data from several sites.

Indiastat.com is a paid site, accessible only on to bona fide researchers, academicians, academic institutions, NGOs, libraries, government departments and corporates. Topics include demographics, crime, foreign trade, media, telecommunications, education, geographical data, etc.

The good news is that there are over five lakh pages of statistical data that has been quantitatively analysed, and each can be downloaded in MS Excel or HTML formats. There are weekly updates to most of the figures provided on the site. All the new updates are methodically presented on the home page making it easy for any subscriber to understand.

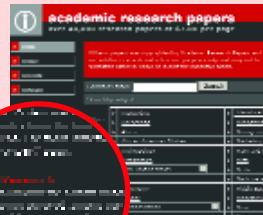
Single user access on Indiastat.com costs Rs 8,000 for researchers and academicians, and Rs 11,000 for other individuals, whereas two-user access for government departments and NGOs would set you back by Rs 15,000. Two-user access for individuals costs Rs 17,500.

## IT research papers

[www.bitpipe.com](http://www.bitpipe.com)

Bitpipe Library, an award winning site, has everything in IT, ranging from white papers, product literature, Web casts and case studies. Its modus operandi is quite simple—it collects research material and distributes it to over 3,500 worldwide vendors and magazines such as Information Week, Network Computing, Forbes, etc.

Academic Research Papers lets you order term papers custom-written by experienced professionals



Bitpipe's 'Hot Topic' section features exhaustive information—including white papers, product info, and Web casts—on a specific topic



Poynter's Resource Centre provides links to archived news stories, tip sheets, and other media-related information



Business Intelligence provides access to research papers on a wide variety of business-related topics



**More often than not, free research does not carry valuable up-to-date statistics or specific insights I am seeking**

**Mohan Krishnan,**  
Content Specialist

## Engineering and Commerce

[www.ntis.gov/](http://www.ntis.gov/)

The National Technical Information Service (NTIS), a site maintained by the US Department of Commerce, is a resource for scientific, technical, engineering, and business related information. The site provides information on more than six lakh information products covering over 350 subject areas from over 200 federal agencies.

The products are available in a variety of formats—online, multimedia, CD-ROM, paper, and microfiche. Archival records can be accessed for a nominal fee. NTIS offers information on computer products, databases, multimedia, IT-based publications and reports and related information.

## Media and related issues

[www.poynter.org](http://www.poynter.org) and [www.media-management.org/](http://www.media-management.org/)

For most practising media professionals, Poynter is nothing short of being the Bible. It has some of the best resources you could ever ask for—columnists, white papers, skills upgradation workshops, analytical essays, and contributions

from the best journalists and editors from across the world. It has extensive writing on publishing design as well as media on the Internet. For the most part, it is free, funded by the US-based Poynter Institute.

Net Academy, on the other hand, is one of the first sites set up to collate research on media management, a concept so new that there is no established common body of knowledge. At the fundamental level, Net Academy is a network of research communities, each of which "accumulates, disseminates and reviews academic content and activities according to its own organisational principles and quality standards."

Net Academy was established by the University of St Gallen in Switzerland to promote research in media management, and will take some time to achieve a high degree of depth, but it is a beginning that took a long time coming.

## Business Management

[www.businessintelligence.com](http://www.businessintelligence.com)

Business Intelligence is a comprehensive management resource site with extensive research on business performance management, reporting, analysis, customer relationship management and data management. To access its research papers, you need to register (it's free), after which you are sent the requested paper via e-mail. With detailed sections on news, research, various business articles from the best magazines, Business Intelligence is a complete business management site. ■

[meera\\_vankipuram@thinkdigit.com](mailto:meera_vankipuram@thinkdigit.com)

## Five Reasons Why Google Doesn't Always Work

### Google is not a meta search engine

A meta search, simply put, is a search of searches from various resources on the Web. There are meta meta searches which search meta search engines as well for greater detail.

### Google takes only 10 words in its search field

Meta search engines have the ability to search entire paragraphs, leading to greater accuracy.

### Google searches based on PageRank

Google's searches are based on how many sites have linked to a particular page. This means that new, yet relevant Web sites will get left out of the initial search results.

### Google throws up linear search results

Google, for all its intelligence, does not categorise search results, making it a uni-dimensional search site. Try vivisimo.com, and see how the results are multi-layered giving it all the depth a research site needs.

### Google does not have domain expertise

This means that if you are researching Apple (as in the computer company) or Cricket (as in the game), it is likely that the results you get will include the fruit or the insect. Get the picture? Research sites, on the other hand, are domain specific, and can throw up results most specific.



## Delete the ordeal of booking train tickets from your memory...

Robert Sovereign-Smith

Finally! A dot-com (www. [irctc.co.in](http://irctc.co.in)—dot-co-dot-in, in this case), that actually helps us commoners, those of us with credit cards, or bank accounts with

Internet banking facilities. The Indian Railway Catering and Tourism Corporation (IRCTC) Web site takes away the drudgery of booking Railway tickets. Enter details, such as your name, date of birth, your home and office addresses, e-mail address, and choose a user-name and password. Log in using your user-name and password and start the process.

Click on the 'Plan my Travel' link under the header Book Ticket on the navigation bar. Now choose the 'From' and 'To' station codes, if you know them. If you don't know the station code, click on the little engine logo on the right of each field to search for stations. Once you find the correct station codes, enter them and choose the date on which you plan to travel, then the Class you want to travel by, and click on Go. Next, you'll see a list of trains to choose from, all spanning the stations you want. Now you can check the radio button next to the train of your choice and click any of the buttons below. The Book Ticket button takes you straight to actu-

# IRCTC.co.in

ally booking the ticket; the Get Fare button will show you how much you will be paying for this trip; Show Availability will tell you whether seats are still available; and finally the Show Route button will show you all the stations the train stops at, and at what respective time.

Once you have checked the availability, and the fare, you can click on Book Ticket. Here, you will have to fill in the details of each traveller (up to 6 people), and choose either to deliver the ticket to your home, office, or to another address. After this, you have reach the final step of the booking process. Your booking details are shown, and if everything is fine, click on Make Payment. You will see a popup that will let you choose to pay by credit card, or by the various banks that let you pay via their Net banking services.

**Making the payment**  
If you are paying by credit card, select either of the three options—ICICI Bank's gateway, Citi Bank's gateway, or the American Express gateway. You're taken to a secure site where you enter your card details. Your order will be confirmed and then you're directed back to [www.irctc.co.in](http://www.irctc.co.in)

If you choose to make the payment through the Internet Banking facility, then simply choose your bank in the window that pops up when you click on Make Payment. You will be taken to the Web site of your bank, where you go through the standard online payment procedure. Once you are done, you can go back to the IRCTC site and click on Booked Tickets to see if the tickets have been booked.

If for some reason you don't see your tickets there, click on the Failed Payments to see whether your transaction failed due to some reason. In that case, you will have to go through the above procedure again. Hey, nothing's perfect!

[robert\\_smith@thinkdigit.com](mailto:robert_smith@thinkdigit.com)

## MS Excel

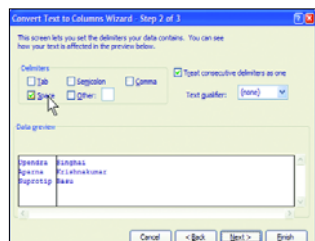
### Rows to Column or Vice-versa

If you want to interchange the data in rows to columns and vice-versa, select the cells containing the data and press [CTRL] + [C] to copy them to the clipboard. Now click the first cell where you want to paste the data and go to **Edit > Paste Special**. In the dialog, enable the checkmark **Transpose** and click OK to paste.

### Separating Last Name and First

If you have a field that contains entire names, but what you need instead is two fields containing the first name and last name separately, use the **Convert Text to Column Wizard**.

To access this wizard, select the data and then click **Data > Text to Column**. In the first screen of the three-step wizard, you will be asked to choose if your data type is 'Delimited', or 'fixed width'. Check the choice applicable and click **Next**. In the next screen, if your data type is 'Delimited' choose the appropriate



Separating firstname and lastname using the text to column wizard

delimiter or the character that separates the first and last names, and then click OK. In the final step, select the destination box and click the destination cell, and finally, click **Finish**.

If you are feeling adventurous, you could try either for the following two commands:

1. `=LEFT(A1,FIND(",",A1)-1)` assuming the name is in cell A1 and the first name and last name are separated by a comma.

2. `=MID(A1,FIND(",",A1)+2,255)` to extract last name.

### Want a Special Character?

The characters \* or ' and ? have special meaning in Excel. To locate them in your Excel file, use the **Find and Replace** dialog under 'Edit'. Prefix them with a '~' in the 'Find' field and search. For example, if you want to find a ?, enter '~?' in the find dialog.

### Freeze the Title Row

Use the **Window > Freeze Panes** menu item to lock

1. Enter the data in one sheet, copy and then paste into other sheets.

2. Press and hold the [CTRL] key and click on the sheet names near the status bar. One you have selected the sheets, enter data on the sheet that is visible and it will be entered to all sheets. Similarly, you can use the [CTRL] key to select multiple sheets and then do many other things, like running the spell checker.

marks entered are within the specified range. To set validation rules for this example, select the cells and go to **Data > Validation**. On the **Settings** tab, in the **Allow** list, choose 'decimal'. In the **Data** list, select 'between'. In the **Minimum** and **Maximum** fields, enter 0 and 100 respectively. On the **Input message** tab, you can specify what message to display at the time of entering data in those cells. This message comes similar to the tool tips and is unobtrusive. On the **Error Alert** tab, you can specify the message to display a wrong value is entered. Finally, click OK.

## MS Word

### Remove the Drawing Canvas

In Word 2002 and later, whenever you insert a drawing object, a drawing canvas is placed around it. It was introduced to help you arrange the drawings in the document. If you prefer working without it, you can turn it off. One way is to drag the drawing object out of the canvas, selecting the canvas and then deleting it using the [DEL] key. There is a way to turn it off permanently, too. Go to **Tools > Options** and switch to the **General** tab. Here, clear the checkbox that says 'Automatically create drawing canvas when inserting AutoShapes'.

### Change blank paragraphs at the end of the page

If a page ends with a table, a drawing object (such as a text box or text frame) or a continuous section break, it will be followed by a blank paragraph. This paragraph may force your document to jump onto another page. To keep your document on one page, format the blank paragraph:

1. Make the paragraph symbols visible by pressing [CTRL]+[SHIFT]+[8].
2. Select the paragraph symbol you want to change.
3. On the **Format** menu, click **Font** and then click the **Font** tab.
4. Type 1 in the **Size** box, and click OK.

# Tips Tricks

DISCOVER

GENERAL TIPS

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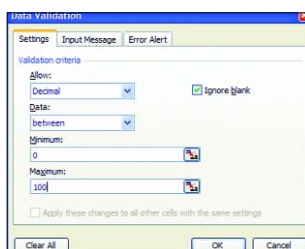
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### Using Validation Rules

You can limit the data that can be entered in



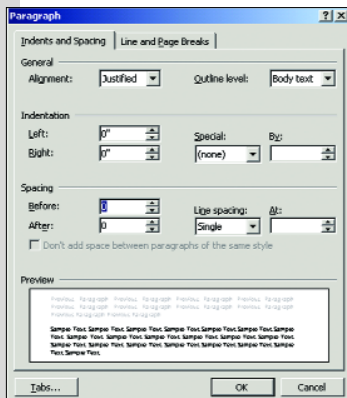
Creating rules for data entry

cells. For example, you can create a rule for entering students' marks, so that the



## Tips & Tricks

5. On the Format menu, click Paragraph, and then click the Indents and Spacing tab.
6. In the Spacing area, in the Before and After boxes, type the number 0.
7. In the Line Spacing box, select Single.
8. Click OK.



Removing blank paragraphs at the end of the page

### Creating Styles

Using styles for formatting is recommended over changing formatting parameters like fonts, para-



graphs space for individual chunks of text. This allows you to format faster and also brings consistency across the document. To create a new style, select the text that you have formatted and want to use as 'style'. Go to **Format > Styles and Formatting**. This will open the Style and

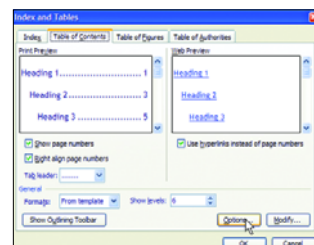
Formatting task pane in Word 2002 or later. Click New Style in the task pane and in the dialog that comes up, enter the name of the new style. Change other options if you want to, and click OK. You can apply the style from the Styles dropdown list on the Formatting toolbar.

### More text in less space

You can fit in more text in lesser space in several ways. Perhaps, the most obvious one is to reduce the font size. However, don't make it too small that it becomes unreadable. As a rule of thumb, anything below 9 point is a no-no. However, you can accomplish tighter text also by reducing the line spacing to single, making indents paragraph spacing zero. You can get to all these using the **Format > Paragraph** dialog.

### Using a Table of Contents

A table of contents comes in handy when navigating within a document—especially long documents. It creates and maintains internal hyperlinks based on the formatting styles used in the document. Make sure you format the document using the styles—Heading 1, Heading 2, etc. Now, move your cursor to the



Creating a table of contents

## Bet you didn't know

### Justify text beautifully in MS Word

When you apply Justify formatting to a paragraph, Word inserts spaces to adjust the length of the line. Sometimes, you may end up having too much white space in between words. To achieve alternative and more presentable text justification, go to **Tools > Options** and click the Compatibility tab. In the Recommended options for list, click WordPerfect 6.x for Windows. Then enable the checkbox Do full justification like WordPerfect 6.x for Windows under the Options. Click OK to close the dialog. This spacing adds and removes spaces, which normally results in uniform spacing.

beginning of your document by pressing [Ctrl] + [Home]. Go to **Insert > Reference > Index and Tables**. In the dialog box that pops up, go to the Table of Contents tab. Click on the Options button, and make sure all the heading levels you have used in the document are selected. Click OK to come back to the Index and Tables. Now choose the number of levels you want to appear in the TOC and click OK to create the table of contents. You will have to press [Ctrl] and click the hyperlinks to follow them. To go back to the TOC, click on the 'Go to TOC' button on the Outlining toolbar.

If you are using Word 2002 or later, there is a simpler way to navigate within a large document. Simply click **View > Document Map** and the map of the document, similar to Windows explorer, will open on the left side of document window. You can then click the heading in the document map to jump to that section. It's better to use

## MS PowerPoint

than TOC in many cases. **Use Outline for entering content quicker**

Tackling both the look and typing the content for a presentation at the same time can be a bit overwhelming. Why not try getting your thoughts down first in the Outline view and then build from there? In the left panel of the PowerPoint window, click the Outline tab. Type your thought and press [ENTER]; that's a new slide title. You can continue creating slides and entering slide titles by typing information and pressing [ENTER]. If you want to add content to a slide, press [TAB] (instead of [ENTER]) and PowerPoint records the text as a bullet point. To add a bullet within a bullet point, press [TAB] again. You can create several levels of bullets, but usually one or two levels do the trick.

### Template for repeated presentations

If you are creating the same presentation layout over and over again, you can turn your presentation into a template that you or others can use fast and flawlessly. A template saves all the settings you have selected—background images, colour scheme, font selections, and so on—and ensures that the presentations you create based on that template all have the same elements in common. This is great if you have a uniform companywide look that you want all your departments to adhere to. To turn a presentation into a template:



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On the File menu, click Save As.

In the Save as type list, click Design Template.

Name the file and click Save.

Another extra that can really help: add instructions about special formats, font choices, or video clips in the Notes area (under each slide), if others will be using your template.

## Creating a Photo Album in PowerPoint 2002

You can use PowerPoint 2002 and later to create a photo-album presentation. To create this, go to **Insert > Picture > New Photo Album**. The Photo Album dialog will open. Now click the File/Disk button to add any picture that's stored on your computer, or click the Scanner/Camera to add pictures from a scanner or camera. Hold down [SHIFT] to select multiple images. Using this dialog, you can choose the layout of the album, convert pictures into greyscale, adjust the brightness and contrast or rotate the image. When you are done, click 'Create' to create the presentation. If you need to modify any of these changes later, just go to **Format > Photo Album**.



Creating a Photo Album presentation

## Bet you didn't know

### Schedule 'Response to e-mail' in MS Outlook

As much as you'd like to, you can't always respond instantly to every e-mail message. If you did, you'd never get any work done. To make sure that you don't forget to answer important messages, move them to your calendar so you can set aside a specific time to respond, or add them to your task list as a reminder. To turn an e-mail message into an item on your calendar or task list:

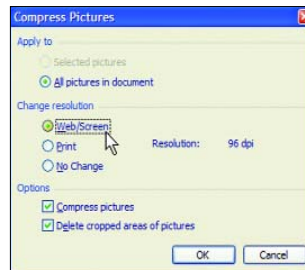
1. Drag the message from your Inbox onto the Calendar icon or Tasks icon on the Outlook Bar or onto your Calendar or Tasks folder in the Folder List. This will create a new appointment item.
2. If you are moving the item to the calendar, enter the date and time you want to reply and specify any additional options you want. (The body of the e-mail message is automatically added to the appointment.)
3. Click Save and Close to add the appointment to your Calendar or Task list.
4. You can drag items between all Outlook folders, including Inbox, Tasks, Calendar, Contacts, and Notes. For more options, right-click before you drag.

### Reducing the size of presentations

When you add pictures to presentations, the size increases. To compress pictures in PowerPoint, open the presentation and click any image. The images toolbar should be visible now. If it doesn't appear, right-click on any toolbar and choose Pictures. On the picture toolbar, click the Compress Pictures button. If you can't

locate the button, simply hover your mouse over the buttons and read the tool tips.

In the dialog box that appears, choose 'All pictures in document' in the 'Apply to' section.



Compressing pictures in presentations

field. Choose the appropriate resolution, depending on what the presentation is intended for—if you don't plan to print the slides, choose Web/Screen option. Click OK and the images will be compressed.

### Converting slides to images

You may want to convert individual slides into

images, say, in order to e-mail it to someone. All you have to do is: open the presentation in PowerPoint, scroll down to that slide and click **View > Notes Page**. Here you'll see that the slide occupies half of the page as an image. Right-click on this image and choose 'Copy'. Now open any graphic application such as MS Paint or Photoshop, paste the copied image there and save the file.

## MS Outlook

### Colour code your Calendar

Outlook provides 'labels' which allow you to colour-code your appointments by choosing from various label types and colours. So, with a quick glance you get to see the types of appointments at hand.

Instead of the normal calendar, your calendar can look like the one in labels.bmp.

To colour-code your calendar, right-click an appointment, point to Label, and then click the label you want. Or,

### Some useful keyboard shortcuts

Keyboard shortcuts help you work faster with any application. PowerPoint has shortcuts too. Here are some of them:

To	Press
Start a presentation	[F5]
Advance to the next slide	[N], Left-click, [Spacebar], →, ↓, [Enter], or [Page Down]
Return to the previous slide	[P], [Backspace], ←, ↑, or [Page Up]
Go to particular slide	Number followed by [Enter]
Make the screen blank	[B] or [.]
Make the screen white	[W] or [,]
Show or Hide the arrow pointer	[A] or [=]
Erase drawings on a screen	[E]
Change pointer to pen	[Ctrl] + [P]
Change pointer to arrow	[Ctrl] + [A]
Change pointer to eraser	[Ctrl] + [E]
Hide pointer and button	[Ctrl] + [H]
To get help on keyboard shortcuts	[Shift] + [?]

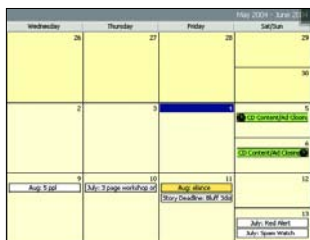
Tips & Tricks, Software shortcuts, Q&A know-how, How to guides, Step-by-step tutorials, Beginner guides



Help

www.zdnetindia.com/help





Colour coding appointments

when you are scheduling an appointment, click a colour in the Label list.

### Rules Rule

Outlook has a powerful rules system to notify when an important mail, such as from your fiancé or your boss, comes in. Additionally, you can make Outlook automatically move e-mail into predefined folders such as 'Mailing Lists', 'Family Mail' and more. This will help de-clutter your inbox and make your e-mails more manageable.



Illustration: Mahesh Benkar

To create a rule, click Rules Wizard. You can either customise on the Tools menu, one of the sample rules in Outlook, or build one from the scratch. Most rules operate on messages as they arrive or are sent, but you can create a rule and select it to run on messages in your Inbox



## Readers' Tips

### MS Excel

#### Close Workbooks Fast



Need to leave your desk suddenly but have 10 worksheets open in Excel? Try this—Click the File menu while keeping the **SHIFT** key pressed on your keyboard. Excel will now reveal a 'Close All' menu item, clicking which will close all open worksheets, while prompting for a save where applicable.

Naveenchandran

### MS Word

#### Customising Your "Normal" Template



Does your work require sending large number of letters on your letterhead? What you can do is open the normal.dot template file from a path like "C:\Documents and Settings\Saurabh Kumar\Application Data\Microsoft\Templates". Any changes you make in this document will appear in any new documents you make in Word. You can use the header/footer fields to add custom letter head graphics, page numbering, date/time etc. and these will appear every time you open a new document.

#### Shortcuts to Useful Word Features

Did you know that the status bar, that area at the bottom of Word documents where the page number appears, also provides shortcuts to a number of very useful features? Here are a few you may want to use:

To open the Find and Replace dialog box, double-click any location indicator on the status bar, such as the page number or section number.

- ▶ To turn the macro recorder on or off, double-click REC.
- ▶ To turn the Track Changes feature on or off, double-click TRK.
- ▶ To turn extend selection mode on or off, double-click EXT.
- ▶ To turn overtype mode on or off, double-click OVR.
- ▶ To change the language format of selected text, double-click Language.

(or other folders). In fact, one of the easiest ways to create a rule is by using an existing

message in your Inbox. Open the message, and on the Actions menu click Create

To resolve errors in grammar or spelling, double-click the Spelling and Grammar Status.

Smrit

### MS Outlook

#### Important Office data files



At the time of making your regular backup, it is essential to know where the important data files of MS Office are kept. Here are the important ones:

- ▶ .pab files are Microsoft Outlook address book files.
- ▶ .pst files are Microsoft Outlook mail, contacts, tasks and calendar files book files.
- ▶ .rwz files are the Microsoft Outlook rules wizard files.
- ▶ Locate the file by using the Windows find tool. Click **Start > Find > Files or Folders**.

In the Named box type \*.pab(or whatever you are searching for from above) in the Look in box, ensure it is looking on the drive that Microsoft Office is located (generally the C: drive). Click Find Now

This should locate the file you are looking for, if present. Ensure that you have completely closed your copy of Microsoft Office. Once this file is located copy the file to an alternate drive or backup media.

Deep

### MS Access

#### Automagically normalise tables



One of the most useful but unnoticed feature of Access is Analyze. It is divided into three options.

Table Analyzer: This feature attempts to analyze your table for repeated data, recommends and splits the tables to generate BCNF normalised table structure. The tool is good for a quick survey of the tables or for newbies, as its suggestions are usually good and based on logic.

Performance Analyzer: It analyses and suggests modification in the structure of the database to optimize the performance of database. The wizard will attempt to locate logical errors such as incorrect data types and more.

Documentor: This one is used to create the documentation of the database structure, which can be useful and a real time saver for quick report generation.

waaznt

Rule. The Rules Wizard will include details about your message, such as sender and




Virus Alerts, Bug Fixes, Patches, Security

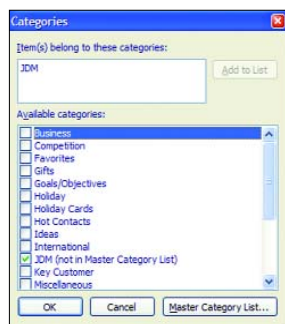
Virus Workshop

www.zdnetindia.com/virus

subject, already filled in. All you need to do is choose which criteria to use and which action it should trigger. And enter data in steps till 'Finish'.

### Categorise to Track Data

 Categories help you manage your data from various sources, but is a very under-utilised feature of Outlook. Each Outlook item can be assigned a category, either from the Outlook's default set, or a custom one. Assign your e-mail, meetings, journals entries, tasks etc. a category, so that later, you can easily retrieve all data related to a particular category, such as of your clients' names.



Categorising to organised data

To categorise an item, right-click the item, and then click Categories. This will bring up your current list of categories. Select a category from the Available categories list. To create new categories, click Master Category List.

To view all the items that belong to that category, you can customise your view to group items by category. Or use Advanced Find to search

### Bet you didn't know

#### Delete Duplicate Rows in MS Excel

To delete duplicate rows, you filter a list for unique rows, delete the original list, and then replace it with the filtered list. The original list must have column headers.

1. Select all the rows, including the column headers, in the list you want to filter.
2. On the Data menu, point to Filter, and then click Advanced Filter.
3. In the Advanced Filter dialog box, click Filter the list, in place.
4. Select the Unique records only check box, and then click OK. The filtered list is displayed and the duplicate rows are hidden.
5. On the Edit menu, click Office Clipboard. The Clipboard task pane is displayed.
6. Make sure the filtered list is still selected, and then click Copy. The filtered list is highlighted with bounding outlines and the selection appears as an item at the top of the Clipboard.
7. On the Data menu, point to Filter, and then click Show All. The original list is re-displayed.
8. Press the [DELETE] key. The original list is deleted.
9. In the Clipboard, click on the filtered list item. The filtered list appears in the same location as the original list.

**Caution:** Because you are permanently deleting data, it's a good idea to copy the original list to another worksheet or workbook before using the following procedure.


for all the Outlook items related to a category.

In the Tools menu, click Advanced Find, and then click the More Choices tab.

Click Categories and use


the Available categories list to select the categories you would like to find. Click OK. Then go to Find Now.

#### Search all Info Related to a Contact

 Few people ever venture past the first tab in the Outlook Contacts form. After all, if you are storing information for business contacts, just about everything you need is contained on the first tab. Occasionally, you click on the second tab to enter a spouse's or assistant's name. But have you ever seen what the third tab, the Activities tab, contains?

The Activities tab shows you all the Outlook items related to that contact: every e-mail, meeting, journal entry, or task. It's a great way to review all your communication with someone or prepare for a meeting with them. If you're overwhelmed by the sheer volume of information on this tab, you can filter the information and display only Contacts, E-mail, Journal Entries, Notes, or Upcoming Tasks or Appointments.

#### Create a virtual business card

 Use Outlook to extend the ritual of passing out business cards. Add a virtual business card (vCard) to your e-mail signature, ensuring that your business contact information is included in each e-mail message you send.

To include a vCard with your e-mail signature:

1. On the Tools menu, click Options, and then click the

Mail Format tab.


2. Under Signature, click Signatures, and then click New.

3. Select the options you want, and then click Next.

4. Under vCard options, select a vCard from the list or click New vCard from Contact.

### MS Access

#### Archiving Stale Records

 If you have a large database, with records you do not query regularly, shifting them to a new table will improve the efficiency of your table. We will hence archive records from one table to another. You archive records (instead of deleting them) when you want to remove unnecessary records from the original table to reduce its size. To archive records in an Access database (.mdb), build simple queries that move the records from one table to another. A macro can be used to automate the multiple queries used to accomplish this task.

To periodically archive records from one table to another:

1. Use the Copy and Paste commands to make a copy of the table you want to archive. Copy only the structure, not the data. For example, copy the structure of the Products table in the sample database to a new table called Products\_Archive.

2. Create an append query that contains all the fields in the original table and appends records to the archive table. Set the criteria to specify the subset of records you want archived. For example, create an append query called Products\_Append that appends only discontinued



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Mobile

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items to the Products\_Archive table by setting the Criteria cell for the Discontinued field to =-1.

3. After appending the records to the archive table, you will need to remove them from the original table. Create a delete query with the same criteria you specified in the append query. If you create an append query that prompts for a parameter, you should also create a delete query that prompts for the same parameter. Make sure you enter the same values each time you are prompted when you run the queries. For example, create a delete query called Products\_Delete using the same criteria as the Products\_Append query.

4. Create a macro that first runs the append query and then runs the delete query. For example, create a macro called Products\_Archive\_Records that uses the OpenQuery action to run the Products\_Append query and then uses the OpenQuery action to run the Products\_Delete query.

5. Run the archive macro each time you want to archive your records. For example, run the Products\_Archive\_Records macro each time you want to archive discontinued products from the Products table to the Products\_Archive table.

### Lock for .ldb

Sometimes when a new user tries to access a shared database on the server, a situation arises causing Access to delete the .ldb file,



### Bet you didn't know

#### Add Stripe Patterns to a Table in MS Word

One way to modify the built-in table formats that come with Microsoft Word is to apply your own stripe patterns. You can select the number of rows or columns to include in a stripe pattern and apply your colour choices to the pattern.

When you modify a table style, all tables with that style in the active document will be changed.

1. To add stripe patterns to a table, select the table.
2. Open the Styles and Formatting task pane from the 'Format' toolbar.
3. In the Styles and Formatting task pane, click the arrow on the 'Table style', and then click 'Modify'.
4. In the 'Apply Formatting to' box, select a stripe pattern by doing one or both of the following: Add stripes to rows, Click Odd row stripes or Even Row stripes.
5. To select a colour for the stripes, click the arrow next to Shading Colour, and then chose a colour.
6. By default, the stripe patterns are applied to every alternate row or column.
7. To change the number of rows or columns in a stripe pattern, click Format, and then click Stripes.
8. Change the number of rows in a stripe or the number of rows in a row band box.

but because of another user also working on the file, the .ldb files fail to get erased. This is tried 15 times before Access fails and gives up. This process causes a performance hit.

To overcome this problem you need to create a form on the client side, which creates a

persistent connection with the database by opening a recordset. To do this:

1. Create an empty form.
2. In the code view, declare a **recordset** variable in the global declarations section.
3. In the OnOpen event, open a recordset against any table.
4. In the OnClose event, which will activate when the MDB is closed, close the recordset and set the variable to nothing.

5. Ensure that you always open this form when opening the MDB.

Maintaining persistent connections to linked tables could improve performance significantly because it prevents Microsoft Jet from constantly deleting, creating, and obtaining locking information from the other database's locking information file.

### Open Database Objects Faster

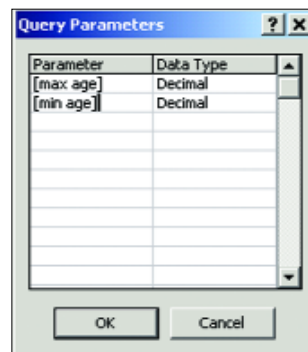
If a database has the Name AutoCorrect feature enabled, more often than not, users will experience a delay when they try to open any of the database objects. When using a secured database with Name AutoCorrect enabled, the current user must have design permissions on the object to enable Name AutoCorrect to track, fix, and log the binding errors when an object is opened. If a user does not have design permission on an object that Name AutoCorrect is trying to change, the changes occur every time that the user opens the object. This happens because the user does

not have permissions to ever save the changes.

To fix this, open the Tools menu, select Options, and choose the General tab. Then, clear the Track name AutoCorrect check box.

### Query based on User Input

Access allows you to enter parametric queries. Such queries can accept inputs from the user, while running to make the query result conditional, based on the user input. They are useful because the query itself does not need to be modified by the query designer. You can easily add conditions to the query by using the 'Criteria' box of the Query Designer grid. Enter some text to describe the input enclosed square brackets in the criteria box query\_pmt.bmp. Next time you run the query, Access will ask you for the input of the field to complete the query on the fly.



Defining the order of user inputs

You can make your query more complex. Example, you may set the Between...And... operator by entering something like "Between [min age] And [max age]" in the same criteria box.

If you have parametric



Notebooks, Hand Helds, Cameras, SMS  
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# Customise your DivX movie CD

Insert a CD and get DivX to autorun. Get a synopsis of the movie. Browse online film reviews. Play around with lots more by customising your DivX movie CD

Ripping a DVD movie to DivX has now become passé. It's time to elevate yourself to the next level. Customize your DivX movie CDs so that once you insert a disk in your drive, it not only auto-runs, but also provides you with a menu so that you can do more things related to the movie like reading a synopsis of the movie

or launching a browser to go directly to online reviews. And no, you do not require programming knowledge for accomplishing this—just 30 minutes.

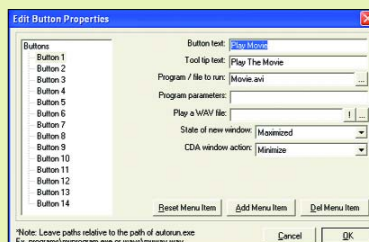
To create this menu we will be using a freeware tool called Compact Disc Autorun (CDA) available on the web ([www.utdallas.edu/~jbs024000/software/cda.html](http://www.utdallas.edu/~jbs024000/software/cda.html)) and some other software that will make the menu look better, and display images such as the DVD front and back covers.

**1 STEP** First, download the CDA compressed archive, and extract the executable to the folder where you have your movie. When you run the program you should see an interface as shown.

Whew! That's a lot of buttons. But don't worry, once you start, it'll be a walk in the park.

**2 STEP** Click on the first button and you will get a lot of options to configure that button. Here's how we did it. We chose to keep the first

have the images of the back and front DVD covers create buttons for them too. If you have a small synopsis text file, create a button for that. Our menu resembled this box below.



Each button can be customised to perform a specific function

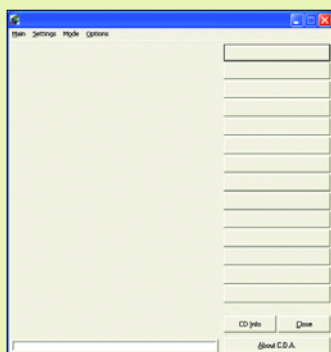
button as the 'Play Movie' button. Provide the path of the movie and that's it. You're done!

**3 STEP** Customising comes next. Play around with the buttons as you like. If you want to keep a codec pack handy on the CD, copy the codec installer in the same folder as the executable and create a button for it. If you

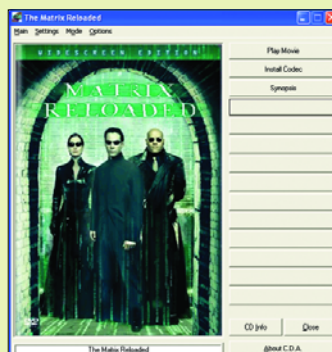
**4 STEP** Now for the final touches. With the buttons created, click on Settings > Sound & other option. This will let you configure the options for the main window. If you want to display any images, click on the Settings > Image properties option and provide the path to the image to be displayed. Then click on Settings > Test Settings. This will give you a status report of the work that you have done and whether anything is wrong. If everything is OK, click on Settings > Save to current directory. Then click on Settings > Create INF and finally click on Settings > Make Settings read only.

**5 STEP** Burn all the files that you see to a CD. Make sure that all the files, including the movie and the auto-run files are on the root of the CD. If there are any folders, make sure that you specify the path correctly. Once you have the movie on the CD, try it out and let us know if your friends are amazed to see what you have just created!

**Note:** Find the software mentioned here and more similar freeware on our DVD/CD.



The CD interface, with the buttons



The final interface that appears when you enter the CD in the drive



Virus Alerts, Bug Fixes, Patches, Security

Virus Workshop

[www.zdnetindia.com/digital](http://www.zdnetindia.com/digital)



input on more than one of the fields, then how do you decide which input box appears before which? In that case, you can control it by going to **Tool > Query > Parameters**. Here, enter the parameters with the exact name. Be careful to keep it in the order in which you wish them to appear. **E**

## Tip of the Month

### Easy Access to Frequently-accessed Documents

The Work menu is a great Word feature that few people know about. You can use the Work menu to keep an easily accessible list of your favourite Word files. Here is how you can add the Work menu to the toolbar:

1. Go to Tools, click Customize, and then click the Commands tab.
2. In the Categories box, click Built-in Menus.
3. Click 'Work' in the Commands box and drag it to the menu bar or displayed toolbar.
4. With the Work menu in place, you can add any open Word document to your list. Here are the options:
5. To add the current document to the Work menu, on the Work menu, click Add to Work Menu.
6. To open a document on the Work menu, on the Work menu, click the document you want to open.
7. To remove a document from the Work menu:
8. Press **[CTRL]+[ALT]+[-]**. Your cursor will look like a large, bold underscore.
9. On the Work menu, click the document you want to remove.



# Arrest that Song!

**Record Internet radio shows and your favourite all-time hits—BOOMBox is here for you**

**Y**ou finally got a 'broadband' Internet connection. Streaming audio beckons (streaming video needs the Indian definition of broadband to change)! You are sitting at your computer, listening to your favourite Internet radio channel, and a song you just love is aired. "Nooo! Damn! How do I record this?" you wonder. We will show you how

you can record your favourite Internet radio shows or just a few all-time-favourite songs.

You need to have a SHOUTcast compatible player installed, which supports the .PLS file extension. We will use a player called BOOMBox Online Radio Player—a small and intuitive online radio player. However, its best feature is the bundled streaming audio recorder.

Configuring this tool is a snap: Once you start the software, you can choose to either see a list of radio stations by category, or see a complete list that will give you more options to choose from. Click on the Refresh Radio List button to get the latest list.

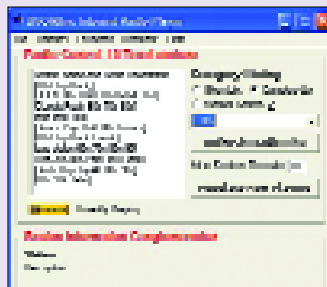
You will see a list of radio stations displayed. Click on one, and you are shown a brief description, including the URL and the current song that is playing. Clicking on the Populate Now Playing button will show you all the songs playing on all the

radio stations in your list.

To listen to a station, click on Tune In. This launches your default media player, such as, Winamp. The song doesn't start immediately, as it is buffered first to ensure smooth playback.

Once playback begins, you can configure the recorder. Go to **Recorder > View Recorder**, which opens the Recorder window. Click on Advanced to see all the options. An option is the Advanced Song Change Detection feature cuts the songs accordingly to different parts. For extremely advanced audio editing, you'll need to find different software.

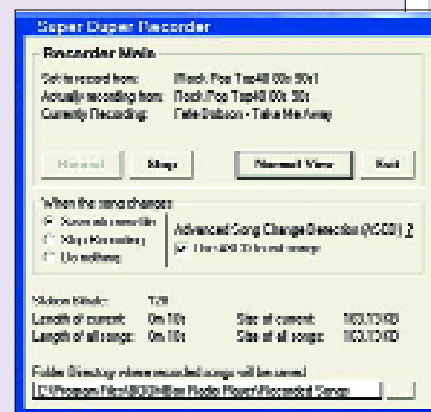
Once the recording is done, navigate to the folder with the recorded songs. The software



Click on 'Tune in' to launch the default media player

## Warning!

A lot of the content on popular Internet radio stations is copyrighted. Capturing this content is illegal! Make sure you only capture audio that isn't copyrighted.



ASCD (Advanced Song Change Detection) records each track separately on to your hard drive

saves the recordings as MP3s. So, you won't have to worry about converting uncompressed formats, such as WAV into MP3.

You can add radio stations to your favorites list and one-click recording. BOOMBox offers other amazing features, for free. Here's to never having to do without your favourite music ever again.



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Mobile

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# How Anti-Virus



## 5 Common ways viruses enter your system

- 1 You open unsafe attachments in e-mail messages
- 2 You keep the preview pane open in your e-mail client
- 3 You open a Web page that contains malicious code
- 4 Someone sends you a virus-infected file over a P2P network
- 5 You run an infected file from removable media such as a floppy disk or CD

The anti-virus software, let's call him **Buster**, constantly monitors your system. When Buster detects an infected file, or when it sees suspicious activity, it uses three approaches to identify the virus

Buster checks which virus is affecting the concerned file in one of three methods:



### The Signature approach

Just like the police trace patterns in crimes back to a criminal, software engineers can reverse engineer a virus to find the signature it leaves. This signature is added to the database, so, when Buster performs a virus scan, each file is scanned for matches with any virus' signature

## 5 ways an anti-virus software removes infected files



### Removal of virus code

Removing the viral code from the file, if possible. This is the best case scenario, no harm is done to the system

### Quarantine of the infected file

Buster tries to make the file inaccessible to programs, without deleting it



### Deleting the infected file

Buster deletes the file if the code cannot be removed, or the file quarantined



# Software Works



## 3 Approaches to detect the viruses



### The Heuristic approach

This analyses a program for 'seemingly' malicious behaviour. Heuristics is effective against undocumented viruses. The Buster of the future might eliminate the need for continual monitoring of new viruses

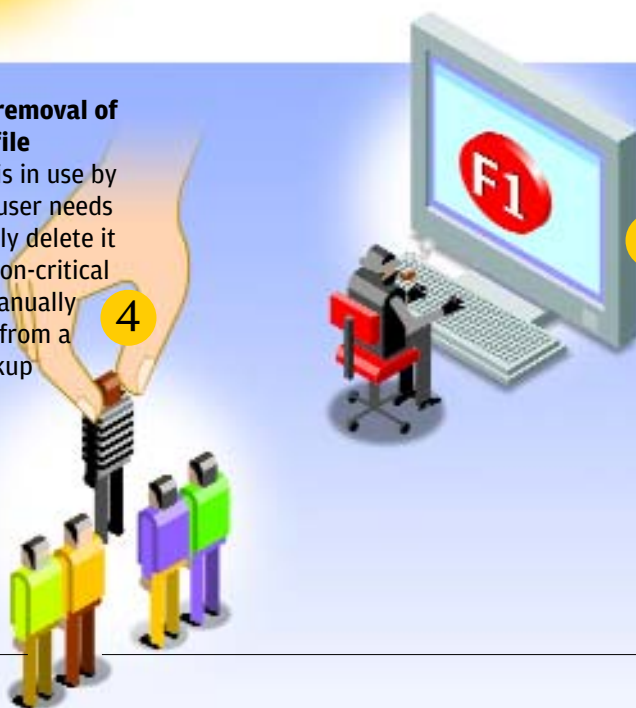
### The Sandbox approach

A 'Sandbox' is an advanced program that emulates an OS. A suspect executable file is run within the confines of a sandbox, and then the sandbox is examined to see what changes were made. These changes are used to determine which virus infected the file



### Physical removal of infected file

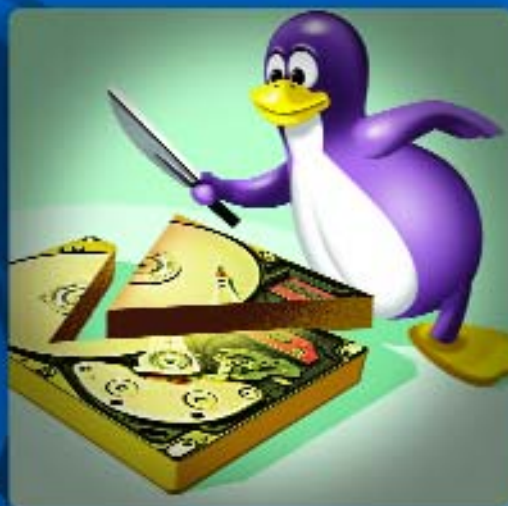
If the file is in use by the OS, a user needs to manually delete it (if it is a non-critical file), or manually replace it from a clean backup



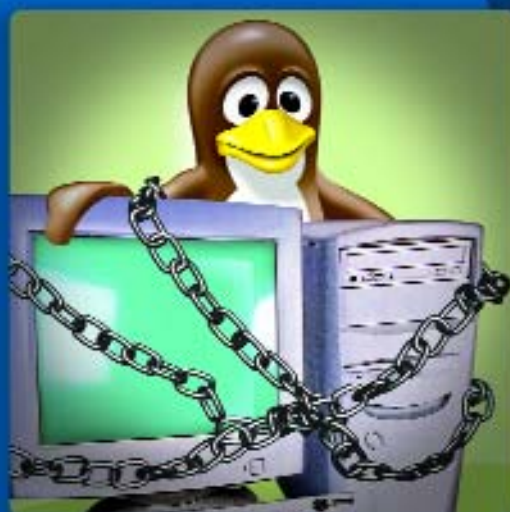
### 5 Seeking help

Viruses often make changes to the registry, and Buster can't always reverse these changes. In such cases, users are directed to the company's Web site, for help on what registry keys to change or delete

If these five methods fail, or if a critical OS file is infected, Buster boots via a secondary OS to access files being used by the infected OS



# Which Linux is right for you?



As Open Source seems poised to make a mark in the individual and small business segment, you should be looking to see which Linux is best for you





## Mustali Kachwala

It wasn't until too long ago that Linux for your desktop was inconceivable, not because it wasn't present (there were hundreds of options available even then), but because Linux meant geek. Perceptions ranged from, "It's not for me" to, "I am not a NASA space scientist." Well, here's the good news: it's not true anymore. Individuals and small businesses are moving over to Linux—even if it is only a small trickle—and finding it as simple as Microsoft Windows.

Linux also has some other inherent advantages—it is more

ness. You'll also find a section on LIVE CD distributions, which are Linux distributions that can be run straight off the CD drive, without altering your existing set up.

Linux is best when it comes to security. It is more or less immune to virus threats.

It has a bunch of GUI tools to configure various devices such as modem, network cards, and dial-up connection. Similarly, it has simple GUI tools for CD burning, CD ripping, and audio file conversion. Common office chores such as dragging a file to or from the network are really easy. Linux shows the hidden shares, the shares suffixed with a dollar '\$' sign at the end. Flash-enabled

**It is stable, costs little, and has, literally, hundreds of free software options**

the OS. The audio and video chat clients are disappointing, as there is an inconsistency in the applications that are bundled along with the various distributions. However, text messaging remains consistent with Gaim and Kopete.

Getting used to the Linux environment will be a bigger challenge than the applications. Every now and then you'll want to switch back to Windows. New adopters in offices should opt for a dual boot system, so that they can tackle critical situations.

Users will find it difficult to use software which appears radically different such as GIMP, compared to Paint. For example, in Paint, pressing the 'Print screen' button



## Flavours Available

 <p><b>ELX BizDesktop</b> Price Rs 500 Company ELX Pvt Ltd Phone 040-23551637 E-mail manojit@elxlinux.com Web site www.elxlinux.com</p>	 <p><b>Lycoris Desktop/LX</b> Price Rs 1,800 Company G.T. Enterprises Phone 080-6606093 E-mail sales@gtcdrom.com Web site www.lycoris.org</p>	 <p><b>Mandrake 10 Official</b> Price 2,350 Company G.T. Enterprises Phone 080-6606093 E-mail sales@gtcdrom.com Web site www.mandrakelinux.com</p>	 <p><b>RHEL Professional WS</b> Price Rs 3,250 Company Red Hat India Pvt Ltd Phone 022-22881326 E-mail info-india@redhat.com Web site www.in.redhat.com</p>	 <p><b>SuSE 9.1 Pro</b> Price Rs 4,857 Company Seascope Infotech Phone 022-26338484 E-mail info@seascope.co.in Web site www.SuSE.com</p>	 <p><b>Xandros Standard</b> Price Rs 2,250 Company G.T. Enterprises Phone 080-6606093 E-mail sales@gtcdrom.com Web site www.xandros.com</p>
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stable (although Microsoft Windows XP is as stable), costs less, and has, literally, hundreds of free software options. Most importantly, piracy issues are something you'd never have to deal with again—both as an individual, or as a small business.

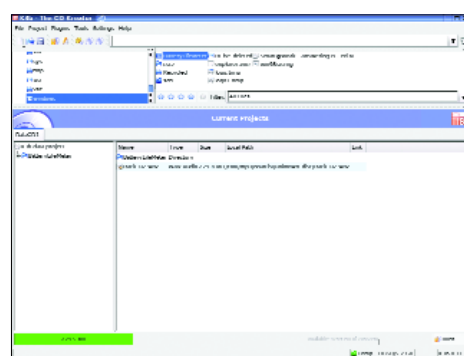
It is therefore pertinent to ask: If you are moving over to Linux, or thinking of setting up your systems based on Open Source, which Linux is right for you?

Given the options available, it is not a simple task. Also, it will be some time until Linux overcomes some issues such as hardware compatibility, interoperability with other OSes, and weaning users away from the Windows GUI.

Digit looked at the various options available in the market, and found out which is the most appropriate one for your busi-

ness. You'll also find a section on LIVE CD distributions, which are Linux distributions that can be run straight off the CD drive, without altering your existing set up.

Linux will disappoint you when it comes to dealing with multimedia applications. It plays VCDs, but doesn't play DVDs. There are lots of legal issues, too, that need to be tackled. Playing MP3s is simple, but you can't play other formats such as OGG without using a plug-in. The plug-in you have at your disposal depends upon the choice of



This GUI tool makes it easy to burn CDs and DVDs in Linux

on the keyboard followed by [Ctrl] + [V] gives you a screenshot. But the commands are different in Linux. Other applications, such as Office suite, aren't radically different from Windows.

For a typical Windows user, a personal finance manager wouldn't be common. Even if you get one, it won't be bundled with the OS. But Linux comes with Gnu-cash, a free personal finance manager. You just need to run the application and start using it.

Nero in Windows allows a multi-session CD to be burnt with disc-at-once option, which it shouldn't. This CD doesn't work in Linux. Also in Linux, the unclosed multi-session CD can't be read without the help of a CD writer.

Some people have a craze for Windows applications, and they want to use the same in Linux too, which is actually possible. You just need to install an emulator software such as Wine, Crossover Office or VMware, and get started. But if you use any proprietary application

using the emulator, then you need to obtain a license for the same.

Today's Linux distributions are well equipped with tools and applications to woo both home and office users. Contrary to popular belief, everything that comes with Linux is not free. Some applications, such as Crossover office are shareware.

### How and what we tested

We looked for ease of use, right from the OS installation to automounting disks and attaching USB devices, and ease of interoperability with Windows. Everyone has used Windows, and is familiar with the ease of use it offers. So, a Linux distribution must do well against Windows as well.

Another important thing is the application bundle for the most commonly performed tasks. We checked to ensure that a good MS Office replacement was present as well as other business and communication tools.

In any office, the computer rarely sits alone. It is essential that a Linux-based PC behave well on the network in making its resources available, and in accessing the resources of other PCs on the network. Similarly, support for printers and sharing installed printers is very important. Not all distributions do well on this front, varying considerably in device support and software simplicity.

All tests were conducted on an Intel Pentium 4 1.7 GHz processor (Intel motherboard) with 256 MB RD-RAM, an ASUS TNT2 VGA card, onboard Network, a Seagate Barracuda 40 GB, 7,200 RPM hard drive, and an 8x Lite-on DVD Writer.

We tested six flavours of Linux: ELX BizDesktop, Lycoris Desktop/LX, Mandrake 10 Official, RHEL Professional WS, SuSE 9.1 Pro and Xandros Standard. We also tested three LIVE CDs: Knoppix LIVE CD, MandrakeMove and SuSE.

### DESKTOP LINUX Starting out

All installations use a three-pane interface for the installation process, with the left pane broadly listing the steps involved in the entire process, and the right pane shows a slide show highlighting the important features of the product. The bottom pane shows description about the current status of the installation process.

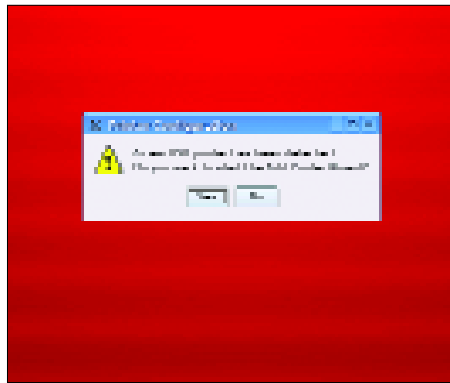
ELX lets you test the installation media, CD or DVD, before you begin

**Contrary to popular belief, everything that comes with Linux is not free**



the install—this reduces the chances of the installation failing. The older Red Hat 9 and the current Fedora Core 2 provide this option, but the Enterprise product we tested does not.

Once the package selection is done, Red Hat lists the distribution CDs needed to complete the install—for example, the 'Personal Desktop' install requires the first



Plugging in a USB device results in a popup notification, in Xandros

and the second CD. Similarly SuSE shows the CDs needed, as well as the amount of time each CD will take to install.

### Partitioning

Partitioning the hard drive is the biggest hurdle. For a brand new hard disk with nothing on it, the 'use free space' option is your best bet. This option has two parts to it—auto and manual. The manual option is complicated and not recommended for new users. Some OSes such as RHEL, ELX Biz Desktop, and Lycoris Desktop/LX also provide a way to review the partitions after the auto partitioning is complete.

Mandrake gives you the added option of resizing your Windows partition. You can reduce the size of the Windows partition, up to the limit of free space available, and then use the free space to create partitions for Linux. This option is especially useful for those who do not have free unallocated space on their hard drive. We had a 50 per cent success ratio with it—when we resized a Windows partition it was a success, but when we resized a Xandros Linux partition, it was destroyed!

### Type of installation

Generally, most of the distributions provide only a default (also called express or standard) and a Custom option. Mandrake does not provide any install option



### Running Windows Applications on a Linux Box

There are a few Windows emulators, which provide an environment in which Windows-based programs can be executed on a Linux platform. All you need to do is load the emulator in Linux. A few such emulators are Wine, Crossover Office and VMWare.

Wine is an open source implementation that can be downloaded for free from [www.winehq.com](http://www.winehq.com). It runs the Win 32 and Win 16 API on Linux. Hence, you can execute almost all your Win 32, Win 16 or DOS applications. It provides X11-based graphical support, DirectX support, as well as a text-based console. Support for sound devices, input devices, printing devices, scanners and CD writers, are also included. Even bug detection occurs similar to a Windows PC.

Crossover Office has a small set of applications that can be emulated on Linux. The list of applications supported includes Microsoft Office, Lotus

Notes, Microsoft Visio, etc. Its latest version, CrossOver Office 2.0.1, is available at <http://www.codeweavers.com/products/office/>.

VMware takes advantage of the Intel architecture, which allows virtual machines to be created at the hardware level, enabling you to use more than one operating system on the same PC. It establishes a virtual network connection between the operating systems, allowing them to communicate with each other as if they were physical computers, connected via the LAN. So, you can access the Linux virtual machine via Network Neighborhood in Windows, and vice versa. The biggest advantage is that it can have either Linux, or Windows as the host operating system.

Though Wine is free, the bad news is that the other two aren't. Wine is installed automatically with the ELX install, but not in SuSE. Xandros steers clear of wine or CrossOver Office.





The ELX desktop has icons similar to those of Microsoft Windows

except direct package selection, which is tedious. Lycoris Desktop/LX installed the entire set of packages on the hard drive.

RHEL lets you choose between Personal Desktop, Workstation, Server and Custom. The different options have different combinations of packages, and you can further modify this package list.

Though the default boot loader for most was Grub, you can also opt for the older LILO boot loader. Mandrake still depends only on LILO. In a dual-boot scenario, you can select

which OS it boots into as default. Xandros was the only one to recognise another existing Linux installation and add it to the boot menu.

## Installation

For all the distributions, the install time is less than half an hour—the only difference is with the number of CDs you have to change. For example, SuSE has 5, Mandrake and Red Hat have 4, while Xandros, Lycoris and ELX have just one each.

One excellent aspect of Lycoris Linux is that you can configure various settings such as networking, printers, VGA, etc., while the packages are still installing. The bottom of the screen shows the install status, and you can spend time configuring the different components. If you're done with the configuration before the installation process ends, you can play *Solitaire* to pass the time. Thus, installation isn't a bore, and you save the time you normally spend, after an install, configuring your devices.

Most distributions did well when setting up the display, network, printer, keyboard, mouse, etc., but Xandros and Lycoris caused a few problems on our test machine.

## Security

Only Lycoris demands the creation of an additional user account during installation, for better security. Red Hat and SuSE warn you not to use root as the daily account. Mandrake goes as far as providing a 'No Password' button for the root, allowing a blank password, a highly undesirable feature.

While entering the root password, SuSE offers a choice of 'DES', 'MD5' and 'Blowfish' encryption, and also warns you if you try to use the username as a part of the password. ELX and Red Hat do not provide too many options, but allow you to use MD5 encryption and shadow passwords.

Mandrake offers four security levels for the firewall, but in a lapse of security, leaves the firewall off by default—bad news for Linux novices. ELX BizDesktop does better, by setting the default firewall setting to 'Medium'.

Xandros gives you total security over data communication by assigning users permissions to use dial-up connections, both modem-based and LAN-based.

The popularity of Windows, is also its downfall—the majority of viruses circulating the globe affect only the Windows OS family. You could even start a virus collection on your Linux box, and never worry about your computer crashing. Usually, Linux does not scan incoming mails for viruses, or block attachments. This, however, will have no adverse effect on Linux. You can set up anti-virus software on your Linux machine, to



1/2 page V AD

safeguard the vulnerable Windows-based PCs on your network. In fact, you can even set up your Linux box to be a gateway, and block unwanted visitors.

### Post-install

Mandrake and SuSE have some extra configuration options, such as setting up the Internet proxy immediately after installation, and letting you connect to the Internet immediately. Similarly, both allow you to configure your modem during this period. Mandrake allows you to manage the default services that start with operating system, an excellent option for advance users. SuSE offers to help set up DSL, ISDN and VNC.

Only Mandrake, Red Hat and SuSE help you update the latest security patches during install—patches could have been released after the CD was distributed.

### Hardware issues

The configuration we used to test the distributions was described earlier. Unfortunately, Lycoris and Xandros refused to install on that system due to poor hardware support. We used an older configuration to test them—a Pentium II 350 MHz on a ZX board with 256 MB SD RAM, LG 48x CD-ROM and a Samsung 20 GB hard drive.

Lycoris has other issues with hardware compatibility. If you have to remove an optical drive time and again, or if you frequently change drive channels—from primary slave to secondary slave, etc., you will have problems accessing your optical drive when running Lycoris.

### Using Linux

Only, Red Hat and Mandrake warn you if you try and login as 'root' in GUI mode. This is important, because one mistaken command can damage the OS.

ELX, Red Hat and Xandros have a 'First Run' wizard. In ELX, this

wizard lets you set the default system behaviour, set up the default theme, as well as set up the auto-mount option for Windows partitions, if any. Another interesting feature was 'Eye-O-Candy', this is a slide bar which lets you choose between performance and effects—we recommend the lowest setting for slower processors. Xandros allowed left-handers to set up the default mouse behaviour for themselves. It then let's you set up a dial-up connection, network, printers and system settings. The system settings of ELX and Xandros were the same. Red Hat's First Run wizard helped with configuring the sound card, installing other software from additional CDs (optional), and a patch update via RHN.

Mandrake is a shocker—it starts with an absolutely blank desktop, and doesn't allow right-clicks on the desktop.

Xandros, at the other extreme, supports active user switching, just as in Windows XP.

### Applications

Word Processors, Spreadsheets and Presentations are the three most widely used applications for any SoHo user. OpenOffice.org offers a good set of applications for this purpose. All the distributions we tested had the OpenOffice.org suite of applications. The interoperability factor with Windows, in this case Microsoft Office, is properly dealt with.

The two most common messengers that appear were Kopete and Gaim. Both of these messengers are multi-network as they enable a user to login to more than one type of service, including both MSN and Yahoo! Messenger.

Except for Mandrake, which does bundle an MP3 player, all the others had an application to play movies and MP3s. Mandrake can acquire MP3 capability easily, by downloading a plug-in, but then again, it faced problems when configuring the sound card.

All the OSes include a browser, e-mail client and dial-up connection manager. The difference is the particular applications that are bundled. Konqueror or Mozilla are most common, but

**Except for Mandrake, these Linux distributions include applications to play MP3s and movies**

Xandros also includes Opera 7.5.

All have important tools such as file archiving software, PDF readers, address managers, organizers, and CD or DVD burning software. You can forget about issuing commands to burn CDs or DVDs—thanks to the easy to use K3b GUI application. ELX didn't bundle a fax application such as KFax.

CDs or DVDs burnt on a Linux machine can easily be read on a Windows machine, and vice versa. You may not be able to read an unfinished CD or DVD in Linux, but K3b, the CD burning software, can import a session, and also help you finalise the CD or DVD. CDs burned with the 'track-at-once' option can only be read by K3b, and multi-session CDs burnt with the 'disc-at-once' option can't be read on CD-ROM drives.

SuSE has a taken a different approach towards helping users manage applications. It doesn't show the list of packages as the others do. Instead, it provides a search box—search for a string such as 'ftp', and all packages related to it appear. This list shows both the ones already installed, as well as those that aren't. Additionally, a 'Check Dependency' button helps find components needed by the application. Red Hat follows the same old package manager, which lists packages under groups—finding an individual application needs experience or hard work. Mandrake comes out on the top here—its rpmrake provides the benefits of both SuSE and Red Hat.

### CD ripping

There are many open source software available to rip an Audio-CD on to your hard drive. Most distributions—except Xandros—provided one. The most common applications are GUI tools such as grip, KAudioCreator, etc.

SuSE doesn't install the CD ripping tool in the default install, you have to manually install it later. ELX

installs its application in the default install, but the surprise was Red Hat, which doesn't even bundle a GUI-based CD ripping tool.

### Multimedia

You'll have a tough time playing DVDs in Linux. Multimedia software such as



The KDE Control Centre takes care of tasks such as configuring a device, or adding removing software





## Internet

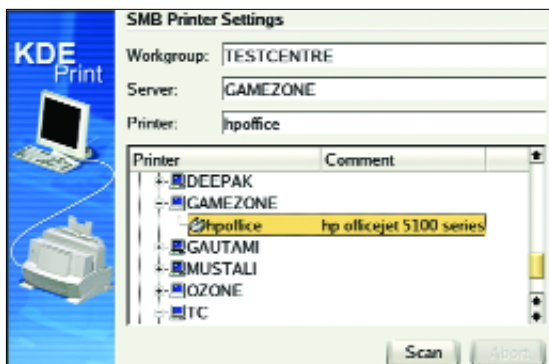
Opera and Konqueror support flash, but Mozilla doesn't. However, Mozilla's e-mail client is light, and has good features. It's no Outlook, but it will handle your mail in a familiar way. Also, remember that you won't be able to transfer your Outlook mails to Evolution or Mozilla. This can only be achieved using third-party tools, and involves a complicated process. These clients still perform well, use much less system resources, and imitate Outlook well.

## Networking

SuSE has the best approach. The file manager itself is capable of browsing a Windows network, and showing members—as in Windows Explorer. In fact, it even shows hidden Windows shares. All you need

ELX comes in next with a similar browsing experience as SuSE, the only catch is that you can't double-click on a share and view its contents. You have to right-click on the folder, and mount it, before you can view the folder's content. It also picks up 'ghost' shares that aren't accessible any more.





This scan button helps you browse through the network and install remote printers

Red Hat turned out to be the worst of the lot—Samba isn't installed by default, so at first logon you can't access a remote share. Even after installing Samba, you need to get down to the command prompt to enable sharing, enable the samba server and mount remote shares. It would be better to just switch to Konqueror, instead of the default file manager, to graphically browse shares.

ELX offers the least flexibility—if you want to share any folder, you have to copy the entire folder to /home/public, which, in fact, is the only folder that is accessible to others.

Sharing files has always been a bane for Linux users. Advanced users can edit the /etc/samba/smb.conf file in order to enable file-sharing.

Xandros treats each LAN connection as a dial-up. You can specify this LAN-based dial-up to connect at login, and also which users are allowed to use this connection—great for security.

Linux deals with networking very efficiently. SuSE and ELX provide local network browsing, just as in Windows. You can browse through the network and even see hidden Windows shares, also called dollar shares. You can copy files by dragging and dropping, and view the details of the elapsed and required time, as well as the data transfer progress in MB.

## Printing

Setting up a local printer seems to be an easy task these days, thanks to new GUI tools, but connecting to a remote printer is still tough. ELX lets you browse through the network and



**SuSE and ELX provide local network browsing, just like Windows**

## Case Study Mahiti

# “Linux is more stable and secure than Windows”



Sunil Abraham

MAHITI SPECIALISES IN multi-platform, multi-lingual Web, intranet, multimedia and kiosk applications. Sunil Abraham founded Mahiti in 1998 along with Sreekanth and Allan to provide appropriate and affordable IT services to the voluntary sector. They started by providing free e-mail service and Web sites for around 20 organisations. They built over 50 Web, Intranet, kiosk and multimedia applications for clients—including Ashoka.org, Indian Foundation for the Arts, United Nations Development Programme, National Law School University of India, Tarahaat.com and Explocity.com.

Currently, Sunil is the team leader at Mahiti. His responsibilities include marketing, client liaison, design, documentation, project management, production and technical or non-technical training. We spoke to him regarding his company's shift to Linux:

### Why did you shift from Windows to Linux?

The primary issue was the licensing that is involved in procuring commercial software such as Microsoft Windows.

### How much did you save by switching to Linux?

It is very difficult to calculate, can't say. When we used Windows, we had only few shareware programmes. Now we have several mature applications. The average Linux distribution comes with 2,000 applications.

### How much did you spend, training people to use Linux?

We did not spend any money as the training was handled by a volunteer, Pramod R—a member of the local Linux User Group [LUG] from Bangalore.

### What are the immediate advantages achieved?

As a software development company, using Linux we spend less money to procure third party licenses and therefore for the same revenue we make more profit.

### What were the problems during and after shift over?

Users were not used to the small differences between Linux and Windows. For example copying and pasting, copying of files across the network, installing fonts, etc.

### Are you satisfied with Linux?

Yes, Very.

### Five common problems that your people faced while using Linux?

1. OpenOffice.org is too slow
2. No application to replace software such as 3dsMax and AutoCAD
3. No easy tools to configure scanners, printer and the like
4. No applications for audio or video editing
5. No wizards for installing fonts, keymaps, locales

### If Windows offered you a free license, would you switch back?

We will shift to Microsoft only for its office suite. Provided it is available under GPL. But we will not shift from Linux as the operating system, even if Microsoft becomes 'free as in freedom' and 'free as in free beer'. This is because Linux is more stable, more secure and completely virus free. We don't have to keep giving three-finger salutes throughout the day.

### How many people in your organisation?

We have 15 employees working here.

### How many of them have a technical background?

Being a software development company most of us are programmers.


### How many of them had already used Linux before?

Almost none had previous Linux experience.

### What was the employee reaction to the switch?

Initially, the reaction was, "This is very difficult", but they got used to it eventually. The option I gave them was pay for your own software. Needless to say, no one took that option.



 <b>Score Board</b>	BEST BUY			digit		BEST BUY	
Description	Mandrake	Lycoris/LX	Xandros	SuSe 9.1 Pro	ELX	RHEL WS	
Ease Of Use (Weightage: 60%)	38.5	35	26	45	39	40	
Installation (Scale of 5)	4	3	3	4	3.5	4	
Partitioning (Scale of 5)	4	3.5	3	4	4	4	
Auto mount Windows partition	N	Y	N	Y	Y	N	
Windows key support	N	N	Y	N	N	N	
Update process (Scale of 5)	3.5	2.5	NA	4	2.5	4	
Number of CDs	3	1	1	5	1	4	
Common applications (Weightage: 10%)	9	10	7	10	6	7	
Address management	Y	Y	Y	Y	Y	N	
Organiser	Y	Y	Y	Y	Y	N	
Fax	Y	Y	N	Y	N	Y	
Messenger	Y	Y	Y	Y	Y	Y	
MP3 player	N	Y	Y	Y	Y	N	
Games bundled	Y	Y	Y	Y	N	Y	
Networking (Weightage: 15%)	10.5	10.5	12	12.5	11	10.5	
Configuration (Scale of 5)	3.5	3.5	4	4	4.5	4	
Share folder (Scale of 5)	4	3.5	4	4	3	3	
Access other remote share (Scale of 5)	3	3.5	4	4.5	3.5	3.5	
Printing (Weightage: 15%)	8.5	10.5	12	11	9	11	
Configuration (Scale of 5)	3.5	3.5	4	4	3.5	4	
Share printer (Scale of 5)	2.5	3.5	4	3.5	1	4	
Install remote printer (Scale of 5)	2.5	3.5	4	3.5	4.5	3	
Final Score	66.5	66	57	78.5	65	68.5	

select any remotely shared printer that you want to use. The printing configuration of Xandros in the ‘First Run Wizard’ was excellent; it helped set up not only a local printer but also a network printer without any trouble. This GUI tool was the best across all distributions—it even allows one-click sharing of the printer on the local machine.

Due to problems with Samba for Red Hat, you may not be able to install remote printers or share your own printers. The configuration tool doesn’t provide a scan or browse button to add remote printers. You need to manually enter the domain, machine and share names.

### Recover it yourself

Even now, rescuing is done the old way—using the command line. If the system has only one Linux OS, the rescue mode mounts the Linux partition, by default, at `/mnt/sysimage`. If multiple Linux OSes are loaded, it has a tough time detecting the right one. RHEL takes the safest way out by presenting a drop down list; ELX mounts, but with warnings, while others such as SuSE and Xandros do not take the trouble of mounting a partition.

### Auto mounting CD-ROM and floppy drives

Both Red Hat and Xandros auto-mount a CD-ROM drive when a disc is inserted—Red Hat provides a shortcut on the desktop, while Xandros opens the file manager with the CD drive in focus. Other

OSes auto-mount the CD drive when the file manager tries to access them. Surprisingly, SuSE has changed the default mounting location of CD drives and floppies from `/mnt` to `/media`. Just press the eject button—the CD-ROM auto un-mounts and ejects the disk. As for floppies, it’s best to mount when the file manager tries to access it, and not after inserting the disk.

### USB reaction

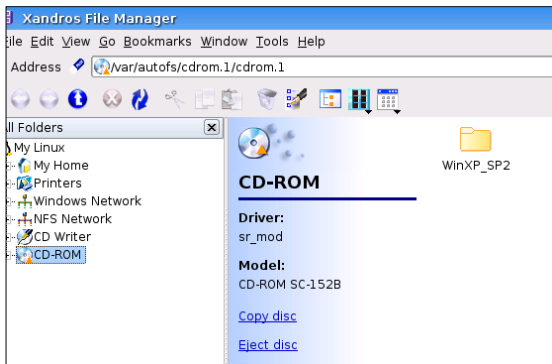
Xandros has a pop-up notification when it detects a printer attached to the USB port. For other distributions, you get immediate response for a USB keyboard or mouse but for a printer, scanner or USB drives, you need to execute a few commands. ELX was a disappointment—it does not support USB!

### Dial-Up Connection

Xandros has an excellent GUI tool to set up the modem and dial-up

SuSE’s auto update indicates whether a patch is critical or optional

1 col AD



As soon as you insert a CD-ROM, the File Manager pops up in Xandros

connection. You can even restrict user access to the connection. Red Hat also has a good GUI tool, but the rest only had command-based configuration.

### Update to date

All the distributions provide an auto update facility, and make the entire process effortless—SuSE gets a bonus point for providing the update package list with a flag, indicating whether a patch is critical or optional. ELX failed to auto-update despite continuous attempts, possibly because of a problem with the server.

### Summary

Mandrake really irritated us while testing; time and again it requested the original CD to install something, it stalled; it even failed to complete installation tasks. Though Xandros, Lycoris and ELX provided all the applications a typical desktop user would need, Red Hat and SuSE offered even more. RHEL would have won the laurels, if only it could handle networking and printing better, but we decided that SuSE was definitely the best, despite being more expensive.

### Pricing factor

The Linux distributions tested here can be bought by spending between Rs 500 and Rs 5,000. ELX



BizDesktop costs just Rs 500, and is not a bad choice at all for those interested in getting a feel for Linux. Lycoris Desktop/LX costs Rs 1,800, Xandros costs Rs 2,250, RHEL WS costs Rs 3,250 and SuSE costs the most at Rs 4,850.

Wait! This doesn't mean that SuSE is the most expensive! It actually works out cheaper in the long run. It costs more initially, but you don't have to pay any renewal fees, and get three years of patches free. Red Hat, which has a five-year product cycle, but not from the day you buy it, but from the date of the

product launch. To keep updated, you have to pay an annual charge of 40 per cent of the initial price, which works out to Rs 1,300 for RHEL every year. You get Red Hat updates only if you subscribe, but as a subscriber, you can also download a newer OS versions for free.

SuSE and Red Hat both offer e-mail/web-based support and helplines, that is free for a short while and then costs more. SuSE has regional offices in the four Indian metros and Bangalore, where their support engineers also provide onsite support but this costs extra, of course!

Red Hat too has offices all over India, and offers support in the Metros, Pune and Bangalore. Red Hat onsite support also costs extra.

### LIVE CDs What's a LIVE CD?

It's like walking into a bike showroom and taking that Harley Davidson for a spin. You're not risking financial ruin (read: data loss); if you don't like it, you just return the keys and go back to driving your Ducati 999 (read: whatever OS you currently run).

You don't have to partition, install, or risk corrupting the current OS's boot system, nothing! You get stuck somewhere, you decide that you don't like Linux, all you have to do is eject the CD and reboot your PC to get back to your OS of choice. Also, think of it as walking around with the power of Linux in your bag. If a PC has a CD-ROM drive, you can use your favourite LIVE CD distribution on it.

It's not all rosy though: you still have to configure all your devices—network card, modem, VGA driver, etc.—every time the computer boots. Also, the simplest solution to saving data is to use a floppy. You can save to the hard drive, but you can't carry your hard drive around with you, which defeats the whole point of LIVE CDs. Ideally, upload the data to the Internet.

### Who and how

We tested three LIVE CD installs—one each from SuSE, Mandrake and Knoppix. Here too, we tested for application support, networking and printing needs of a SoHo business. The applications are a replica of the full system, so they work the same way as we have already seen for the regular distributions.

The SuSE 9.1 Pro LIVE CD was a replica of actual SuSE 9.1 Pro, so all operations such as net-

## What Can I Use a LIVE CD For?

Here are a few operations or tasks you might want to use a LIVE CD for:

- ▣ Helping you burn a CD or DVD, if your system has the necessary writer
- ▣ Internet surfing, though you need to configure the modem or LAN card for the same
- ▣ Creating a document in the popular OpenOffice application and printing it
- ▣ Maybe just transferring files over a LAN network
- ▣ For a programmer it is like carrying your development center along with you in your bag
- ▣ Quick scanning and printing work
- ▣ Listening to music or watching movies

working, printing, etc., were similar. SuSE did not auto-mount the Linux or Windows partitions on the hard drive, but Knoppix did. Knoppix also provides a rich set of tools for programmers and developers, and has more applications packed into the CD than either SuSE or Mandrake. Knoppix also includes the Wine emulator, so you can run some of your favourite Windows programs from within Linux.

MandrakeMove requests some user details during boot-up. It also refuses to acknowledge the existence of one-sixth of the

## Products Tested

- ▣ Suse 9.1 Pro ([www.suse.com](http://www.suse.com))
- ▣ Knoppix 3.4 ([www.knoppix.org](http://www.knoppix.org))
- ▣ MandrakeMove 9.2 ([www.mandrakelinux.com](http://www.mandrakelinux.com))

world's population—when creating a dial-up connection, you have to select a country code, but India doesn't figure on that list! Hence, you will have to go through a lot of trouble configuring it manually—not recommended for beginners. ■

*mustali\_kachwala@thinkdigit.com*





## Plantronics DSP300USB Stereo PC

### Headset

Here's one for the audiophile gadget freak: A USB headset! Install some software, connect your headphones to a vacant USB slot and enjoy your music. The drivers don't mess up your current sound configuration. The inline remote lets you control both the headphones and mic—the Plantronics USB DSP does the rest. The headphones distort at high volume, but are decent otherwise. This set's ideal for laptop users.

**Company** Mach Communications Pvt Ltd  
**Price** Rs 4,000  
**Phone** 011-23724300  
**E-mail** sales@machcomm.com  
**Web site** www.plantronics.com



## Canon i80

If you've got yourself a camera phone, and are a trigger-happy self-styled photographer, Canon just made your day- and your year as well. The new Canon i80 makes printing your pictures as simple as holding your infrared-enabled phone in front of the printer, and using its 'Send to IR' function. It prints at a resolution of 4,800 x 1,200 dpi, and on A4, 4 x 6-inch and 5 x 7-inch paper. Add to that features such as PictBridge and Bubble Jet Direct—all in a unit no thicker than a book—and you get must-have device.

**Company** Canon India Ltd  
**Price** Rs 17,995  
**Phone** 011-26806572  
**E-mail** Rajeev.Singh@canon.co.in  
**Web site** www.canon.co.in



## Orite RAM-CAM

The Orite RAM-CAM is a USB 1.1 stick-cum-Web cam, and stores 128 MB of data. What can you do with it? Transfer data as with a normal USB stick, use it as a Web cam, or store as much video as the free space allows. The video isn't good enough though—the 350 K CMOS sensor records at a maximum of 640 x 320 pixels, at around 20 to 30 fps. But, hey, it's a USB stick-cum-camera!

**Company** Mediatech India  
**Price** Rs 4,750  
**Phone** 022-26361111  
**E-mail** sales@mediatechindia.com  
**Web site** www.orite.com.tw



## Apple G5 system

### It's the coolest one!

Even Steve Jobs knows this is one hot babe—Apple has placed nine fans in the G5 to keep it cool. Look hard at the rugged industrial design, and you'll find a seriously classy aluminium casing. Move, then, to the 21-inch cinema display, the dual 64-bit IBM PowerPC 970 2 GHZ CPUs, the latest Mac OS X 10.3 with USB 2.0 and FireWire 800 ports, an FSB of 1 GHz and an animated (yet smooth) GUI that makes Windows XP look like a Neanderthal gollywog. Now tell us you are not impressed!

**Company** Apple International  
**Price** Rs 2,38,700 (excluding the monitor)  
**Phone** 080-25550575  
**E-mail** indiainfo@asia.apple.com  
**Web site** www.apple.com



# New&Notable

## Biometric USB Flash Drive

### Secure impression

Fingerprint recognition is fascinating. However, you have to set it up right. Get it wrong, and fascination turns into frustration. The Biometric USB flash drive is first detected as a normal flash drive with 119.3 MB of storage space. Run the bundled software and you're prompted to put your fingerprint on the flash disc. If you complete this step correctly, everything will run fine; if you don't, you might need to go as far as formatting the disc just to regain control. It's still the

best security around for your data!

**Company** RX Technologies  
**Price** Rs 6,500  
**Phone** 011-26295856  
**E-mail** rxindia@vsnl.net

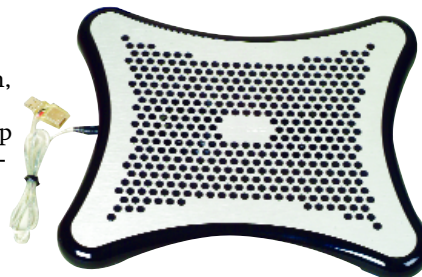


## Antec Laptop Cooler

### Not hot at all

The way laptops are used, and their compact (read: crammed) packaging, adds up to heat galore. The Antec Laptop cooler is a plate with holes drilled in to dissipate the heat that builds up underneath a laptop. It also has two fans that rotate at 2,500 rpm, and draws only 2 watts of power from a USB port. It doesn't use up the port though as it has a piggy-back male connector. At just 750 gm, it doesn't add too much weight to your portable PC, and keeps you from getting singed thighs.

**Company** Cyber Space Abacus Pvt Ltd  
**Price** Rs 2,400  
**Phone** 044-24917667  
**E-mail** antec@theitdepot.com  
**Web site** www.antec.com



## Canon MVx700i

### It's a small, small world

This tiny camera fits in your palm, and has an 800 K pixel CCD with 18x optical zoom. Its 2.5-inch LCD helps you keep subjects in the frame. It records on a MiniDV tape, which holds up to 60 minutes of video. The MVx700i connects to a TV via the A/V port, and you can add in a dash of style to your recordings using the 'Effect' button.

**Company** Canon India Ltd  
**Price** Rs 39,995  
**Phone** 011-26806572  
**E-mail** Rajeev.Singh@canon.co.in  
**Web site** www.canon.co.in



## Plantronics MX150

The MX150 mobile headset works with only a few Nokia models, such as the 6100, 6610 and the 7250. The Flexigrip rubber grip helps keep the earpiece in place. You can adjust the microphone by 180 degrees and hence, wear the earpiece on either the left or the right ear. A button on the cable lets you receive incoming calls, and gives you the hands-free freedom that you should have with mobiles.

**Company** Mach Communications Pvt Ltd  
**Price** Rs 999  
**Phone** 011-23724300  
**E-mail** sales@machcomm.com  
**Web site** www.plantronics.com



## Gainward Hollywood@Home TV2Go TV Tuner

### Impresses but drains

This feature-packed TV-tuner card from Gainward connects via a USB 2.0 interface. It accepts composite as well as S-Video inputs. Its versatile remote allows access to all functions, and the TV2GO software lets you edit videos, add effects and burn to a CD or DVD. The quality of the captured content is good, but the device is quite a resource monger.

**Company** Mediatech India  
**Price** Rs 4,850  
**Phone** 022-26361111  
**E-mail** sales@mediatechindia.com  
**Web site** www.gainward.com



## Kodak EasyShare LS743

This sleek-looking camera has a Schneider Kreuznach 2.8x optical zoom lens, and stores up to 16 MB of images and movies along with audio. It runs on Li-ion battery, and comes with a charger. Preset settings make life easier, especially for novices—all you have to do is select the proper settings and click away. The impressive image quality, at a reasonable price, makes it a worthy digital companion.

**Company** Neoteric Informatique  
**Price** Rs 19,500  
**Phone** 022-24172600  
**E-mail** sales@neoteric-info.com  
**Web site** www.kodak.com



## Atek Tote-Remote

### Hold over presentations

You won't ever struggle to make PowerPoint presentations again. The Tote-Remote can start a presentation at the touch of a button, and lets you control slides easily. It's a Radio Frequency (RF) device, and so has a range of 30 to 40 feet. It also has an inbuilt laser pointer, making it a very useful presentation tool.

**Company** J.S.Equipment  
**Price** Rs 6,000  
**Phone** 022-23810713  
**E-mail** jse@vsnl.com  
**Web site** www.atec.com



## Canon i9950

The Canon i9905 photo printer has a whopping eight different cartridges, and supports A3 printing. It performs decently too: it prints fast in the draft mode, but is a tad slow in the normal mode. Photo prints are crisp, vivid, have a high contrast and look realistic. A must have for DTP houses.

**Company** Canon India Ltd  
**Price** Rs 31,995  
**Phone** 011-26806572  
**E-mail** Rajeev.Singh@canon.co.in  
**Web site** www.canon.co.in



### Looking for more information on any of the products featured in New & Notable?

Please write to products@thinkdigit.com. The Digt Test Centre will be delighted to respond to your queries.



# New Kids On The Block

The new Intel Alderwood and Grantsdale chipsets offer the much awaited DDR II and PCI Express standards. Interesting features such as Graphics Media Accelerator 900, Matrix storage, High Definition Audio, Wireless Connect technology and the LGA775 (Land Grid array) CPU socket are supported by the new platforms.

The Trusted Computing Platform chip promises uncrackable DRM (Digital Rights Management).

Let's see if these new chipsets can deliver:

## Chipsets

According to Intel the i915 is targeted at the masses,



The new Intel D925XCV desktop board: PCI Express will speed things up

while the i925X Express is for the performance seekers. The tables detail the various features of the new chipsets.

## Memory

DDR II, running at 533 MHz, offers a total bandwidth of

### Flavours of Southbridge that can be present on your boards

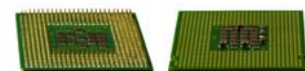
ICH6	ICH6R	ICH6W	ICH6RW
Standard	Supports onboard SATA and RAID	Supports inbuilt WiFi	Supports inbuilt SATA RAID and WiFi

8.5 GBps, which is nearly 30 per cent higher than currently available 875/865 chipset-based motherboards.

Unfortunately, this extra bandwidth is higher than the bandwidth between the CPU and the Northbridge. So, the CPU can't exploit this increased bandwidth—not until Intel's 925XE chipset, featuring support for CPUs with 1,066 MHz bus speeds.

## Graphics

The age-old AGP8X bus will be replaced by PCI Express x16. Of course you'll need to upgrade your graphics card to use the new interface. The 'x16' means 16-lane memory, with each lane capable of 250 MBps speeds. This translates to speeds of 4 GBps in each direction, or a bandwidth of 8 GBps—almost four times the 2.1 GBps speed of the current 8X AGP standard. Will it ever be used? Today most graphics cards store data in huge local memories—as much as 256 MB. So,



The new CPU lacks pins

increasing bandwidth has no effect on the graphics subsystem...yet.

We ran our gaming tests



DDR II memory: life in the fast lane

on the new integrated GPU core, pitted against a Geforce4 MX card—the cheapest discrete card available. In UT2003, the Geforce4 card beat the

different purposes simultaneously—one watching a DVD movie, while the other voice conferences using headphones.

## CPU

The new CPUs will be offered in LGA775 (Land Grid Array) package, which should replace the current Socket 478 gradually. The LGA775 has 775 pins as opposed to 478 on the older socket. In fact, the new CPUs don't have pins, and have flat contact points instead. You have to be careful when installing the processor, you might damage the pins on the motherboard.

## Testing

Our test bed had a D915GUX motherboard, Pentium 4 550 running at 3.4 GHz, 1 GB

### Onboard Graphics

Onboard graphics	Graphic Media Accelerator 900	Extreme graphics 2
Core speed (MHz)	333	266
Rendering pipelines	4	2
Pixel fill rate	1.3 gigapixel/sec	533 megapixels/sec
Pixel shader support	Pixel shader 2.0	None
Hardware T&L	None	None
Memory bandwidth available	8.5 GB/sec	6.4 GB/sec

onboard graphics by a slender margin. Other games showed similar results, proving that though the new core is better than the older Extreme Graphics 2, it's still not a true 3D solution.

## Peripherals

Peripherals that earlier connected to the Southbridge, will now use the superior PCIe x1 buses.

Each device connected on this bus will have a dedicated bandwidth of 500 MBps. Now, devices such as Gigabit Ethernet, RAID controllers, etc., can overcome the bottleneck of the older bus speeds of 133 MBps.

The High Definition Audio offers 192 KHz, 24-Bit, 8-channel sound, and compliance with every possible current standard. What's interesting is the multi-streaming support; two users can use the same soundcard for two

Micron DDR2 533 MHz and two 250 GB Maxtor Maxline III hard drives. We ran Windows XP with service Pack 1 and all the latest patches.

In the Ziff Davis Content Creation test, we got 31.8, the best score we ever logged, beating the older 865 platform by nearly 12 per cent. However, in the Business Winstone test, the new platform was on par the i865-based motherboards—clearly indicating that in daily office applications, the boost is negligible.

Overall, from an Indian perspective, these platforms are still too new—they need some time to become mainstream. Though they outperform everything we've ever seen, the scarcity of DDR II memory modules, PCI Express graphics cards, power supplies, etc., will make sure that the masses have to wait before they can actually go out and buy it. ☐

	Intel 925X	Intel 915P	Intel 915G	Intel 915GV
CPUs supported	Intel Pentium 4	Intel Pentium 4 / Celeron D		
FSB frequency	800 MHz	800 / 533 MHz		
Hyper-Threading support	Supported on all			
Supported memory types	DDR2 533/400	DDR2 533/400 or DDR 400/333		
Integrated graphics	None		Intel Graphics Media Accelerator 900	
Discrete graphics slot	Yes—PCI Express X16			None
PCI Express slots	Four x1 slots			
PCI slots	6 PCI slots max.			
HDD interface	1 ATA-100 channel, 4 SATA-150 channels			
USB	Support for 8 USB 2.0 ports			
Gigabit Ethernet	Supported on all			
Audio	Intel's High Definition Audio			

Bhaskar Banik

**T**he story goes that a Bangalore-headquartered Uninterruptible Power Supply (UPS) solutions company hates the Mumbai market because power rarely trips out there, and as a result there are few individual buyers. Nevertheless, businesses—both big and small, and whether in Mumbai or elsewhere—have to have UPS systems installed. They just cannot afford to lose any data, or even time, due to power issues.

SoHo users, too, are not immune to these problems. And whatever power problem there may be—a power cut or a power surge—home office users would do well to be prepared for any eventuality. The commonest solution SoHo users employ is a spikebuster, used as defence against power surges. But power-cuts still pose issues.

A UPS device is normally bought as an afterthought, if any money is left after buying the PCs. But a UPS not only keeps work going in case of a power-cut, but also protects machines as an advanced surge protector, and a device that provides clean power supply essential for a PC. All this comes at just a small price, but ensures that your valuable investment stays safe.

### Calculate your power needs

This is the tricky part. No matter which UPS company you approach, it would want to sell a high-end solution for your home office or small business, while you will be better off with a solution that is much

# I got the POWER

**Choosing the right UPS for your SoHo can be a pain. Presenting solutions that will put you at ease**

more attuned to your needs.

Before purchasing a UPS you need to consider your PC's power consumption.

A regular Pentium 4 computer with a generic 17-inch monitor consumes close to 400W or 560VA (Voltsamps) of

power. We will assume this consumption if the configuration has a single hard drive, 256 MB of RAM and a CD-ROM drive. No printers or other external power consuming equipment have been considered. In such a situation, it would be wise to go in for UPS with 600VA rating.

Also, a UPS falters if the load on it exceeds its rating. So if a 500VA load is applied on to a UPS that provides 500VA of power, you will end up getting only five minutes of back up time. Based on this thumb rule, calculate the VA rating for each device you want connected to the UPS.

Here's an easy way of calculating the VA rating for each device that you have:

1. List all equipment you want connected to the UPS—monitors, hubs, external hard

## Types of UPS

### Offline

The most commonly used UPS, with a pretty simple technology. In the case of power failure, the UPS switches to a battery back-up, and can be used for PCs, given the low cost and high efficiency levels of such systems. This makes it ideal for home PC users.

### Online

Also called the true UPS, since the load always runs on the

UPS, and the real (Alternating Current or AC) power is only used as secondary power supply. Seems strange? It does, but if the AC power trips, the switch time is immediate, hence leads to minimal or zero loss of up-time.

### Line interactive UPS

A type of offline UPS in which the battery remains in charging mode when primary AC power is on. When AC power

trips, the battery takes over and provides power. It also monitors voltage fluctuations constantly, and in situations where low voltage conditions exist, the UPS adjusts the power supply instead of switching on to the battery. This means that the UPS works at high efficiencies. This type of UPS is the preferred solution for SoHo, small business and Web server scenarios.



drives, in fact anything that requires power and needs protection.

2. If any device has a power rating given in watts, take that figure and multiply by 1.4. This gives you the device's VA rating.

3. Check the amps and volts ratings of the devices you have listed. To get a VA rating, multiply the amps by the volts.

4. Add the VA ratings of all your devices to get a grand total.

5. Multiply this total by 1.2 if you want to factor in one more device later.

6. Make sure that whatever type of UPS you opt for, your VA total should not exceed the VA rating of the UPS. It is always recommended to buy a UPS with a higher VA rating than your cumulative VA rating.

### Before you set up...

SoHo businessmen would typically face two scenarios when it comes to UPS implementation—whether to connect one big UPS to centrally control all PCs at the same time, or to have individual UPS for every PC. Why only PCs? Because connecting a printer (especially if it is a laser printer) to a battery output socket on the UPS will cause considerable power drain, which could instead be used for another PC.

Based on our power calculation earlier, a modest eight-



### Before you sign the cheque...

- ❑ Check for the warranty offered. Some UPS manufacturers provide model specific warranties.
- ❑ Pay attention to the manufacturer's support agreement. Do they have a replacement policy? Do they have trained support personnel? What happens in case the UPS goes kaput? Do they have a policy of providing standby UPS machines? Ask your vendor these questions before you buy.
- ❑ What software do you get to monitor the UPS? How effective is it? Does it automatically shut down

PCs if it is low on battery? Does it continuously monitor and give you a status report of voltage conditions and situations like brownouts? Questions like these would put to rest the doubts about the software solution provided with the UPS.

❑ The best possible situation is to test the UPS at your location. Ask the manufacturer to arrange for a demo that will simulate your work conditions and check if the claims of the manufacturer match the performance of the UPS.



with a printer and scanner, considered with a backup time of around 10 minutes, you will need to opt for a UPS that provides at least 700VA of power and will cost you about Rs 5,000 and will vary for the different options that we mentioned above.

### And some thoughts for the road...

SoHo or home users can easily opt for solutions mentioned above. There are several UPS brands available in the market, and quite a few local brands have earned themselves a good reputation. Nevertheless, make sure you go through the product brochure and take some time to understand the ups and downs of the product. What may look good at first sight, may turn out to be bad oversight on your part.

No matter what option you pick—centralised or decentralised—depending on your budget and the priority and importance that you assign to your machines, make an investment that will last you through the years. ■

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person SoHo outfit would require at least a 5kVA UPS considering eight Pentium 4 PCs with 17-inch monitors.

This done, check the UPS type you consider to be the best option in your budget. We would recommend spending a little more and get a good UPS rather than go for an 'in-the-budget' solution. A centralised solution would cost you somewhere between Rs 75,000 to Rs 1 lakh. This solution could provide you a battery backup time of about 20 minutes.

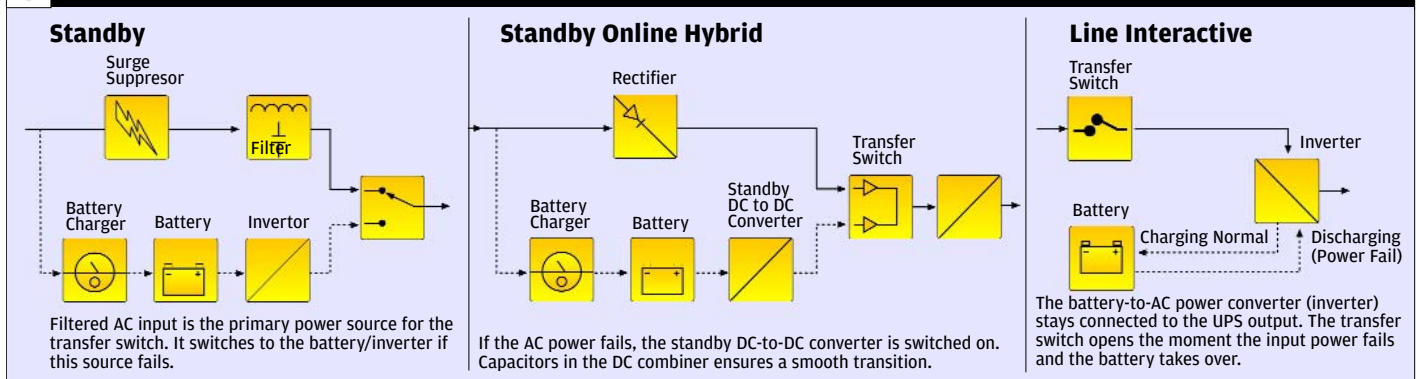
For a single PC home solution



### Multifunctionality

Some UPS systems provide features that let you connect a mobile charger or have an inbuilt flashlight that can come in handy in case of power-cuts. Other features that you can probably look for when buying an UPS is if it can let you attach additional batteries, and if they can be hot swapped at a time of emergency. Also look for connectivity options such as serial or USB, power monitoring and voltage conditioning options.

### How UPSes Work?



# BACKUPS THAT ALMOST DON'T COST YOU A THING

Graphic: Atul Deshmukh

**Backup solutions need not burn a hole in your pocket. Presenting a guide that gives you the right options**

**Aliasgar Pardawala**

**T**he most important component of your business may be your employees, but they're only as valuable as their data. This sounds clichéd, but think about it: Imagine losing all your company's data in a freak accident, or a virus attack. Imagine the hundreds or thousands of man hours lost. And then, even more hours will be wasted trying to recover or replicate records, presentations, internal documents, etc. Sounds scary? It is!

We rely a little too much on computers, or more precisely on storage components. And components will fail, sometime or the other. Backup is the name of the game, and you're playing against loaded dice, if you aren't already protected against a data disaster.

The SoHo segment is especially vulnerable to Internet threats and disk failures. Backups just aren't considered a necessity

here. Contrary to popular belief, getting a backup solution is not expensive, and doesn't require dedicated trained professionals.

## Hard disk drives

Most SoHo setups have a LAN, so the simplest and cheapest solution is to have hard drive backups. A large capacity hard drive can be plugged into one computer—preferably the highest configuration PC in the office—to run as a server. We're looking at five to 10 people using this disk as a backup device, so it would be better if the LAN is switch-based, and not hub-based. Over a switch-based LAN, which runs at 100 Mbps, backing up data as large as 100 MB wouldn't take more than 15 seconds.

A Serial-ATA (SATA) hard drive is preferred. SATA is a standard feature on motherboards today, and offers peak transfer speeds of about 150 MBps. You also get 250 GB drives with an unbeatable price-per-MB ratio. Maxtor and Western Digital offer 250 GB drives at a price-per-MB ratio of as low as six paise and eight paise, respectively. So, you're only paying 6 paise for every MB of data you're backing up—unbeatable. All that needs to be done is to plug in the drive to a decent system, create separate folders for each user, and install backup software on each client machine.

The backup software installed should be scheduled to backup data at particular time interval. Ideally, this should be at least

thrice during working hours. This will ensure minimal data loss, if any occurs. Since this is a simple setup, with no policy defined, users will have to follow some guidelines—backing up only important office related files, not music and movies. Also, users shouldn't save files directly from the Internet, as these could be infected.

## External hard drive

External hard drives are another option that can prove useful for SoHos, especially in offices where machines aren't connected over a LAN. External hard drives are available as both USB and FireWire drives, of which the USB interface is more popular. The USB 2.0 interface is hot right now, because of the faster data transfer speeds—480 Kbps.

The advantage of external drives is that they can be carried to individual machines and hot plugged. Another advantage is that USB-based drives don't need drivers with Windows XP. Even with older OSes such as Windows 98, the drivers need to be installed only once, on each machine.

External hard drives are more expensive than internal drives,



Maxtor 250GB external hard drive

but are available in large capacities, and come bundled with backup and restore software—which if bought separately costs much more. Some external drives also have a hotkey for instant backup.

The price-per-MB of external drives is about 20 paise to 33 paise, depending on the size and interface. They are handy, but involve a lot of manual effort to take backups.

## Optical storage

CDs and DVDs are the most common choice for backups. CDs are probably the cheapest solution. DVDs store a lot more, but the media and writer are still expensive. They are only viable for designers and video profes-



## Backup software

**H**ardware is nothing without the software that empowers it. This holds true for backup solutions as well. You need software that will automatically back up your data, with the least amount of human intervention required. The software should also have extra features such as saving a specific folder only, compressing the backups, timed intervals for backups, etc. Consider some of the following alternatives

1. **Secondcopy2000** ([www.centered.com](http://www.centered.com)) Rs 1,380
2. **Dantz Retrospect Professional** ([www.dantz.com](http://www.dantz.com)) Rs 5,940
3. **Securdat Pro 2.1** ([www.pa-soft.com](http://www.pa-soft.com)) Rs 1,100

sionals who have large amounts of data for frequent backups.

Though re-writable media are available, CD-Rs are still preferred, and this means a new CD for each backup. Also, CDs are subject to corruption via scratches and exposure to the elements. Your precious data can soon become nothing more than a coffee mug coaster. The price-per-MB for CDs is the lowest—two or three paise per MB. This media is recommended for situations where backups are not accessed frequently—in fact only where backups are accessed rarely.

## Miscellaneous storage

Iomega recently launched Rev Drive—a hard drive intelligently divided into two parts. This drive stores 35 GB in uncompressed form, and 90 GB in compressed form. It's a



Iomega Rev Drive

good solution to backing up a hard drive on its last legs. Rev is available in the ATAPI and USB 2.0 interface, and is quite simple to use.

The problem with such proprietary drives is that users are stuck with one format, as was the case earlier with ZIP and JAZ drives. You can't access your backup on

anything but a Rev drive, which is an Iomega standard.

USB sticks are another option that can be used for temporary storage of data. They are portable and convenient, but the problem is they are expensive—a 128 MB USB stick cost between Rs 2,500 to Rs 3,000. The price-per-MB ratio is pathetically high, thus making it only good for transference of data, and not backing up.

## The last word

Your data will never be totally safe, but you can use one, or a combination of two or more of the afore mentioned options to minimise the risk of data loss. In business, the lower the risk factors, the better you will sleep at night. Look towards securing your company records, and as a result your business, by using an intelligent hybrid of hard drive and optical backup solutions. ■

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## What I would buy

**E**ven backup hard drives are components in the end, and can fail. So should you have a backup for your backup drive? Yes—if your data is important enough, or if you are paranoid enough. We suggest two hard drives configured to Mirroring in RAID (Redundant Array of Inexpensive Disks). This ensures that one drive is used as backup, and an exact copy is made on the second disk. You can also convert an internal hard drive into an external hard drive by buying a convertor kit. This kit costs about Rs 2,000. We recommend a Western Digital WD2500 250 GB hard drive, which costs Rs 17,500.

# 1/2 P VAD

# Buying cinema tickets

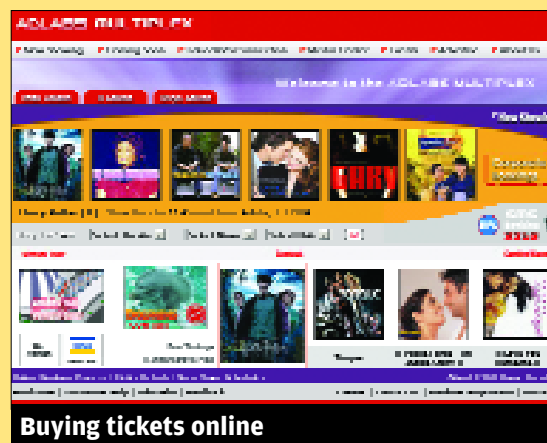
One fine day, the boss woke up and ordered: Let's go for a movie to celebrate the magazine's third anniversary. I was given the responsibility of buying tickets for Lakshya for the entire team. I had two choices before me: to book online or to make the trip to the theatre, and stand in queue. I decided to rough it out both ways. Here's the result:

Meera Vankipuram

meera\_vankipuram@thinkdigit.com



Buying tickets over the counter



Buying tickets online

Photograph: Jiten Gandhi

1

From Nerul, in Navi Mumbai where our office is located, I took the train to Wadala, a central Mumbai suburb and the station closest to the theatre—Imax Adlabs. I then cabbed it to Imax.

**Time taken 40 minutes** for the train journey, **25 minutes** for the taxi ride

Visited the Imax Adlabs Web site, and registered for their services.

**Time taken 3 minutes**

2

It was a weekday, so the crowd didn't resemble a Rajnikant opener down south, where I come from. If it were a weekend, I would have perhaps felt at home. More luck—tickets were available. Imagine travelling 65 minutes to find out that there are no tickets!

**Time taken to check availability 2 minutes**

Selected the movie, date and time of our choice—surprisingly, I could also choose the seats. Remember the old days, when a grumpy old man behind the ticket window would decide where you sat? Slipping him a tenner would get you a better seat though!

**Time taken 5 minutes**

3

Stood in queue to buy 11 tickets (priced at Rs 130 each). There were just about 15 people in front of me, yet each person took an aeon to decide which seat he or she wanted. So I twiddled my thumbs for possibly the longest I have ever done, since my last exams.

**Time taken in queue 25 minutes**

Then, I had to select a mode of payment. I settled for a credit card transaction. The site threw up a transaction ID, along with the order details.

**Time taken 8 minutes**

(I also spent **5 minutes** presenting my Transaction ID at Imax and collecting my tickets)

4

Total cost **Rs 1,521: Rs 1,430** for the movie tickets, **Rs 21** (return train ticket—second class), **Rs 70** (taxi fare—to and from the theatre)

**My condition: Exhausted! Oh, and I still have to travel for a little over an hour to get back to the office.**

Total cost **Rs 1,430** (This only applies to credit card transactions; booking over the phone costs **Rs 10** extra per ticket for home delivery)

**My condition Happy! And, I never had to leave the comfort of my chair at office**

Total time taken **2 hour 37 minutes**  
Total cost **Rs 1,521**



Total time taken **21 minutes**  
Total cost **Rs 1,430**



AND  
THE  
WINNER  
IS...

**T**ech Way, it's cheaper! Besides, I figured it's not cool to travel by train for so long, then cab it even longer, and then stand in queue twiddling thumbs. Instead just buy the tickets online, over the phone, or

even via SMS. On the other hand, if I had hours to kill, and masti-seeking company, I might just decide to make the trip to Wadala, for an evening of movie magic—ticket counter mayhem included.



# Q&A

Your Questions, Our Answers

## The defaults don't change

**Q** I have a Pentium 4 2.60c GHz, an Intel D865 GBF motherboard, 256 MB DDR RAM, and an 80 GB hard disk loaded with Windows XP Professional Service Pack 1. I am unable to change the default folder settings. For example, when I change the way the icons in a folder are arranged—by date, size, etc—or if I change from the 'Thumbnail' view to 'Details' view, nothing is saved past a reboot. My user account has administrator rights.

**Abhijeet Ghosh**

**A** To get rid of this, open Windows Explorer and go to Tools > Internet Options > Folder Options. Here, look for "Remember each Folder's View Settings" and uncheck it. This done, all your settings will be in place the next time you reboot your system.

## Of stubborn shutdowns and errors...

**Q** I have an Athlon XP 2000 processor running Windows XP. I have three problems:

■ Windows shuts down from all other user accounts except from the one I created.

■ Secondly, whenever I start Norton System Works, or run 'msconfig', it automatically shuts down after few seconds—this doesn't happen with other accounts.

■ Lastly, whenever I log on, I get a message "You or a program has requested uncanny.org, which connection do you want to use" with options to connect to the Internet. This message reappears even if I hit Cancel. What do I do?

**Rahul**

**A** Your user account seems to be corrupted. you will have to delete it and create it anew. Save your data before you do so. You will find detailed instructions at <http://support.microsoft.com/default.aspx?kbid=811151>, which will guide you through the process of saving your data.

As for your last problem, it's a case of spyware infection. Download and install SpyBot ([www.safer-networking.org](http://www.safer-networking.org)) and AdAware (<http://www.lavasoftusa.com/software/adaware/>)—both free spyware-scanning tools. Run them to remove any installed spyware, and prevent such problems in the near future.

## Dial modem dial

**Q** Here's my system's configuration: A Pentium 4 1.8 GHz on a Gigabyte motherboard, 128 MB RAM, a 40 GB hard disk, and a 56 Kbps D-Link internal modem, running Windows 98 and Windows XP. I hear a ringing sound on my speaker as I try to dial-up in Windows 98, but not from my modem. With Windows XP, I hear the ringing sound from the modem itself. How do I rectify this problem? Also, does my Pentium 4 1.8 GHz processor have only 256 KB of L2 cache memory?

**S Riyaz**

**A** You haven't enabled the modem speaker volume in Windows 98. Go to Start > Control Panel > Phone And Modem Options, click on your modem, and then on Properties. Next, click on 'Advanced' and then enable the speaker volume settings for the modem and set it to high.

Also, internal modems, especially the SM56 PCI cards, have a tray application that plays sounds using DirectX. This is their way of telling you about their activity, so it's best to leave it running.

Earlier batches of the Pentium 4 processors, based on the Northwood cores, only had 256 KB of L2 cache. Processors based on the Northwood A core, which came in later, have 512 KB of L2 cache.

## Service. What Service?

**Q** I have Windows XP Professional installed, without Service Pack 1A. I tried installing through Windows Updates, but every time I did, either through Windows Updates or using the Service Pack CDs, it shows "Service Pack 1 Set Up Cancelled". Why does it fail?

Secondly, I have a Pentium III 500, 128 MB RAM and a 40 GB hard disk, on a 440ZX motherboard. The motherboard doesn't detect the hard disk in the BIOS setup. Only 32 GB of the total disk capacity is shown. How do I get it to recognise the remaining disk space?

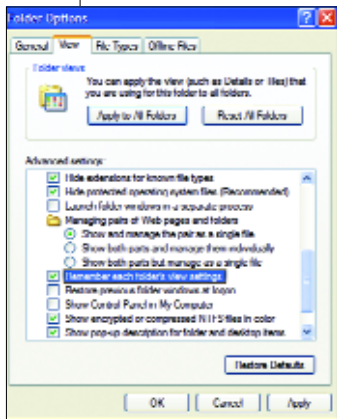
Also, my PS/2 port is not functional. Can I use an optical PS/2 mouse with a PS/2-to-serial port converter?

**Jayant**

**A** If you purchased an original Windows XP CD, please get in touch with Microsoft's customer support to solve the problem. If you have installed a pirated version of Windows XP, no Service Packs will install.

You have a very old BIOS version—the 440ZX chipset is over five years old. You'll need to upgrade it to use hard disks larger than 32 GB. Download the latest version from the board manufacturer's Web site, and follow the instructions posted there to flash your BIOS. Remember, this can render your motherboard unusable, if it's not done right.

And lastly, yes, you can connect your PS/2 mouse to a serial port using a PS/2-to-serial converter.



Uncheck this option to get consistent folder views



[sos@jasubhai.com](mailto:sos@jasubhai.com)

E-mail us your computing problems, and we may answer them here! Since we get more mails per day than we can handle, it may take some time for your query to be answered. Rest assured, we are listening!

## A fragment of a problem

**Q** I have four partitions on my hard drive. Every time I attempt to defragment my E: drive, I get an error message that says, "Windows cannot finish defragmenting this drive because it has encountered some problem....". I run Windows 98 SE, and all the other drives defragment properly. I even tried to defragment in Safe Mode, and ran Scandisk, but couldn't find any bad sectors. What do I do?

Ganesh Magal

**A** You can solve this problem easily. Right-click on the desktop, and click 'Properties'. In the window that opens up, click Web > Folder Options > Yes.

Here under View > Hidden Files, check 'Show all files' and click OK. Now, go to Start > Find, and click 'Files and Folders'. Here, type 'aplog' in the 'Named' box and opt to search the C: drive. Check the 'Include subfolders' box, and click 'Find Now'. Open the aplog folder once it's found, and delete all the files within it. After this, you should be able to defrag your E: drive.

## Calling queries

**Q** I use a dial-up connection to connect to the Internet. How do I know when someone's calling my phone while I'm online? Can I set my connection to disconnect automatically when I receive phone call?

Nataraj Das

**A** There's nothing you can do in Windows to get your PC to prompt you about incoming calls. However, you might be able to accomplish this if you tweak your modem. You need to have call-waiting enabled—get in touch with your telecom service provider for this. If you set ATm2 in the Extra Settings box, the modem speakers will always be on. You will get a hiss that indicates data transfer, and frequent beeps will alert you when you get calls. Generally, with this feature enabled, a dial-up connection disconnects when you receive a call.

## A shell to solve

While connecting to the Internet via my network connection, I get a message that says, "LSA Shell (Export Version) has encountered a problem and needs to close. We have created an error report that you can send to help us improve LSA (Export Version)." Whether I click on 'Send' or 'Don't send', either way I get an error that says, "The system process E:\windows\system32\lsass.exe terminated unexpectedly with status code-1073741819", and the machine restarts in a minute! How do I fix this?

Samrat Roy Chaudhuri

**A** Your computer has the Sasser virus. Download and install the security patch from <http://www.microsoft.com/technet/security/bulletin/ms04-011.msp>. Also, update your virus definitions and scan the entire hard drive to locate and clean infected files. To stop a PC from shutting down in Windows XP, when you get the 60-second countdown, go to Start > Run, type 'shutdown -a' and press [Enter]. You'll now stay connected to the Internet and download the patches.

## Norton acts up!

**Q** Nothing happens when I click on the Norton 2003 icon. I tried uninstalling it from Add/Remove Programs, but I get the following message: Error 1606. Could not access network location "C:\Documents and Settings\All Users\Desktop". On pressing Cancel, I get another error message, "Fatal error during installation". The Auto-protect feature doesn't work, and I can't scan for viruses manually.

Sandeep Kumar Dixit

**A** To solve your problem, you will have to uninstall Norton 2003 and reinstall it. You'll need to download 'Msicuu.exe' from <http://download.microsoft.com/download/office/2000pro/util20/1/NT4/EN-US/msicuu.exe>. After the installation is complete, click Start > All Programs > Windows Installer Clean up. Here, select Norton 2003, click 'Remove' and then 'OK' to exit the program. If this doesn't add Norton 2003 to the list, you'll need to edit a registry setting.

Click Start > Run, type 'regedit' and press [Enter]. Navigate to the following registry key: HKEY\_LOCAL\_MACHINE\Software\Microsoft\Windows\CurrentVersion\Uninstall.

Here, you will see the product ID keys. To find Norton 2003's ID, click each ID and look for 'Norton 2003' in the right pane. On finding the Norton 2003 key, delete it and exit the registry editor. You can now reinstall Norton.

## A message from Nero

**Q** I have a Pentium 4 1.7 GHz on an 845 motherboard, a 40 GB Seagate Barracuda hard drive, and an LG 48X/16X/48X CD-RW, with Windows 98 and Windows XP as my operating systems. Recently, when I ran Nero 5.5.8.3 in Windows 98, my PC hung and gave a message "Scanning SCSI/IDE BUS..... Please wait". The program starts out fine in Windows XP, but the system hangs halfway through. Please help.

Nataraj Das

**A** This problem occurs if the IDE-chipset driver is not installed properly. Improper DMA support causes Nero to freeze. To work around this, download and install the latest drivers from the motherboard manufacturer's Web site. If this doesn't solve the problem, disable DMA for the recorder and burn a CD. If it persists, remove any USB device attached to the system before burning a CD.

## Fonts don't install

**Q** I use a Pentium III 866 MHz PC, 128 MB RAM, and a 20 GB hard disk loaded with Windows 98 SE. I can't install new fonts. I don't get the 'Install new fonts' option when I go to the Control Panel > Fonts > File menu. I tried to copy them directly to the Font folder, but that didn't work either. I formatted my hard disk and reinstalled Windows, but I still can't see the 'Install



QUESTION  
OF THE  
MONTH

new fonts' option. What should I do?

**Nehal Mehta**

**A** Getting the 'Install new fonts' option back into the File menu will be tricky. You need to boot the machine in MS-DOS mode, and go to the Windows\System folder. Here, find the Fontext.dll file, and rename it to Fontext.old. Extract the Fontext.dll file from the Windows 98 installation CD to the same folder. Now, restart the PC and check whether the problem is solved. If it isn't, your desktop.ini file is damaged. Restart the PC in MS-DOS mode again, and go to the Windows\Fonts folder. If Desktop.ini exists, rename it to Desktop.old, and extract a new copy from the Windows 98 CD. You can see the steps involved in extracting compressed files from the installation CD at <http://support.microsoft.com/default.aspx?scid=kb;EN-US;129605#5>.

Illustrations: Mahesh Benkar



## Sibling fight

**Q** I have a Pentium 4 1.6 GHz CPU on an Intel D845WN motherboard, 512 MB RAM, a 40 GB hard disk with three partitions, an nVidia Riva TNT2 64 display card and a Creative SoundBlaster Live 5.1 audio card, running Windows 98SE. Recently, I installed Windows XP Professional with a dual-boot option. Surprisingly, the default installation options installed it on my C: drive, which also has Windows 98. Both worked fine for a while, allowing me to choose an OS while booting.

Now, all of a sudden, I can't boot into Windows XP. After the XP loading screen appears, the PC reboots. Should I reload Windows XP? Can dual operating systems be installed on the same partition?

**Rajiv Raje**

**A** You have to use the Repair function from the Windows XP CD. You are likely to face the same problems again though, as both Windows 98 and Windows XP share the same Program Files folder. We suggest you install both OSes on different partitions.

## BIOS upsets

**Q** I upgraded from a Pentium III 700 MHz to Pentium III 1.2 GHz, but when my system rebooted, it asked for the BIOS setup. I mistakenly entered the processor clock as Pentium III 1000. Now my system hangs whenever I power it on—I

can't even press delete to enter the BIOS setup.

My technician says I need to upgrade the Intel 810 motherboard since it doesn't support the new processor. Is there any other solution?

**Arvind Verma**

**A** Yes, it is true that the Intel 810 motherboard does not support the Pentium III 1.2 GHz CPU. This processor is a Tualatin core-based processor (1.475V), with the same pin count (370-pins). Hence, though this processor fits into your motherboard, it will not function. You have to upgrade your motherboard to a D812EEA2 chipset-based motherboard.

## Driving off track

**Q** I bought a Gainward Ultra/860 LE Powerpack that has an nVidia GeForce FX5700LE chipset. I installed this video card along with the necessary drivers, but the display went blank after the mandatory reboot. On reverting to my onboard graphics, I got an error message saying, "The driver for the display device was unable to complete a drawing operation. Please check with the device manufacturer for a driver update."

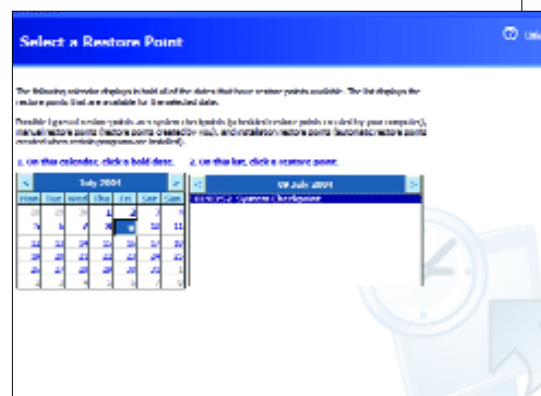
I downloaded the latest drivers from nVidia, but the problem persists. My PC runs Windows XP Professional, and has an AMD Athlon XP 2000+ CPU and 512 MB DDR RAM on an ASUS A7N266VM motherboard with the nForce chipset. The motherboard also supports onboard sound. Please help.

**Sandeep Pillay**

**A** A device driver conflict seems to be at play. Here's what you can do: Boot your system from the onboard video card, and then uninstall all the video card drivers. If possible, use System Restore to get back to a time when the computer was working fine, and then uninstall the display drivers.

Now, reboot your computer and go into the BIOS. Go to the Advanced Options, and look for the PCI display menu. Under VGA BIOS, change the adapter to AGP VGA. Save the settings, shut down the computer, and install the new video card. Reboot and install the display drivers. Your issue should be resolved.

Alternatively, start the machine in Safe Mode. Right-click on My Computer and select Properties. Go to Hardware > Device Manager and expand the Display adapters option. Right-click on each entry under display adapters, and select uninstall. It is imperative that you install only the latest drivers for the motherboard, and also ensure that your BIOS is up to date.



Roll back your system to a healthy state using System Restore



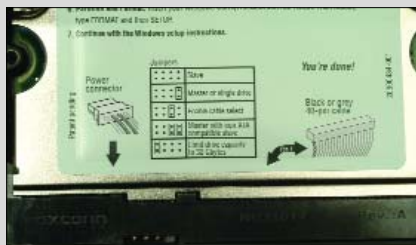
# Upgrade your Hard Disk

**D**on't panic if you run out of hard disk space. Most computers can support two or more storage units, so expanding your storage space is easy. In this workshop, we will help you make the switch painless.

To use a new hard disk, you need to perform three tasks. First, physically install the hard disk and connect the power and data cables. Then, partition the hard disk to define data storage areas, and finally, format the partitions to allow the operating system to read from, and write to the hard disk. Before you begin the installation procedure, confirm that you have met the conditions outlined in the box "Pre-Install Checklist".

## Install the hard disk

Open your computer cabinet to allow access to the components of your PC. Insert



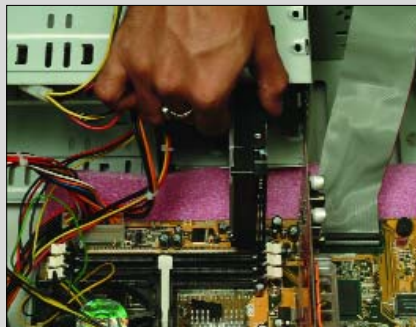
Set the jumper on the secondary drive

the hard drive into the 3.25-inch bay near the front of the case. Check for smooth runners along the bays, which will let you slide the drive in with ease. The hard disk's screw holes should be visible along the slit on the side. The power and data sockets should also be easily accessible.

Drive the screws in their respective sockets, and make sure the drive can't move. Fasten screws on both the sides of the hard drive bay.

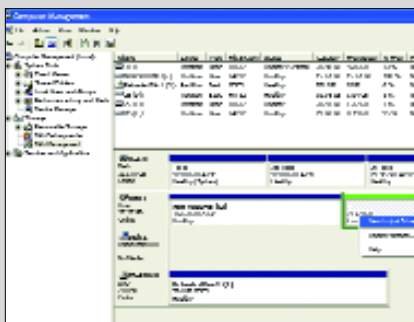
Make sure that you do not drop any screws inside the cabinet on the motherboard, and if you, pick them up before you turn on the power.

Connect the hard disk data cable to the free IDE connector on the motherboard.



Install the hard drive in the bay of the cabinet

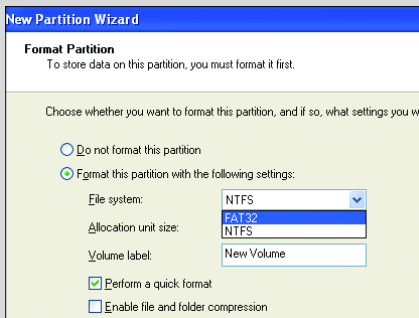
Connect the other end of the primary IDE cable to the back of the hard drive (see "Cables and Jumpers" in box "Pre-Install



The Disk Management tool lets you create an extended partition

Checklist"). This is very easy, and the red stripe running along the edge of the cable acts as a visual aid in doing this—the stripe should be on the edge nearer to the power socket. There is a notch on the connector, which also makes sure that you can only connect the drive the right way. Make sure that you check for this notch, and insert the cable carefully.

Now connect the power cable to the back of the hard drive. Notice the connector is 'D' shaped—it only plugs in one way, so you shouldn't need to force it. Once the power is plugged in, you are done!



Use the New Partition Wizard to format the partition

If you are performing a master-slave operation, here is what you need to do:

The above steps still hold good, but you have to connect the middle connector of the Primary IDE channel cable to the new hard drive. Attach the power cable, and you're all done.

## Create partitions and format

Verify that they are no loose components or tools within the cabinet, replace all opened panels, and close the cabinet. Depending on your operating system, the steps that follow will vary. We will show you how to perform the remaining

## Pre-install Checklist

1. Backup all critical data.
2. You should have a new hard disk, an IDE data cable (looks like a long flat ribbon), four mounting screws and small Phillips head (+) screwdriver.
3. Check that the power to the computer is switched off from the switchboard. Ground yourself by touching a metal plate, or the side of the cabinet. This takes care of any static electricity issues during hard drive installation process.

## Cables and Jumpers

If you do have a primary master hard drive, with an optical drive connected as the primary slave, don't change this arrangement. This reduces the connectivity fuss considerably. Since all new drives come pre-configured to be Master drives, you need not change the jumper settings. Just connect the drive as the secondary master on the secondary IDE channel.

If your secondary channel is in use, connect the drive as the slave on the primary channel. For that, follow the instructions on the hard drive itself, to change the jumper setting. Commonly used hard drives such as Samsung and Seagate don't need jumpers, if you are connecting the drive as a slave drive.

## Speed Tip

Most new hard disks follow a fast data speed standard called ATA-100. To enable this, use special ATA-100 cables, or your speedy disk will crawl. ATA-100 cables are easily distinguishable. Since they have 80 data wires running on the cable, they look much finer in comparison to the 40 wires on the slower ATA-66 cables.

tasks for either Windows 98 or for Windows XP.

On booting up, the OS recognises the new hard drive. However, it's unformatted and not partitioned, so there's more to do.

Go to **Start > Control Panel > Administrative Tools > Computer Management** and click on Disk Management for information about the drives connected to the computer.

Right-click on the disk marked 'Unallocated', and click on the 'New partition' option to start the wizard. The first time, choose 'Primary partition' and then click Next.

Specify the amount of disk space that you want to use out of the maximum size shown. Choose NTFS or FAT32 as the file system. If you run Windows XP, and do not intend to use this PC with any other OS, choose NTFS for better reliability. Check the 'Perform a quick format' option to speed up this step.

Restart the computer and boot into Windows XP. Your new hard drive is ready-to-use.



**111** Shoot Your Boss!



**116** Arm Your Mobile Workforce



**118** MFDs For Your Office

# Digital Business

How Technology Can Help Your Organisation

**Organisations often ignore the printing costs they incur. But there are always ways to save money. Here's one...Outsourcing!**

Aparna Krishnakumar

**D**o you know what really happens in your company? Employee X takes printouts on a regular basis for company correspondence. Often paper is wasted—either because a few pages get caught in the paper feeder, or when the toner runs out in

## The Company

NCCB is a credit evaluation and credit verification services provider. In the 1980s, it was the first agency of its kind in India to set up services for collection and repo with its earliest client Citibank. Their primary task is to help in the processing and checking of forms for loan applications and credit card verifications. They also maintain defaulters lists to help various financial and multinational banks make wise investments with minimum risks. The company also undertakes collections for financial institutions and cellular operators.

## Case Study

# Cut Your Printing Costs NOW!



**We had a win-win situation, so considering the cost, service and efficiency factor, we decided to experiment with WeP and the service it offered.**

**Harkishan Kohli**  
EDP Head, NCCB India

the midst of a large print run, spitting out half-printed monstrosities. Then Employee X calls for help, either from in-house technical support, or external sources. Apart from the obvious wastage, there is also valuable time lost just chasing a simple printout. Now take the expenditure that Employee X has cost you, and multiply it by the number of employees in your company. Can you see the currency notes burn?

So what do you do? Why not let someone else take that headache away from you? In one word...outsource! The problem with outsourcing is that it comes across as expensive, initially. It is, but only because you need to invest a larger sum up front. In the long run, however, it's proven to be cheaper. Hey, don't take our word for it! Ask Delhi-based Northern Credit & Collection Business Private Limited (NCCB), who have saved by outsourcing their printing requirements.

The office has a staff of 180 and the place is well equipped with laptops, projectors, intercom and Internet facility to provide efficient service to its diverse clientele, ranging from MNCs, such as HSBC and ABN Amro, to nationalised banks like State Bank of India and Bank of Baroda.

## The Problem

With liberalisation, the masses are talking more loans, and more banks are providing them. With a staff of 180, the company manages the increasing workload. According to Managing Director Tarun Arora, "The volume of forms handled is enormous, so we have to invest in a buying a new printer every second month." The application forms are sent to the company via the dealers. Plus, the company also processes the online forms that all credit card or cellular companies have on their Web sites. So why did printing pose a problem?

Arora clarifies, "The online application forms have to be with our field executives as well, so we need printouts. Not only this, but the respective companies need copies of the lists of people that we have verified. Often the

## Case Study

dealers send the list of applicants as faxes, and there are days we get 2,000 such forms which run into 1,000 pages." In addition, the company has to generate reports like any service organisation, for its clients as well as for itself. All this formed the major tasks for the printers in their office.

For the past two years, the management observed the increase in printing. They had a combination of dot matrix and HP laser printers. The Electronic Data Processing (EDP) Head, Harkishan Kohli observed that the output of the printers was not only lower, but quite expensive as they had to change a toner cartridge every second month.

They tried working more with dot matrix printers, but they are slow, and can't keep pace with deadlines. So, NCCB decided to replace them with laser printers. However, laser printers for a small organisation are a huge investment. For an office set up, the laser printers

### Statistical Figures

#### Cost incurred before WeP

Cost of toner .....	Rs 3,200
Initial refilling .....	Rs 400
Second refilling .....	Rs 400
No of prints per month .....	20,000
Total cost per month .....	Rs 14,000

#### Operating cost of a laser printer

Including initial cost dep./interest and other overheads .....	Rs 4,000
Total cost .....	Rs 22,000

#### Cost incurred after WeP

@ 85 paise per printout	
Total cost per month $0.85 \times 20,000$ .....	Rs 17,000
Total annual savings .....	Rs 60,000

that are used are in the range of two to three lakhs. For a small businessman, such as Arora, the last resort was to ask the companies, which are his clients, to sponsor printers.

### A possible solution

The answers to problems often come when you least expect it, and from the strangest of sources. Nehru Place in Delhi is one of the largest markets in Asia for IT goods. It began as



**Anand Thomas**  
WeP Peripherals  
Pvt Ltd

### Vendorspeak

"Thirty per cent of our business comes from outsourced printing. The printers are allotted after a careful study of the company's requirement. Currently WeP share of NCCB printing is over 60 per cent. We have two state-of-the art manufacturing facilities in Mysore and Hyderabad that have a combined capacity to manufacture two lakh printers and one lakh UPS per year. This enables us to offer competitive rates to our customers. Our service ensures our clients only keep growing."

**Outsourcing for printing comes across as expensive, but only initially. In the long run, it can surely save you quite a lot of money**

a grey market for computer goods, but now houses some of the best names in software. Arora was on a casual visit to the place, and encountered an acquaintance, who told him about Wipro e-Peripherals (WeP). He was told that WeP undertakes outsourced printing. Arora knew of outsourcing, but for printing?

His EDP head, Harikishan Kohli, was deployed to make more enquiries. Kohli was so impressed with the concept, and the benefits, that he convinced the management to give the company an audience. When asked what factors prompted them to choose WeP. Arora answered, "WeP happened at a time when we needed more printers, and at affordable costs, so I was willing to try the service." Adds Kohli, "From the presentation, it was obvious that we had a win-win situation, so considering the cost, service and efficiency factor, we decided to experiment with WeP and the service it offered."

### The Process

WeP charged according to the consumption of paper on a monthly basis. NCCB and WeP agreed to an initial monthly commitment of 10,000 pages charged at 95 paise per page.

Anand Thomas, Business Head and Chief Technological Officer of WeP Peripherals, says, "Initially, NCCB started with a personal

### Business Outsourcing of Printing

It is a relatively new concept for Indian companies, with great potential. Outsourcing has helped service sector industries such as banks, financial institutions and insurance companies, BPOs (Business Processing Outsourcing), software companies and E-Learning companies.

Some companies have ventured into the sector. In the complete business outsourcing-printing segment, WeP and Canon offer services to various segments from SMEs to large corporations. This means, once you avail these services, you pay them on the basis of the paper consumption. According to

Lakshminarayan Rao, Assistant Director OSF Value, Canon, "The key consideration, when selecting the printing service for SMEs and SoHos, is that the vendor must have a wide product portfolio that allows one to choose according to requirements."

The future of printing looks promising. WeP has already set up a network of public and private print points, which will offer printing services



ranging from impact printing to high-end colour printing within the next two or three years. Mobile printing is also on the anvil. This means subscribers to WeP printing service would have the facility of printing from any smart device-PDAs, Pocket PCs, and mobile

phones apart from tradition devices such as Desktops, Notebooks and Tablet PCs.

Other companies are also likely to follow suit. The outlook is bright alright!

Illustration: Mahesh Benkar





**I have saved more than Rs 12,000 after enlisting WeP's services.**

**Tarun Arora**  
MD NCCB India Ltd

laser printer and within months had all types of printers installed in the organisation—personal, workgroup, departmental and centralised printing.” For WeP, the competitive costing to the clients came from the fact that they had a huge installed capacity and their transactional operational costs were low.

So, how did this affect NCCB? According to EDP head Kohli, the efficiency improved. He says, “We did not have to worry any-

more about either the maintenance, or the service of the printers. Right from changing of toners to servicing the printer, everything was taken care of by WeP.” He remembers the days before WeP, when any of their printers broke down, endless phone calls and reminders to the service people seemed a routine. But with WeP, all this was taken care of. The service was quick, and the turn around time was less than two hours. The prompt service helped NCCB add to its productive man-hours.

## Customerspeak

“The 15-year-old Xpress Couriers had branches all over Tamil Nadu. Like any other courier company, their printing involved addresses to be handed to the delivery staff. They used to generate manual PoDs (Proof of Delivery), which were often inaccurate due to poor handwriting. Ten months ago, a chance meeting at the Logistics Exhibition of the Managing Director Vijay Kumar with Mr Srinivasan of WeP, led the former to outsource the printing to WeP. The company set up a system whereby PODs could be generated via the printer. This was more accurate and quicker. Today, Mr Kumar saves an average of Rs 25,000 monthly.”



**Vijay Kumar**  
Xpress Couriers  
Chennai

## The Present

According to Thomas, “NCCB from a stage of owning its printers is now completely dependant on the services of WeP.” It’s been a little more than year now, since NCCB availed the printing services of WeP, and they are not complaining. Arora says, “Last year I have saved more than Rs 12, 000 after enlisting WeP’s services”. Recently, WeP has reduced the per page rate to 85 paise for NCCB, while the consumption has gone up to 20,000. Also, after the successful implementation in Delhi, the Kolkata and Mumbai branches of NCCB are all set to outsource printing to WeP.

For Arora, outsource his printing requirements paid off. Efficiency increased, there was no tension of maintaining printers, but most importantly, it cut costs significantly. Innovation is important, but information even more so. In the end, it was information about a service that saved the day for NCCB.■

*aparna\_krishnakumar@thinkdigit.com*

1/2 Pg V AD

# Microsoft versus Linux

The argument can go on and on. Reliability maybe Linux's forte while usability is Windows' domain. Here are two expert views on the matter

## 'Microsoft fits perfectly...'

**S B Patankar**

CTO, The Bombay Stock Exchange, Dalal Street

**T**raditionally, our office has been running Windows. We tested Linux on an experimental basis. But, Microsoft fits perfectly with our needs. Our office at BSE houses 500 computers, for as many people. Here, user-friendliness and ease of operation are big issues—Microsoft takes care of both.

We have a tie-up with Microsoft, and it comes with a full suite of products and applications, which make operations much easier. As a result of this tie-up, Microsoft also takes special care of our organisation with facilities such as patch management. Networking is another major factor. Given the work we do, we cannot afford too many disruptions. Microsoft has fared well in this regard.

Although open source operating systems are freely available, at low costs, we will continue with Microsoft, its disruption quotient being negligible. Though we can, we won't switch operating systems, since productivity and efficiency are more important, not just the cost factor. As we are totally used to working with Microsoft, changing from one platform to another will be a laborious migration.

*As told to Syed Nadim Siraj*



## 'We have an assurance...'

**Sanjay Sharma**

Head, Information Technology, IDBI Bank

**A**t IDBI Bank, we have been running Linux since June 2002. We have more than 1,600 employees across over 100 offices. We consider technical issues and hardware resource requirements from the perspective of server-sizing. We also consider on-going maintenance cost such as Annual Technical Support (ATS), Total Cost of Ownership (TCO), etc. Based on detailed analysis of these parameters, we select the OS for each application.

Linux fit the bill. Windows is easier to administer, but it's unstable and expensive. Linux is stable and scalable. Our overall productivity has definitely gone up. We achieved substantial savings on hardware, OS and license cost. We purchased Intel boxes, which could scale up to our requirements as the volume grew, without any hardware upgrades. It was definitely a case of much lower TCO for the bank. For system administrators, we did a small review course.

We have an assurance from Red Hat (Clover Technologies) for support for our deployment too. You shouldn't buy a product or OS, based on who the vendor is!

*As told to Suprotip Ghosh*



Yeddanapudi Radhika

**E**very year, there is a spurt in the number of corporations that involve themselves in informational non-broadcast electronic media. Not all of today's information and news programs are for broadcast. In fact, many programs are produced for the corporate non-broadcast settings than in any other genre. You hear the terms: corporate television, industrial video, business television, closed-circuit television, private television—they are all synonyms

Web sites are among the more recent popular cost-saving applications. Video has been used for dissemination of information, about the company and its people, to familiarise vendors or sales channels with new products, to train staff or employees in new skills or procedures, to report new corporate developments or earnings to industry analysts or the media, and also to brief staff on recent company changes.

### Video conferencing

Video conferencing has emerged as the best alternative to actual face-to-face meetings. By adding tone, voice and visual cues to the

# Shoot Your Boss...

**... and other colleagues using video techniques to train recruits, handle processes, create archives—And yes, save some money, too!**

describing the business of informational non-broadcast electronic media.

The question is, why? What do they know that we don't? How do corporates use video technology?

Though corporates recognised the advantages of transmitting images, two factors inhibited its use: cost of production and delivery, and technical complexities. Production, in the past, did not use the desktop and needed specialised equipment and facilities. Similarly, delivery required special facilities—bandwidth, for example—at other locations in order to make broadcast possible. All of this came at a premium cost that made it unattractive to the corporate sector. An additional expense was the necessity of technically skilled personnel, such as video producers, Web masters and IT professionals.

Technologies converging towards the PC, reduction of costs, and an exponential increase in user-friendliness has generated immense corporate demand for stand-alone video products, or video in conjunction with print media. Compared to the cost of producing face-to-face meetings, events, training sessions or roadshows, the investment is actually small.

With branches spread all over a particular country, or even across continents, corporates find video a cost-effective communication tool to produce training videos, advertisement spots, sales and publicity material and staff orientation products. These can be directed at clients, employees, franchisees and partners. Video conferencing, and streaming video on



Photograph: Mery Xavier Imaging/Anil Deshmukh





**By adding tone, voice and visual cues to the mix, video helps employees grasp the idea that the individual on the other side of the screen intends to relay**

mix, it helps employees understand what the individual on the other side of the screen intends to convey.

Brian A Victoria, of the University of Auckland, says, "Studies have shown that people remember 20 per cent of what they hear, 40 per cent of what they see and hear, but 70 per cent of what they see, hear, and do." Video conferencing helps reduce the cost of travel, accommodation and the time taken to travel. It's also an ideal way of interviewing candidates living in far-off places.

Video Web conference can boost a business environment. Corporations now leverage previous investments in intranets, extranets and the Internet to create Web casts, which are significantly cheaper than any previous form of video production. These events use video streaming, either on demand or an archived or on-demand basis—participants no longer have to participate in real-time. These video events enable management to consistently put forth their vision, or update employees about projects. Communication, being visual, is faster and can be done on a regular basis. This can be extrapolated to include video content in events, impromptu meetings and also to train staff in informal sessions.

Convergence has ushered even more devices into the scenario—mobile phones are one such example. In Europe, testing is underway to check the viability of promoting TV shopping channel access on mobile phones. Mobile technologies have taken large strides ahead and almost every mobile device is equipped with a camera. Hence, it's not hard to picture a scenario wherein video conferences will be held with participants on the move, around the world.

## Video in India

**Web conferencing** The concept of Web conferencing is rapidly being adopted. Indian corporates, including bigwigs such as Johnson & Johnson, Infosys Technologies, MindTree and Polaris, are realising the cost-effectiveness and benefits of Web conferencing. According to Business Communications Review magazine, globally, 11 million individuals representing 13,000 customer organisations, either regularly or occasionally, used Web conferencing in 2001. This number is expected to rise to 79 million individuals and 94,000 organisations by 2005.

**Streaming video** Streaming video is also slowly gaining acceptance around the world, as

## Honda and Saab-Interactive Video

These companies perceived a gap in the traditional use of video advertising—while it showed images of the company, it did not permit the viewer to interact with it. They have since begun using a format that has been termed as companion interactivity. While the video advertisement is running, they provide data collection information as a response to consumer inputs, and even direct consumers to navigate to a particular page or site.

### PROS

Instant gratification; possibly instant sales

### CONS

Deviates from advertising mantra of keeping user glued to a particular site rather than navigating away from it.

a cheap way to disseminate information. According to Jon Klein, former Executive Vice-President of New York-based CBS News, "Bandwidth costs alone have dropped so much that it's often cheaper to post a video online, than duplicate and 'FedEx' it to viewers."

Improvements in the ability of content delivery networks to deliver a stream of video without interruption, has resulted in almost broadcast-quality video to the desktop. Streaming video also provides more information on who's watching what on a Web site, and enables better targeting by companies.

**Intracompany event promotion** Companies often use video to promote knowledge dissemination within their staff. For example, TiE, The Indus Entrepreneurs, needed to promote its annual retreat in Goa in 2003. The product was aimed for staff and potential partners, and was promotional in nature.

Although created for a one-time event, the video forms an important record of company events, and can be used repeatedly to acquaint new recruits to company culture, and provide a basis to plan future events.

**Training** This is one of the most popular uses of video. Companies such as JC Penny, an online shopping and advertising organisation, create videos on a regular basis for staff on topics that range from managing your pension plan to understanding new distribution and procurement procedures. Other companies use video to provide training on conflict resolution and sexual harassment. Video is especially helpful to train staff employed in different locations. It can also substitute experienced staff to conduct training sessions.

To better understand the uses of video, let's answer a few basic questions:

## Why video and not print products?

Today, most companies have a hybrid video-print model in place. Combinations of print and video products are packaged as marketing materials, and complement each other. Similarly, video—especially Web-based video—often contains references to print publications and Web sites. Even major newspapers continue with paper circula-

## What can Video do for me?

- 1 Promote the company by including a corporate image video (video cassette or CD-ROM) in sales materials and presentations.
- 2 Train employees, and explain the standard procedures and responsibilities involved with different positions.
- 3 Provide a quick reference to product portfolios for customers.
- 4 Ensure continuous attention at large events such as trade shows and exhibits.
- 5 Record one-off events, such as a seminar or presentation, for replay.
- 6 Produce creative spots that maximise your advertising spends.
- 7 Encourage team building, by providing visibility for staff by putting up office or personal photos in an attractive format with special effects and music.

tion, but have Web sites that are able to provide cutting edge news bites and interactive features, which measure user needs and satisfaction.

### Is it the best use of my staff time and resources?

Industryview.com, which promotes business information and corporate profiles through the innovative use of videos, has this to say: "Businesses must communicate! The right medium for one company may not be right for another. It all depends on the scope and objectives of a marketing plan." Industryview.com, which is based in the US, illustrates, through comparison, the costs and benefits of media services that are used to communicate corporate information.

The table below offers a cost comparison of traditional print brochures versus streaming media. Streaming media is often misunderstood

### Print vs Video

	Marketing brochure	Streaming profile
Description	2-page multi-colour	2-minute low-end video
Creation cost	Rs 2,000	Rs 4,000
Audience/copies	10,000	10,000
Postage/distribution	Rs 60,000	Rs 25,000
Printing costs	Rs 35,000	-
Response rates	Varied based on delivery method	Measured directly as actual viewers
<b>Total Cost</b>	<b>Rs 97,000</b>	<b>Rs 29,000</b>

cards for analogue camcorders. Note that video consumes tons of space when converted into digital data. Also, capture video at the correct resolution—capturing at a resolution of 640 x 480, and then resizing it to 352 x 288, amounts to you doing the entire job twice.

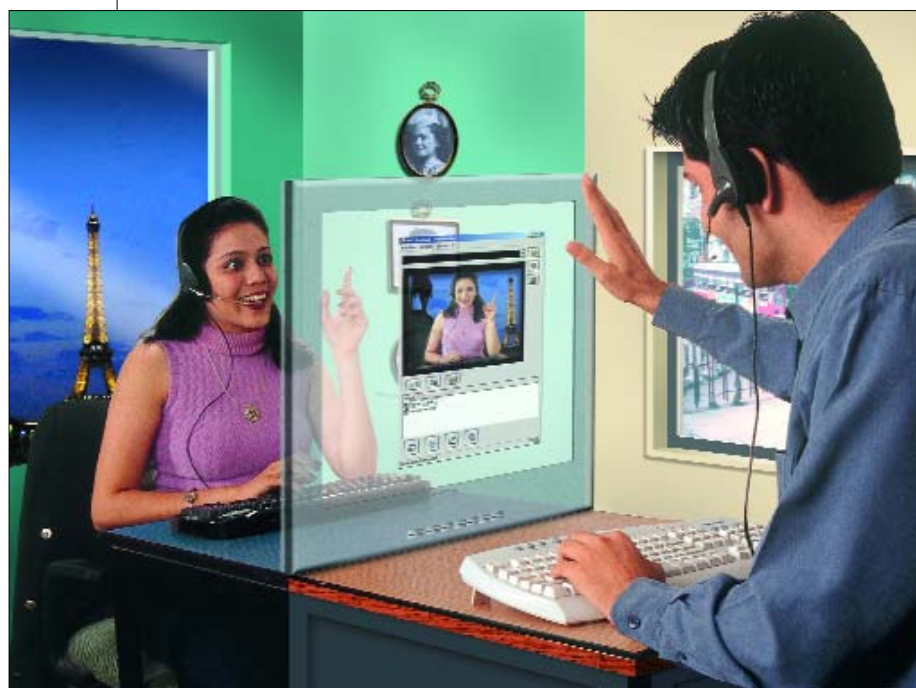
Your PC should have enough processing power, memory and hard disk space to deal with video jobs. You may not need a top-of-the-line system, but a current generation system is recommended.

Equally important is the software you will need to edit and compress your video. Depending on the amount of video that you capture, and the way you transfer it to your computer, you can use software such as Ulead VideoStudio 8 or Adobe Premiere. These offer integrated solutions that let you capture video from the source and transfer them to your hard drive. You can edit them, add your effects, put in an audio track, watermark your videos, and compress them to formats such as Quicktime and RealMedia.

### Conclusion

Technicalities and price tags aside, using video cameras in your office, though a relatively new idea today, can serve a substantial number of purposes for any business house: Orienting recruits in one mere hour; archiving invaluable presentations and meetings; promoting business in a visually maverick style; reliving moments of fun in office, and much more. Simple and incredible as it sounds, all you need is a video camera for the office to make this magic happen.■

digit@thinkdigit.com



Photographs: Mery Xavier, Imaging: Solomon Lewis

as a service that is either too expensive, or only meant for larger companies. The example below illustrates that a streaming video product can, in many cases, be less expensive and more effective than its print counterpart.

### So what do I need?

First, you need a video camera. With various models to choose from, there is a wide range of prices. Sony offers a series of models for the mini-DV format, ranging from Rs 22,760 to Rs 45,520. A Canon mini-DV format camcorder costs anywhere between Rs 36,420 and Rs 2,04,840. For the JVC, Sharp and Panasonic models of the same mini-DV format, prices range from a modest Rs 12,750 to Rs 36,420. While Sony offers its DV Handycam for Rs 41,250 to Rs 45,520, Panasonic's DV camcorders range from Rs 35,280 to Rs 39,140.

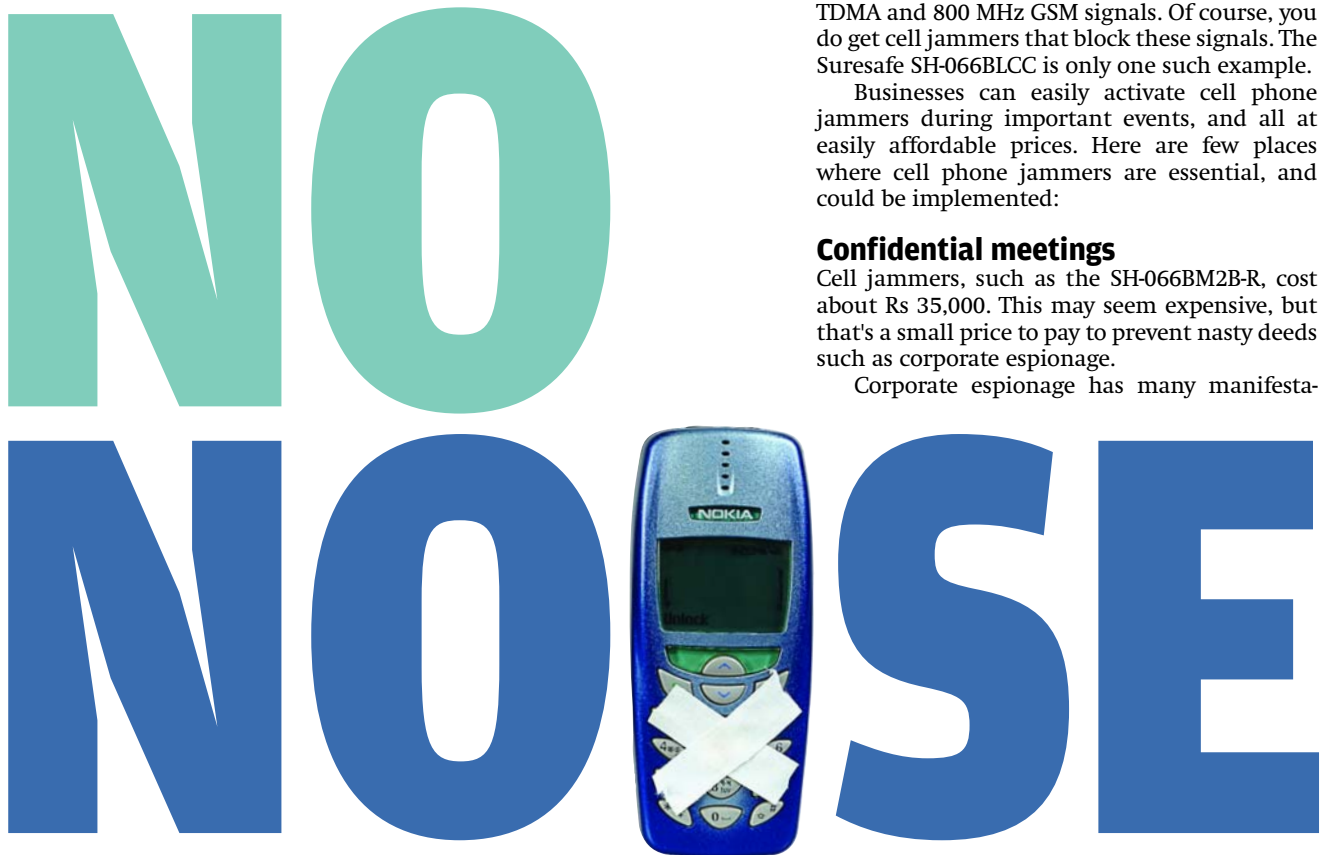
You may need additional hardware—Firewire cards for digital cameras, or analogue capture

**Video broadcasts that take the form of Web casts make for a formidable option of communication when you have employees scattered all across the globe**

### Suggested reading

- <http://www.mediatechpro.com/uses.htm>
- The Next Generation of Corporate Communications—Jon Leland
- Why Corporations are using interactive multimedia for sales, marketing and training—Traci Hukill—E Times.com
- Better, Bigger, Faster—Seana Mulcahy.
- Work—Stephen Porter. 2003
- Networked Multimedia—Video Applications: Are we crossing the chasm?—Christine Perey—Business Communications Review, March 1999

**Etiquette demands the switching off of mobile phones in certain situations, but most people choose to ignore this. Here's how you can make sure that your business doesn't suffer because of the mobile menace**



your phone dies on you. If you are within the range of a cell phone jammer, you will neither see any signal information on your handset, nor the name of your service provider. However, all calls coming to your phone will be diverted to a voicemail service—if you have activated this facility for your phone.

The cell jammer we reviewed—Suresafe SH-066BM2B-R—only blocks signals of the 900 and 1,800 MHz frequencies. It cannot block CDMA or TDMA and 800 MHz GSM signals. Of course, you do get cell jammers that block these signals. The Suresafe SH-066BLCC is only one such example.

Businesses can easily activate cell phone jammers during important events, and all at easily affordable prices. Here are few places where cell phone jammers are essential, and could be implemented:

### Confidential meetings

Cell jammers, such as the SH-066BM2B-R, cost about Rs 35,000. This may seem expensive, but that's a small price to pay to prevent nasty deeds such as corporate espionage.

Corporate espionage has many manifesta-

### Aliasgar Pardawala

**S**ome months ago, in Mumbai, Hindi theatre actor Vikram Gokhale walked out of a play that he was performing in. The reason? Despite a request to the audience, from the play's actors and producers, to switch their cellular phones off, a phone did go off during the performance. It raised the hackles of the actor, who is one of the seniormost actors on Mumbai's Marathi theatre circuit. He returned to perform only after the man whose cell phone went off, apologised to Gokhale back stage.

Cellular phones, though equipped with enough potential to change the way we live our lives, can turn into major irritants. And it only takes an untimely call during a business conference, or inside a library, to remind us of the minor havoc it can create.

Enter Stage Right, cell phone jammers—devices that emit the same low frequency radio signals as cell phones, neutralising each other's signals. This means that your phone is unable to receive signals from your service provider's base station. Usually it takes a few seconds before

tions, and the Short Message Service (SMS) is surely one of the easiest ways to get information out of a locked board room—information, which could be a goldmine to your competitors, can filter out through a cell phone, without anyone even noticing it. The threat assumes greater significance because your rivals may know of

your decisions faster than your own employees.

Information can also be leaked out if someone dials the competitor's number, and keeps it connected while announcements are being made. This is smarter than SMS, and no one would ever be the wiser.



### Hotels

Hotel owners can use cell phone jammers in and around their conference rooms, to prevent hosted seminars and conferences from being disturbed. A cell phone jammer will force people to exit the conference



**The Suresafe SH-066BM2B-R cell jammer guarantees a no-ring zone**



rooms and use land-lines to make the calls.

### Training

A training session is an active breeding ground for unnecessary phone calls, as employees rarely switch off their cell phones during these sessions. A session strength of around 20 or 25 employees nearly guarantees you a regular cell phone beep.

This not only puts off the faculty, but also means that the session's productivity decreases, resulting in a training session being converted into an exercise in time wasting.

### Medical centres

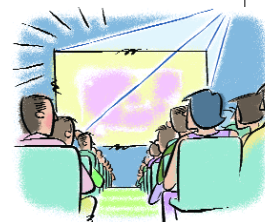
Most hospitals use super-sensitive medical instruments to treat their patients. Any interference from cell phone signals can wreak havoc to life-support systems. To prevent people from damaging instruments, yet avoid hurting their feelings, cellular jammers can be used. But, also confirm that the jammers do not interfere with the existing signals.



**Cell jammers can open the gates to productivity and corporate privacy by cutting out unnecessary cell phone usage**

### Cinema halls

Want to spend some quality time with your family or friends? Go watch a movie. But, there's no way you can do that today—there's always a spoilsport who thinks narrating the movie plot over a cell phone in real-time to a friend is a fun thing to do. Even cinema hall owners can't really do anything. Patrons blame the management for any sort of disturbance, and chiding people about mobile phones loses them customers. Cell phone jammers can prove to be a gift from the heavens in such cases.



### Libraries

Librarians can't "shush" the world anymore. In an age where book readers are a minority, librarians find it tough to ask members to switch off their phones, lest they walk off and cancel their membership. Cell jammers eliminate this awkward interaction.

If you do decide to use these methods to help your business, we suggest you prominently display a notice informing your patrons that you use such devices. This will prevent uncomfortable situations, such as doctors thinking that they're within reach, while hospitals desperately re-dial their numbers.■



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1/2 page H AD

# Arm Your Mobile Workforce

**I**N A MANICALLY mobile world, just how do you keep your workforce equipped, apart from the regular laptop, to get the best out of them—both in terms of productivity and quality? Here, we present some affordable ideas that will make productivity curves skyrocket

## Laptop battery

If your laptop frequently runs out of battery charge before your day long presentation is over, consider investing in an additional laptop battery, which you can swap immediately when needed

Price: Depends on your laptop



## USB pen drive

You want to copy a presentation to your client's PC; or, your client needs to send back a 50 MB file. No need to open his PC and connect your bulky hard disk drive there. Just use a tiny USB pen drive to easily transfer files between computers

Price: **Rs 1,600** upwards

## Infrared and Bluetooth

More and more mobile devices, including mobile phones, need either an infrared or a Bluetooth port for wireless data communication. If your laptop does not have this onboard, you can use a USB to Infrared or Bluetooth connector to add the capability

Price: **Rs 1,400** to **Rs 1,800**





### Data cable for a mobile phone

A data cable—easily available on e-commerce or auction sites—can mean instantaneous connectivity to the Net, especially if you have a laptop. The cable also doubles up as a phone charger. You need a CDMA or GPRS ready phone for Net access

Price: **Rs 200** upwards



### Data lock

The Virtual HDD Key ensures that even if you leave your laptop unattended, nobody can fiddle with the valuable data on it

Price: Around **Rs 2,600**



### Phone backup software

To a sales and marketing professional, contacts are everything. Software such as Oxygen Phone Manager will ensure that critical phone contacts and data are backed up

Price: **Rs 2,250** upwards



### PDA or Pocket PC

A PDA is lightweight and allows you to keep your personal information arranged, keep track of appointments, take notes and more. You can also access the Internet if you have GPRS enabled. This can be used as a ready reckoner when with clients

Price: **Rs 7,000** upwards



### WiFi adapter

So your client decided to talk over coffee at Barista, but your Laptop is not WiFi-enabled. Don't worry, With a USB to WiFi adapter, you can easily add that capability to your laptop

Price: Around **Rs 5,250**





# The All-rounders

**While the world debates about convergence, Multi-Functional Devices are already creating a small revolution in the office. A copier-printer-fax-scanner combo spells huge savings not only in terms of money but also cuts the clutter**

**Sanket Naik, Aliasgar Pardawala and Deepak Dhingra**

**Y**ou are running your business well only if every resource is fully utilised, and every possible inch of real estate is put to good use. Part of making your business a success, is getting people and components to multi-task. The people we can't help you with, the components we can.

In any office, paper-related devices are widely used. Printers are the most common peripherals; copiers, fax machines and scanners are also popular. Any office will have at least three of these components, and all probably strewn about, wherever space is available. Today, you don't need to settle for multiple devices; instead, you can get a Multi-Functional Device (MFD) that can multi-task.

## Choosing the right MFD

The MFD market has evolved to provide multiple verticals that provide a solution for the varied needs. We divided the devices into three categories—Personal, Workgroup and Heavy-duty devices.

The Personal MFDs category contains devices that are sheet-fed and have limited scanning abilities. Most are monochrome scanning devices, and restricted to 256-colour greyscale scanners. Some of these are actually fax machines, with laser printer and scanning capabilities built around them. They are best suited for very low print volumes, as the cost per page is high.

Workgroup MFDs utilise a laser-printing engine. The consumable used is a unified toner cartridge. The toner life is usually rated at 3,000 pages, and a drum is said to last for 7,000 pages. This is in a sealed cartridge, so when your toner is used up, you have to replace the entire cartridge—including the half-used drum.

Heavy-duty MFD technology is the same as copier machines, which are quite rugged. Here, the toner is stored in a separate cartridge from the drum; so you only replace what you use up. Typically, a drum is rated to last for 50,000 pages, and the toner lasts for about 5,000 pages. So, a copier-based MFD actually works out cheaper in the long run.

## Personal MFDs

Devices with a smaller footprint are preferred over the huge machines in small offices. Due to the absence of a flatbed scanner, sheet-fed MFDs score



### Scanner

A typical stand alone scanner between Rs 5,000 and Rs 15,000



### Multi-Function Device

The prices of MFDs range from Rs 15,000 to Rs 15,00,000, depending upon the features they come with



### Fax Machine

A typical fax machine for your office will cost you about Rs 12,000

in terms of space, and do the same job as their bigger counterparts. Here, we looked at three such MFDs from HP, Samsung and Brother. Both the HP and Brother, can print decently, scan, copy and fax, whereas the Samsung is primarily a fax machine that's been souped-up to work as a printer and copier. The Samsung 5100P even comes with a handset—typical of standalone fax machines.

## Features

The HP LaserJet 3015 impressed us with its feature list. This MFD is just 426 mm in width, and has an unusual vertical box shape design. All the necessary buttons are on the top—colour scan, copy, fax and print. The USB and Parallel connectors are at the back. The milky white Brother MFC-9660 is just as good looking, but a little larger. It has all the



### Printer

A good laser or inkjet printer will cost Rs 15,000 upwards



### Photocopier

A typical heavy-duty office copier can cost upwards of Rs 40,000

necessary buttons such as the fax dial pad, menu setup, scan, copy, etc. on the control panel. Samsung, on the other hand, sports a regular fax machine design, with the handset integrated. This means that it can be used as a telephone unlike the HP and Brother units.

### Fax

The Brother MFC-9660 can store only 32 speed-dial numbers, whereas Samsung stores a maximum of 90 speed-dial numbers with 10 speed dial hot keys. The HP offers 120 speed dial numbers, but with just seven hotkeys. The Brother MFD can store as much as 500 pages in its memory—the Samsung stores 160, and the HP only 110 pages. The MFC-9660 lets you send a fax broadcast to as many as 182 locations, whereas the HP only allows for a group dial function to a maximum of 120 entries. The Samsung, which is primarily a fax machine, only allows a hotkey entry (a two-digit entry), which translates to a total of 99 recipients. So, the HP and Brother actually offer better fax features than the Samsung!

### Printing

Both the HP and Brother have laser-based printers devices. Both printed at the claimed speed of 14 to 15 pages per minute (PPM). The Samsung, however, is primarily a fax machine, and thus prints at a slow 6 PPM. In our speed tests, the HP took the crown—taking just 11 seconds to print our test document. It also managed to yield crisp results—the Brother took twice the time to finish the same job. In our mixed document test (text, graphics and images), the HP managed to print the document in just 19 seconds. The Brother took 25 seconds for the same job.

Brother's huge 250 sheet capacity, dominates the 150 sheet capacity HP and Samsung. The Samsung MFD has a top loading paper tray, while both the HP and the Brother have the laser printer style, front-loading cassette. The Brother scores again over the others, because of its sliding paper cassette and manual-loading slot for envelopes, labels and transparencies.

### Scanning

Scanning is where the HP 3015 stands out. It's the

## The HP 3015 stands out when it comes to scanning, with a 600 dpi scan resolution, and a 24-bit colour depth

only MFD in this category with a 600 dpi scan resolution, and 24-bit colour depth. The test scans were decent—it picked up 19 out of 22 shades of grey, and also did well in the colour deviation test.

Brother scans in monochrome (256 shades of gray) at 600 dpi, which means you'll have to invest extra to buy an external colour scanner. Samsung can only scan at a quality acceptable for a fax machine. We did not run the scanning tests on the Brother and Samsung models.

Both HP and Brother scan documents at 100 dpi, by default. In order to scan at 600 dpi, you'll need to use

the 'scan to image' function and use your PC to import the image via the TWAIN driver.

Brother MFC-9660 has three hotkeys for Scan to e-mail, OCR and image. HP has a 'Scan to' button on the control panel that can be configured to Scan to e-mail, OCR, Folder, or other programs, using the software provided. This feature is handy, as you can set the scanner to quickly scan to whatever choice you use most often.

### Copy

HP claims to copy at 15 ppm, scanning at 600 dpi, but our tests showed that it copies at about 12 PPM—the first copy took 14 seconds. The Brother claims similar speeds, but only managed 10 PPM. You should keep in mind that these speeds will vary, depending on the contents of the documents you want to copy.

### Verdict for Personal MFDs

All three MFDs have their areas of strength, and weaknesses. HP has a small footprint, a better scanner and a faster printer and copier. Brother has 32 hotkeys for speed dial and offers a straight paper path option for printing envelopes, transparencies, etc. The Samsung offers a handset to make telephone calls without wasting extra money and space on a phone instrument. It is small, but priced too high at Rs 27,000—especially considering the below average feature set and slow printer module.

Brother offers the most features, but lags behind HP because of the monochrome scanner unit. Brother MFC-9660 is priced at Rs 31,400, beaten by HP's price of Rs 22,500. HP seems to be the obvious choice here.

### Workgroup MFDs

For a low to medium volume of printing and copying, MFDs based on laser printer engines are preferred. These are generally deployed as shared resources in departments.

A total of 10 MFDs fell into this category with three each from Brother and HP, two from Samsung and one each from Xerox and Canon. Almost all the vendors have a base model without fax as well as upscaled versions that have the same printer and scanner units with fax added on.

### Design

Brother MFDs sport an elegant and sober look that should go well with any office décor. The off-white body panels, large four-line backlit LCD and the subtle use of blue panels make it a



## Multi-Functional Devices - Buy / Do Not Buy

### Small footprint and cost-effectiveness

Instead of having to buy four or five different machines—and maintain each with different replacement toners, drums and other parts—you can purchase a single machine whose printing, scanning and copying functions use the same cartridge

**Network considerations** Adding one device to the network instead of four separate devices, with all the associated cabling and driver software is easier. Four devices is

four security problems and four service warranties, whereas one engineer can support an MFD

**Quality** An all-in-one machine may not offer the same high quality in each of its functions as separate machines

**Breakdowns** If one of the functions breaks down, the entire machine is unusable. To preclude such a disaster, several manufacturers offer warranties with 24-hour express replacement, on-site exchange or fast repairs





## How We Tested

**W**e ran a multitude of tests that stressed each of the three major sub-systems of an MFD, i.e. Printing, Scanning and Copying. We did not conduct performance tests on Fax capabilities, and only evaluated their features. The test computers used were two ACi Emerald Pro laptops with an Intel Pentium 4 2.66 GHz processor, 256 MB of RAM, a 40 GB hard drive and Windows XP with the latest updates as our Operating system. We called for MFDs costing below Rs 1 lakh for the comparison.

### Printing

To test the speeds of the printing units, we used three different documents—a plain text document covering 25 per cent of the page, a combination-document of text and some graphics covering 35 per cent of the page and an image file. We logged the time taken by the printer units to print them. To determine the printer output quality, we analysed the test prints taken from the

printer unit during the speed test. We looked for jarring edges in text, and how well images were reproduced in black and white—whether there was any banding across the image, etc. We also looked at the smallest possible font that the printer unit could print.

### Scanning

To test scanning speeds, we used an A4 photograph that was scanned at 600 dpi with 24-bit colour. Before any scans, we accounted for the time taken for a scanner unit to warm up, by taking five previews before scanning anything. We logged the time taken to scan the document and display the output in Photoshop.

Testing the scanning quality involved an assortment of tests, the two most important being:-

#### Image quality test using IT8 card:

Professionals all over the world use IT8 cards to gauge the colour purity of a scanned image. This card was scanned at

300 dpi, and the colour reproduction in both light and dark spectrums was noted. **Image Quality test using a resolution chart:** This test determines which device is better at picking up minute details. A resolution chart with lines was scanned at a resolution of 300 dpi; we then used the magic wand feature in Photoshop to analyse the scanned blocks. Marks were awarded to MFDs that could differentiate the maximum number of lines.

### Copying

In order to test copying speeds, we used a text document consisting of varying font sizes. We placed the test printout on the scanner, and noted the copies per minute.

### Features

We noted all the features that a device offered in terms of usability in everyday life. Special features such as poster-printing, duplexing, auto-resize, etc, were also assigned the appropriate importance.

great-looking machine. HP uses its traditional navy blue body with grey panels, colourful buttons and throw in a dash of style with some flashy lights. The major difference between HP and Brother is that the former's models are more compact. Canon uses sky-blue with milky-white panels and ends up looking the best of the lot. Samsung and Xerox have the smallest footprint. Canon iC D680 is a heavyweight at 22 kg, while HP's LJ3030 and LJ3020 are the lightest at 12 kg. All models in this category have an LCD display. Brother scores with a great four-line backlit LCD. The rest have a single-line LCD that displays limited information.

### Printing

Barring a few differences in specifications, all the devices are evenly matched in terms of features. The printer engines support a maximum of 600 dpi—more than enough for a typical business scenario. All have a 250-sheet capacity—except HP's LJ3020 and 3030, which have a capacity of 150 sheets. All HP models and Samsung 4216F support additional paper trays—the rest lack this flexibility. The output paper trays on HP's 3030 and 3020 are a bit flimsy. Coming to one of the most important

**Among the workgroup MFDs, the elegant Canon models are ahead in the race for good looks.**

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Workgroup MFDs



Samsung SCX 4216F

**This compact device is the most capable all-rounder**

**HP LaserJet 3015 all-in-one – HP's most affordable and compact all-in-one. Get more than fax.**

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## Before Buying an MFD

- ❑ Consider your Usage Pattern: If you print and copy more, choose a copier engine-based MFD. If you print more and copy less, opt for a printer engine-based MFD. If fax is your main concern, opt for a specialised Laser fax that doubles as a laser printer and scanner
- ❑ Look for handy features, such as paper capacity, buffer memory, duplex printing, toner save, etc.
- ❑ Make sure the MFD can print on the kinds of paper products you use, such as envelopes and index cards
- ❑ Pay attention to upgradeability and scalability. Upgrade options will extend the life of the device, as your needs grow
- ❑ Check the type of warranty offered. Laser MFDs are bulky and heavy—lugging them around is not feasible, so make sure your model is covered by an on-site warranty
- ❑ Try the console interface to figure out how to operate the device
- ❑ Check out the control panel. It should have a good LCD panel to display status messages and warnings

HP's LJ 3380 dominated the printing performance. Though rated to print at 20 PPM, it managed a fast 18 PPM. It was the only device to break the 10-second barrier for the first printout, taking just 9 seconds. The Samsung's 4216F came in second.

### Scanning

All the MFDs have scanners with a maximum optical resolution of 600 dpi. This is enough to enlarge a 4x6 inch photograph, and print it without any visible graininess. HP and Brother MFDs support 9,600 dpi 'enhanced' resolution, whereas Samsung and Xerox top out at 4,800 dpi. All except Canon have the 'Scan to PC' feature so, you can not use it as a PC scanner.

All the devices use a flatbed scanner with 24-bit colour depth. These are better than the sheet-fed variety, since they can be used with a variety of sources, and generally produce better scans. Most of the MFDs also come with Automatic Document Feeders to facilitate scanning multiple sheets.

Nothing beats Brother in terms of scanning speed. The Brother models were nearly four times faster than their slowest competitors—Samsung and Xerox. The Brother MFDs, also yielded superb colour reproduction and saturation. The devices from Samsung and Xerox were able to match the Brother only in terms of spatial resolution.

### Copying

All these MFDs permit a maximum of 99 copies of a document. Standard copying features include Reduce or Enlarge, magnification up to 400 per cent and standalone copying. Collation is another feature that is common to all of them.

The models from Samsung and Xerox have additional special features such as clone, poster,

**HP's LJ3380 dominated the printing performance tests. It clocked 18 pages per minute and broke the 10-second barrier for the first printout**

auto-fit, etc, which add value. Though these may not be used on a day-to-day basis, they definitely come in handy to print posters, banners, etc. As for copying speeds, HP's 3380 convincingly thrashed all the other MFDs in this category to walk away with top honours.

### Faxing

Faxing was limited to Brother's MFC 8820D, Canon's IC D680, HP's LJ3030 and LJ3380, Samsung's SCX-4216F and Xerox's PE16. Brother-MFC 8820D saves up to 500 fax pages in memory for you to retrieve them later. In comparison, Samsung and Xerox both accommodate 320 pages and HP's 3380 stores up to 250 pages. All of them have fax scheduling to send pre-timed faxes automatically. Brother, Samsung and Xerox models offer 'On hook dialling' to monitor the connection, handy in the absence of a telephone handset.

### Verdict for Workgroup MFDs

All said and done, Samsung's SCX-4216F scored over its competitors with its decent performance, good set of features and an acceptable price. Though HP's LJ 3380 was by far the best performer, it lost the overall crown owing to its high price tag. If performance is your concern, opt for HP.

### Heavy-duty MFDs

Heavy-duty MFDs are good for high volumes of printing and copying. They have low running costs, are rugged and offer longer duty cycles.

Three models from Canon, and one each from Samsung, Sharp, Ricoh, Toshiba and Xerox fit into this category. Depending on your

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**AUGUST 2004**

### Workgroup MFDs



HP LJ 3380

The speedy printer makes it the top performer, but at a steep price

## HP LaserJet 3020 all-in-one – The fast, flatbed, convenient desktop copier and scanner.

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\*Suggested price, taxes extra. Price may vary. Hewlett-Packard Development Company, L.P.

Score Board										
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Category	Workgroup MFDs									
Brand	Brother	Brother	Brother	Canon	HP	HP	HP	Samsung	Samsung	Xerox
Model	DCP 8020	DCP 8025D	MFC 8820D	iC D680	LJ 3030	LJ 3020	LJ 3380	SCX 4016	SCX-4216F	PE-16
	25.12	25.12	30.14	14.72	28.15	25.15	31.71	26.59	32.59	31.59
Printing	4	4	4	5	4	4	5	4	5	4
Printing technology	Laser	Laser	Laser	Laser	Laser	Laser	Laser	Laser	Laser	Laser
Resolution (dpi x dpi)	600	600	600	600	600	600	600	600	600	600
Paper capacity for default tray	250	250	250	250	150	150	250	250	250	250
Additional paper tray facility	No	No	No	Yes	Yes	Yes	Yes	No	Yes	No
Scanning	7	7	7	2	7	7	7	8	8	8
Max optical resolution	600	600	600	600	600	600	600	600	600	600
Bit depth	24	24	24	8	24	24	24	24	24	24
Scan image directly to mail client	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
ADF	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes
Copying	1	1	1	1	1	1	1	1	1	1
Stand alone copying	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Document management	2	2	2	1	2	2	2	2	2	2
Collating	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes
Multiple copying in standalone mode	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Faxing	0	0	5	0	3	0	4	0	5	5
Memory for storing (No of pages)	NA	NA	500	79	110	NA	250	NA	320	320
Hook up dialling	NA	NA	Yes	No	Yes	NA	No	NA	Yes	Yes
Broadcasting features	NA	NA	Yes	No	Yes	NA	Yes	NA	Yes	Yes
Misc	9.42	9.42	9.44	4.92	9.35	9.35	10.91	7.97	7.97	7.97
Weight (Kg)	18.1	18.1	18.1	22.6	12	12	15.7	13	13	13
Input buffer (MB)	32	32	32	2	32	32	32	8	8	16
Memory upgrade possible (Y/N)	Yes	Yes	No	No	No	No	Yes	No	No	No
Dimensions (H x W x D) (mm)	461x541x452	461x541x452	469x532x444	352x475x442	378x498x401	378x498x401	495x546x521	436x417x474	436x417x474	436x417x474
Cables provided	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Interface	USB	USB	USB	USB	USB	USB	USB	USB, parallel	USB, parallel	USB, parallel
Other Features	2.2	2.2	2.1	0.7	1.2	1.2	2.2	2.7	2.7	3.2
Software bundled	MFL-Pro Suite	MFL-Pro Suite	MFL-Pro Suite	Drivers	HP Toolbox, ReadIris OCR, HP All-in-One setup assistant, drivers	HP Toolbox, ReadIris OCR, HP All-in-One setup assistant, drivers	HP Toolbox, ReadIris OCR, HP All-in-One setup assistant, drivers	SmarThru	SmarThru	ControlCentre
Build Quality	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Networking capabilities	1	1	1	0	1	1	1	1	1	1
Ethernet port provided (Y/N)	No	No	No	No	No	No	No	No	No	No
Optional LAN interface	Yes	Yes	Yes	No	Yes	Yes	31.71	Yes	Yes	Yes
Printing	30.72	30.72	30.18	20.47	27.11	27.11	32.15	27.52	27.52	25.16
Speed test (Scale of 15)	12.86	12.86	12.34	12.84	12.86	12.86	14.89	12.94	12.94	12.48
Image Quality	9.96	9.96	9.44	9.94	9.96	9.96	11.99	10.04	10.04	9.58
Image quality evaluation using IT8 card (Scale of 10)	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
Scanning	10.23	10.23	10.21	0	7.65	7.65	8.82	6.58	6.58	6.59
Speed Test (Scale of 4)	1.66	1.66	2.3	0	1.67	1.67	2.74	1.22	1.22	1.33
Resolution test (Lines Pair Per Inch test)–(Scale of 2)	6.97	6.97	6.71	0	4.78	4.78	4.88	3.76	3.76	4.06
Copying (Scale of 10)	7.63	7.63	7.63	7.63	6.6	6.6	8.44	8	8	6.09
	14.64	11.84	9.58	11.37	15.6	17.63	7.89	17.28	12.34	13.94
Price	Rs 29,500	Rs 36,500	Rs 45,100	Rs 38,000	Rs 28,500	Rs 24,500	Rs 54,724	Rs 25,000	Rs 35,000	Rs 31,000
Overall	70.48	67.68	69.90	46.56	70.42	69.89	71.75	71.39	72.45	70.69

requirements, you can choose a machine that has either an A4 or an A3 format. Out of the eight MFDs, the models from Sharp, Ricoh, Toshiba and Canon sported the A3 format, while the rest were standard A4 machines. MFDs of the A3 format form a niche segment, and are a

viable option for DTP processes and marketing departments that need to print or scan large brochures. We sub-divided this category on the basis of the paper sizes supported-A4 and A3. First, we take a look at a more popular A4 category.

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## Other Functions You Can Expect From Your MFD

- ❑ Scan multiple documents in batch processing mode and, optionally, OCR them
- ❑ Save the received fax on the computer and print only the needed faxes. Some MFDs may not provide this feature
- ❑ Scan photos and e-mail them
- ❑ Auto fax/phone switch: If you have one line for phone calls and faxing, some MFDs will switch to the fax function when a fax is incoming
- ❑ Broadcasting: Sends faxes to several different numbers simultaneously.
- ❑ Dual access: The ability to use the MFD for a second function while another function is being performed
- ❑ Fax memory: If your machine is out of paper, or the ink cartridge is low, faxes will be stored. When the paper tray is refilled or the cartridge replaced, the faxes stored in the memory chip will be printed. Some MFDs can store up to 500 pages
- ❑ PC faxing: Sends faxes directly from your computer's modem without having to print the document and feed it manually into the fax machine
- ❑ Quick scan: Scans a document into memory so you can retrieve your document without having to wait for it to be processed
- ❑ TWAIN: Allows importing graphics without leaving an application

### A4 format heavy-duty MFDs

The four MFDs in the A4 format were Canon's iR1270F and iR1210, Xerox's M15i and Samsung's SCX-5315F. Both the models from Canon are identical save just one difference: the iR1270F has fax functionality thrown in. The iR1270F and iR1210 look better than Samsung and Xerox. Had it not been for their differing control panels, Xerox's M15i and Samsung's SCX-5315F would have looked like twins!

### Printing

When it comes to features, there's hardly any difference among these models. All have a native printing resolution of 600 dpi—more than sufficient for most business needs. The paper trays provided with these MFDs have a capacity of 550 sheets. Canon, however, lets you increase the paper capacity by adding more trays for a complete 'fill it, shut it and forget it' operation. Samsung and Xerox don't offer this feature.

The models from Canon are rated to deliver 12 pages per minute and they come very close at 11 PPM. The Samsung and Xerox MFDs are both rated to deliver 15 PPM—Xerox delivered 14 PPM, and Samsung 13 PPM. In most of the printing tests, all the devices showed no significant difference in the results. However, in the combination-document printing test, the Canon MFDs were significantly faster, taking half the time as compared to the Samsung and Xerox. It's the same story in the photo-printout test. Though these devices aren't suited to print photographs, what's interesting is their behaviour while printing large files. This

**Canon MFDs can print 99 copies at one go. In contrast, the Samsung and Xerox units can print a remarkable 999 copies. This apart, there are quite a few other features such as auto-fit, side-by-side copying, etc., that are exclusive to Samsung and Xerox**

**Great performer, with a software bundle that pushes it past the Xerox M15i for the crown**

clearly indicates that the Samsung and Xerox printer units will slow down under heavy loads.

### Scanning

Canon seems to think that large businesses don't need a dedicated scanner, so there's no 'Scan to PC' function in their devices. This means you can print and take copies, but you can't use the scanner for applications such as OCR, scanning images to PC, etc. The Xerox M15i and Samsung SCX-5315F have decent scanner units, with nearly all the features of a standalone scanner. They also scan an image or text directly to an e-mail client, or OCR software, and come bundled with basic document management software.

To simplify your scanning needs, an automatic document feeder is provided on all except Canon's iR1210. These multi-sheet document feeders come in handy when copying many documents, or when using scheduled fax.

Canon's MFDs lack a 'Scan to PC' feature, so we could not analyse the scan quality. However, when we made copies, we couldn't find any noteworthy defects in them. The scanner units on the Samsung and Xerox are almost identical, and do a superb scanning job. But be prepared to be assailed by a loud screeching noise as they scan!

### Copying

The Canon units allow you to take a maximum of 99 copies in one go, whereas the Samsung and Xerox units allow 999 copies. Quite a few features such as auto-fit, clone, poster, side-by-side copying, etc., are exclusive to Samsung and Xerox. These add value to the units. Side-by-side copying helps you save paper by taking

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**A4 Heavy-duty MFDs**



**Samsung SCX-5315F**

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Score Board								
Category		A4 size heavy-duty MFDs				A3 size heavy-duty MFDs		
Brand	Canon	Canon	Samsung	Xerox	Canon	Ricoh	Sharp	Toshiba
Model	iR1210	iR1270F	SCX-5315F	M15i	iR1600	Aficio 2015	AR-M160	e-Studio 160
<b>Features Score</b>	22	28	35	32	24	34	35	24
<b>Printing</b>	8	8	6	6	8	8	8	6
Printing technology	Laser	Laser	Laser	Laser	Laser	Laser	Laser	Laser
Resolution (dpi x dpi)	600	600	600	600	600	600	600	600
Paper capacity for default tray	500	500	550	550	500	250	250	550
Additional paper tray facility	Yes	Yes	No	No	Yes	Yes	Yes	No
<b>Scanning</b>	3	4	5	5	3	5	6	3
Max Optical resolution	600	600	600	600	600	600	600	600
Scan area	A4	A4	A4	A4	A3	A3	A3	A3
Scan image directly to mail client	No	No	Yes	Yes	No	Yes	Yes	No
ADF	No	Yes	Yes	Yes	No	Yes	Optional	Optional
<b>Copying</b>	1	1	1	1	1	1	1	1
Stand alone copying	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>Document management</b>	2	4	4	4	4	4	4	4
Collating	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Multiple copying in standalone mode	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>Faxing</b>	0	3	4	4	0	0	0	0
Memory for storing (No of pages)	Na	255	320	320	NA	3MB	NA	NA
On hook dialling	Na	No	Yes	Yes	NA	Optional	NA	NA
Broadcasting features	Na	Yes	Yes	Yes	NA	NA	NA	NA
<b>Misc</b>	7	7	14	11	7	15	15	9
Input buffer (MB)	2	2	4	4	16	16	16	32
Memory upgrade possible (Y/N)	No	No	No	No	Yes	NA	Yes	Yes
Dimensions (HxWxD) in mm	326 x 475 x 352	326 x 475 x 352	456x560x429	456x560x429	560x615x631	420x550x568	470x590x577	554x530x600
Weight (Kg)	24	24	22.85	22.85	37.8	35	31.3	50
Interface	USB, parallel	USB, parallel	USB, Parallel	USB, Parallel	USB, parallel	USB	USB	USB optional
Other features	2 on 1 image printing	2 on 1 image printing	Duplex Copying, Autofit, Clone, 2 page on single sheet	1-2 sided copying, Clone, Autofit, N to 1 printout	NA	Scan to specific IP address, Network card built in, Landscape or Portrait printing of A4 media	Autofit, offset stacking, Centre/Edge erase	8 to 1, 4 in 1, 2 in 1, sorting, magazine sort
Software bundled	Drivers	Drivers	SmarThru3	ControlCentre 5.0	Drivers	SmartDeviceMonitor, Web SmartDeviceMonitor, Web ImageMonitor, DeskTopBinder V2 Lite ScanRouter V2L	Sharp Desk/Button Manager, Drivers	Net Panel
Build Quality	1	1	1	1	1	1	1	1
<b>Networking capabilities</b>	1	1	1	1	1	1	1	1
Ethernet port provided (Y/N)	No	No	No	No	No	No	No	No
Optional LAN interface	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>Performance Score</b>	18.44	18.44	22.69	23.17	18.07	22.36	22.63	0
<b>Printing</b>	10.8	10.8	9.46	9.68	10.57	13.66	7.01	0
Speed test (Scale of 15)	9.8	9.8	8.46	8.68	9.37	12.06	5.41	0
Image Quality	1	1	1	1	1.2	1.6	1.6	0
<b>Scanning</b>	0	0	5.75	5.74	0	0	7.98	0
Speed test (Scale of 3)	0	0	0.96	0.98	0	0	2.37	0
Image Quality Evaluation using IT8 card (Scale of 8)	0	0	3.69	3.46	0	0	4.01	0
Resolution test (Lines pair per inch test) (Scale of 4)	0	0	1.10	1.30	0	0	1.60	0
<b>Copying (Scale of 10)</b>	7.64	7.64	7.08	7.75	7.05	8.7	7.64	7.08
<b>Price Score</b>	15	9.17	12.69	14.22	8.25	8.62	8.29	0
<b>Price</b>	Rs 55,000	Rs 90,000	Rs 65,000	Rs 58,000	Rs 1,00,000	Rs 95,700	Rs 99,500	NA
<b>Overall Score</b>	<b>55.44</b>	<b>55.61</b>	<b>69.98</b>	<b>69.39</b>	<b>50.32</b>	<b>64.98</b>	<b>65.92</b>	<b>31.08</b>

**The Samsung and Xerox units can store 200 pages of faxes in their memory. Even if you run out of paper, you can still receive the faxes**

copying on both sides of a page, but you need to use the ADF. The Poster feature scans an image, and then copies parts of the image onto nine pages that you can stick to get a huge poster. The Samsung unit comes with three buttons for Toner Save, Power Save and Paper Save that work!

#### Faxing

All, except the Canon iR1210, are capable of faxing. The fax consoles are extensive, allowing one-touch dialling, auto-dialling, searching, etc. None of the units have a telephone handset. Samsung has incorporated an 'On Hook' button that informs you if the machine on the other end is engaged. The

Samsung and Xerox MFDs can store 200 pages of faxes in their memory.

#### Verdict for A4 heavy-duty MFDs

Samsung and Xerox have a generous software bundle, but Samsung's SmarThru, is quite useful in day-to-day business. SmarThru allows you to control every function of the MFD through a single interface. The interface has tabs for printing, scanning, OCRing, send to e-mail client, etc. Overall, both the Samsung and Xerox MFDs were on par with each other in performance. What went in favour of Samsung was its superb software which ultimately saw it clinching the

Best Buy Gold award. Xerox's M15i is an equally good performer and if you can overlook the software bundled with Samsung SCX-5215, you will end up saving a hefty Rs 7,000.

### A3 heavy-duty MFDs

Four different machines from four different manufacturers were slotted in the A3 form factor. These are more rugged than the A4 machines, and offer heavy-duty capabilities. Since these machines are large, you will have to make some space in your office. They look like the old copier machines—huge and heavy. Toshiba was monstrous, and Ricoh and Sharp were not much smaller. Canon's iR1600 managed to save on space. Toshiba e-studio 160 also follows a modularity approach: the base unit is huge and comes with just the copier. The scanner and printer unit are added on demand and cost over a lakh, which incidentally was the price limit for all tested MFDs. Hence, we couldn't test them.

### Printing

All these machines use laser-printing technology and are rated at different speeds. The Canon MFD is rated at 16 PPM, but managed 13 PPM. The model from Sharp was a disappointment—it's rated at 12 PPM on a USB 1.1 interface, but just about managed a pathetic 5 PPM, leaving no room for doubt that its printing engine is much inferior to that of Canon's. Ricoh's Aficio 2015 was able to print at 14 PPM—undeniably speedier than both, Sharp and Canon. All these machines are designed to offer a lowest cost-per-page—between 35 and 45 paise. We could not test the performance on the Toshiba MFD, but from the copying speed it does not look like a couch potato either.

### Scanning

Sharp's AR-M160 has a decent scanning unit that's the best in this category. The accompanying software also adds to the practicality of the unit. Akin to the other MFDs manufactured by Canon, the iR1600 lacks the 'Scan to PC' feature. One interesting thing to note is that the Aficio 2015 from Ricoh offers only network-scanning and supports 256 shades of grey—no colour scanning. The same applies to Toshiba's e-studio 160: this clearly indicates their lineage—copier machines. All said and done, in terms of scanning performance, Sharp's AR-M160 stands tall.

### Copying

Sharp's AR-M160 is a notch above Canon's iR1600, when it comes to usable features. Features such as enlarging or reducing, zooming, auto-exposure, etc., are present on both MFDs. However, copy-auditing, offset-stacking, etc., are a few features that Sharp offers, which add value to the bundle. The copy-auditing feature allows administrators to track usage on a per-user basis—specific people get accounts and need to enter a password before making copies. Similarly, offset-stacking stacks different jobs separately so that they don't get mixed. Other advance features such as copying 4 pages to one page, rotation, margin shifting, etc., can be enabled by optional accessories. These features are also the hallmark of Ricoh's Aficio 2150 and Toshiba's e-studio 160. Canon offers an optional stapling unit to staple multi-page documents



## Why I use an MFD

**P**rogress Publishers, Delhi-based publishers of school textbooks, have been using laser-based MFDs for over five years. For the last two years, **Anant Gupta**, proprietor, Progress Publishers, has been using the HP LaserJet 3300. It is shared by four or five users, and prints approximately 6,000 pages a month.

Gupta decided to buy an MFD for his office to get the benefits of a photocopier, without actually paying for one. He feels that the scanner in an MFD is not critical enough. He says, "The cost per

page is between 75 paise and Re 1 per copy, but I save a lot of space that an extra scanner would take. The print quality is satisfactory. It has all the basic features that all the products in its class have, such as printing modes—economy, 600 dpi, 1,200 dpi, memory, etc."

However MFDs do have their set of disadvantages. Says Gupta: "For originals with Photos and Text the result is barely satisfactory. Multiple trays aren't available, and the existing one can hold only 250 pages."



### Caution

- ❗ Don't get carried away by pages per minute (ppm) claims. They vary depending on the coverage area of a page
- ❗ Humidity affects the working of a Laser MFD, so make sure you have a cool dry place for it in your office

automatically, thus helping you avoid a mix-up. This happens to be more effective than offset-stacking.

Sharp has six buttons that can be assigned to launch specific applications. For example, if you are OCRing a document, just press the button that's assigned to the OCR software. The scanned image opens in the application directly, thus speeding up the process. Sharp's AR-M160 was the only unit to bundle a colour scanner in this category.

### Faxing

Faxing units on all these machines are optional, hence you will need to pay extra money to buy them.

### Verdict for A3 heavy-duty MFDs

Nothing beats the Sharp AR-M160! The features it offers and its reasonable price tag, wins it our Best Buy Gold Award for this category. Its slow printing speeds might be a deterrent, and



### A3 Heavy-duty MFDs



Sharp AR-M160

**Loads of useful features and plenty of expansion options make the Sharp a good long-term bet**

you might want to look for a USB 2.0 expansion card. Ricoh's Aficio 2015 was equally impressive, but lost valuable points in the scanning department. If printing and copying forms the bulk of your needs, and you can overlook the lack of colour scanning, the Aficio 2015 is a good choice. That also qualifies it for our Best Buy Silver Award.

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deepak\_dhingra@thinkdigit.com



**Anurag Bajaj**  
General Manager Hotel  
Marine Plaza, Mumbai

The need to go WiFi was prompted by the desire to match international standards in hospitality. The Bay-View lobby and Geoffrey's, the pub, are the WiFi hotspots within the hotel that use the 802.11b version.

Our foreign guests, and others who have Centrino laptops, are delighted at being able to use the WiFi facility. There has been increase in the number of official lunches and presentations using the Net connection. Since the speed is high, and the connection uninterrupted, we have several guests from neighbouring hotels too. I see a WiFi future, where hotel operations such as ordering in restaurants, inventories, maintenance reporting, and also security monitoring, would be a lot easier.

Illustration Atul Deshmukh

# LIVE LIFE

WIRELESS FIDELITY OR WiFi is being touted as the next big thing to happen to India after the mobile boom. However, a study conducted by IMRB last year found that low awareness coupled with high installation costs prevented it from being widely accepted in the Indian market. We spoke to five decision makers in their respective domains about their WiFi experience.



**Suresh Subramanian**  
Deputy General Manager,  
IT Exel India Limited

We are a global leader in supply chain management, providing customer focused solutions to a wide range of manufacturing and retail industries. With varied clients, such as Mercedes Benz, Unilever, GE Medical and Levi Strauss, and with multiple offices in five cities, going WiFi was more a need than a fancy. The main visible benefit is the 'uptime' of links. Our uptime is close to 98 per cent, and there is less manual monitoring required, which ensures that IT support personnel can concentrate on other areas; switching to WiFi is a long term solution.





**PS Ramakrishna Rao**  
Collector and District  
Magistrate, Guntur, AP

**I**t's been a year since the Collectorate office, the Collectorate Camp Office and the Superintendent of Police (SP) office were WiFi enabled-with 802.11b. We opted for WiFi because it does not involve civil work, takes a short time to become operational, helps me stay connected to all sites nearby, and most importantly, has provision for VoIP—which has reduced my phone bills. Activities, such as updating reports, online data entry, conducting online training classes and being constantly connected to the Hyderabad head office, are easier than before.



**Sumedha Sabharwal**  
Head of Computer Centre  
Welingkar Institute of  
Management, Mumbai

**T**wo years ago, the institute faced a problem of an inverse student-computer ratio. The number of students taking admission to management courses was increasing, and the computer centre was barely able to support everyone. To counter this, and also to be one of the first to usher in the new technology, we opted for WiFi. Our students use laptops, and with WiFi, they can access the Net anywhere—this reduces the cost of maintaining a huge computer lab with its peripherals. Also, guests find it useful to be always connected.



# WIREFREE



**Prashant Jain**  
Director, Pathways School  
New Delhi

**C**omputers isn't a subject at this school, it's a tool for education. Our teaching is project-based, and WiFi gives a student flexibility to work from anywhere—the school, hostel or even the library. The whole campus is a WiFi hotspot—802.11b, with a speed of 11 Mbps. For the school, being WiFi is particularly valuable within the classroom or laboratory, where seating plans and furniture distribution change constantly to reflect the multiple needs of the curriculum, after all 'Anytime, Anywhere' learning is the essence here.

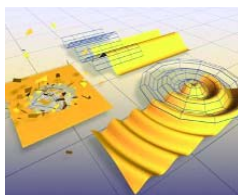
*As told to Aparna Krishnakumar and Suprotip Ghosh*



**157** Check  
your TQ



**160** Harry Potter  
Game Review



**164** Bluff Your  
Way Through

# Digital Leisure

Technology Beyond Work

**Swapnil Dhamankar and Tausef Syed are just two among the thousands of NGO beneficiaries in the country. Here's how technology connects them**

Touched by Tech

## A Site to Give

Garfield D'Souza

**I**f he ever featured on a music television count-down show, its producer would put Tausef Syed in the "bubbling under" segment. Tausef is 15, and like most teenagers his age, likes Aishwarya Rai and Hrithik Roshan. He loves mathematics at school, and he wants to be a pilot when he grows up.

Tausef works in a garage. His enthusiasm belies his financial status—his father, Latif, is a contract labourer and just about earns enough to feed his family.

Tausef's energy and zest for life could well be because he is confident his education costs—pencils, books, paper—would be taken care of by Apnalaya, a Mumbai-based NGO that specialises in child welfare and education.

Swapnil Dhamankar is 19. He quit school when he was in the seventh standard, but he plans to live life on his own terms. His ambitions are, well, not even ambitions really. Swapnil wants to become a good tailor, and spends most of his time "studying" for his tailoring course. He also earns a stipend of Rs 500, and says he

will earn more in the future. Much more.

Swapnil is deaf. He is gung-ho about the future, though—he has the support of the National Society for Equal Opportunities for the Handicapped (NASEOH).



**"I'm not sure what I plan to be in life, but work I will"**

**Swapnil Dhamankar**

What connects the two is a Web site called GiveIndia.org, an online channel that lets people donate to the NGO and the cause of their choice. Various NGOs get listed on the site so that people can donate to the NGO of their choice.

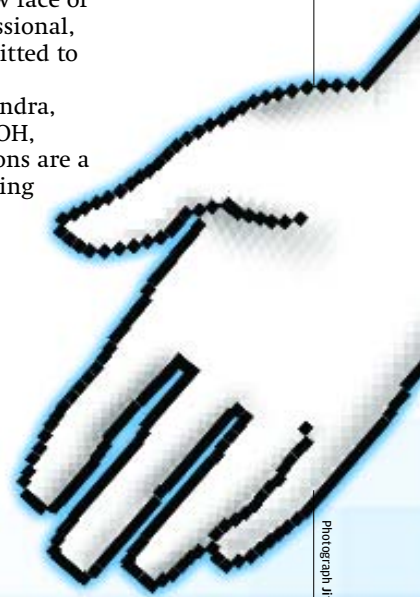
It is an idea as simple as they come—a supra NGO that lists various NGOs after carefully going through their credentials. Says GiveIndia director Venkat Krishnan: "Our hope was that a channel like this will give small, relatively unknown NGOs a chance to reach out to donors all over India and the world. The emphasis is also on promoting giving in a transparent, efficient and effective manner."

Every NGO has its financial statements listed, with a break-up of how the donated money would be used. They are also classified according to states and various social causes.

Take your pick. GiveIndia, in a way, represents the new face of the Indian NGO—professional, transparent and committed to the cause.

Says Sudha Balachandra, director general, NASEOH, agrees: "Online donations are a methodical way of getting funds, and GiveIndia is transparent in their functionality."

Adds Apnalaya head Leena Joshi: "Most of the visitors to the site are casual surfers. But for NGOs like us, awareness is of prime importance." Dr A Goswami of Child Aid Foundation, an NGO based in Vijayawada, Andhra



Photograph: Iken Gandhi; Illustration: Atul Deshmukh



Pradesh, echoes the point. "We wanted our name to be identified with a very-well known and respected brand."

The reason for this healthy respect is simple: All NGOs have to comply with strict norms and regulations to be included on the Web site. For instance, one selection criterion is that no NGO with a political link is allowed to be on the site. The rules also state that at least half the people benefiting from their projects should be economically underprivileged.

GiveIndia also does an appraisal of the organisation to see whether they meet Credibility Alliance norms. Credibility Alliance is a worldwide association of organisations and networks that aim to improve governance in the voluntary sector.

The last step, but probably the most important is when the GiveIndia team visit the NGO and see their activities themselves. It is not easy to qualify to be featured on GiveIndia.org. Apnalaya, for instance, found it tough to get in, even if its list of donors includes celebrities, such as, cricketer Sachin Tendulkar.

Says Joshi, who founded Apnalaya in 1979, "Qualifying to be registered with GiveIndia was not an easy process. But we felt it was good to get ourselves evaluated by an outside agency. The evaluation process helped us take a second look at ourselves."

The response has been tremendous, says Venkat. For instance, organisations such as Child Aid Foundation, Vijayawada, manage to get Rs 2-3 lakh through GiveIndia. "That's 50 to 60 percent of its annual budget. However, the same amount translated to just 25 to 30 per cent of the finances for organisations such as the National Association For The Blind."

## Donorspeak

### What can I donate?

Just about anything, and in any manner. Apnalaya, for instance, lets you contribute to its Corpus fund, General Fund as well as donate educational sponsorship for a child. Other projects range from programs that train a group of 25 in tailoring to three-day training programmes in community development. NASEOH specifies donations required for a tricycle, as well vocational training for a year for a disabled individual.

The mode of payment can be through a cheque, a demand draft, as well as online credit payment. You can also opt for ICICI's online banking payment system. GiveIndia also has a proprietary My Account system, wherein you can open a charity account with GiveIndia.org. You can deposit money in it via credit card, Net banking or cheque payments. You can get the requisite donation amount deducted from My Account.

If you do not like to donate, you can also shop and help by tying up with Craftsbridge, a company that promotes



Online donations help these children at Apnalaya get an education

Indian handicrafts. These funds are then used to support artisans who crafted them.

### Can I donate my time?

Of course you can. If you like to spend your weekends or other holidays doing constructive work, you can register online to work in orphanages, old-age homes, helplines, schools, relief efforts, NGOs, etc. The Placement Services link has just about all the information you need to register at the nearest NGO.

**I am an NRI. I used to donate for charitable causes while I was on vacation in India. It used to be so hectic. Then I found GiveIndia.org. I have been a regular donor through this site, and have been impressed by the way they provide a link between the donor and the NGO.**

**Sanjay Khanna**

On the other hand, Apnalaya's 2001 earnings were Rs 40 lakh, as listed on the site. But since its online launch on GiveIndia, Apnalaya has been earning a small amount of its funds through this channel. "Online donations are sporadic in nature," says Joshi. "Many of them are one-off instances."

NASEOH's Balachandra says: "There is no uniformity in the nature of donations."

Adds Armine Damodiwala, head, Indian Council for Mental Hygiene (ICMH): "They are neither a huge flood nor a trickle. They ride on a medium wave."

Most contributions usually come in to sponsor individuals. Apnalaya found that projects such as community clinics that involve getting doctors to perform routine checkups do not have many takers. These little problems notwithstanding,

NGOs (and there are more than 100) on GiveIndia say that the concept of online donations was picking up, and they were glad they took the plunge.

Online giants, such as, Google and Rediff have given free ad space to GiveIndia. For instance, if you type in "India charity" on Google, the first sponsored link you get is the GiveIndia site, as part of the Google AdWords scheme.

Donors, too, have a good word to put in. Says Aarti Madhusudan, a UK-based Indian, in an e-mail to GiveIndia: "I am sure you hear this from many people and all the time, and it is probably superfluous, but I felt like saying that it is remarkable to set up something like GiveIndia, and I am honoured to be part of it, even if my donation is really small. I wish I could do more."

Swapnil and Tausef, just two of the hundreds of beneficiaries, are not really aware of who is donating online to fund them—be it Google or Aarti. But they couldn't care less—they just want to be a tailor and a pilot. And with it, give something back to the society that helped them. ■

garfield\_dsouza@thinkdigit.com

## Tax Benefits

**S**ection 80G of the Income Tax Act allows 50 per cent of your donation to be tax deductible. Impressed? There's more. Certain specified projects allow the benefit of Section 35AC of the IT Act that increases the percentage of deduction to 100 per cent. Section 35(i)(ii) goes further and shoots up the donation deductions to 125 per cent from your business income and 100 per cent from your salary income.



# Of mystery protocols and celebrity quizzes...

**1** China banning Web sites and clamping down on cell phone messaging is not new. But on July 6, Chinese media reported that the nation had adopted a revolutionary technology. What was it?

- a. The IPv7 protocol, a proprietary Chinese protocol
- b. A "mystery" protocol called IPv9
- c. VSE (Very Strong Encryption) for all incoming and outgoing e-mails
- d. The RISA protocol, which would allow Cabinet members to read private e-mails

**2** Privacy has always been sacrosanct on the Internet.

But on July 7, a three-judge US Federal Appeals Court panel ruled that...

- a. E-mail service providers can copy and read messages intended for their customers.
- b. ISPs can track their clients' Internet usage patterns
- c. Anonymisers on the Internet will now be illegal
- d. Credit card fraud would now be punishable by death

**4** Music legend George Michael was forced to shut down his Web site message board because fans had been using it to log disparaging comments about him. The accusations ranged from his failing to promote his recent album, the poor quality of his recordings, and ...?

- a. Him being overweight
- b. Him copying songs
- c. His vulgar lyrics
- d. The site not opening in the Opera Web Browser



**5** The first edition of this quiz was held in 1988, and is modeled after college quizzes of yore. It features some of the biggest industry giants, and winners have included Lotus founder Mitch Kapor and Google CEO Eric Schmidt. Which is this super-popular quiz show?

- a. Computer Bowl: Reboot 2004
- b. SuperBowl Computing
- c. Computer Bowl 2004
- d. Computer Superbowl 2004

**6** In June this year, MarketScape, a small US-based company sued an imaging software giant for alleged infringements on a patent that covers extracting network information. Which IT giant are we talking about?

- a. Adobe
- b. Macromedia
- c. Corel
- d. Discreet

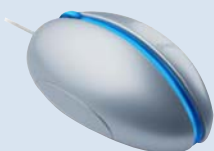
**7** Founded two years ago, this MIT project aims to 'free

people from computer jargon, keyboards, mice and other specialized devices.' A joint venture between the Laboratory for Computer Science (LCS), the Artificial Intelligence Laboratory (AI Lab), and six major corporations, with support from the Defense Advanced Research Projects Agency. Name the project.

**8** Stelcor Productions, which owns www.google.com, is suing Web search giant Google for infringing name. The company claims that it owns the domain name since 1997 and was two months live before Google. Who is their target audience?

- a. Kids
- b. Women
- c. Sports enthusiasts
- d. IT firms

Got an interesting question? Send it in with the correct answer to [quiz@thinkdigit.com](mailto:quiz@thinkdigit.com)



**3** Which company recently unveiled a collection of designer mice models—two wireless and one wired—in the most unusual colours created by famed industrial designer Philippe Starck?

- a. Apple
- b. Hewlett-Packard
- c. Microsoft
- d. IBM

## Crossword

### Across

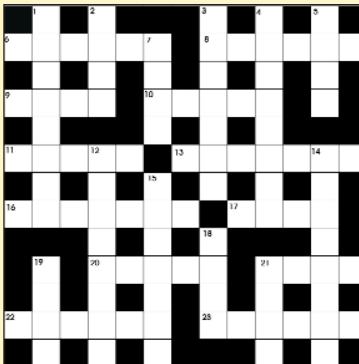
- 6. ----- Presario PCs from HP (6)
- 8. Visual representations stored in electronic FORM (6)
- 9. Cut out to modify data (4)
- 10. Base-8 notation (5)
- 11. Boot up upsets tarts (5)
- 13. Make available (7)
- 16. An object-oriented Programming in Logic (7)
- 17. Direct Read After Write (abbr)(4)
- 20. Data entered into a computer(5)
- 21. Element of data storage scatters life (4)
- 22. Waiter to host computer on a network (6)
- 23. Programming language named after French mathematician(6)

### Down

- 1. DTP package of the 80s, confused

### art words (8)

- 2. Microsoft's new technology reverses heights (abbr) (4)
- 3. This icon resembles a sun dial in a web browser toolbar(7)
- 4. Hot standby or Warm standby? (8)
- 5. CTRL+SHIFT+Z in Corel (4)
- 7. Quick and Dirty Operating System (abbr) (4)
- 12. Locate and read data from storage (8)
- 14. Discharge cargo to transfer computer data(8)
- 15. Prepackaged art work (4,3)
- 18. Bit end to an asynchronous transmission! (4)
- 19. Initial Graphics Exchange



- Specification (abbr) (4)
- 21. High-speed computer (4)

Compiled by Nitaa Jaggi

An average Internet user spent 604 minutes online in June 2004, as compared to 493 minutes in October 1999

Did you know?

## Answers

1: b, 2: a, 3: c, 4: a, 5: a, 6: a, 7: b, 8: a  
**Quiz**  
 10. Octal, 11. Start, 13. Provide, 16. ProTalk, 17. Draw, 20. Input, 21. File, 22. Server, 23. Pascal  
**Down** 1. Wordstar, 2. Spot, 3. History, 4. Failover, 5. Redo, 7. QDOS, 12. Retrieve, 14. Download, 15. Clip art, 18. Stop, 19. IGE5, 21. Fast  
**Across** 6. Compaq, 8. Images, 9. Edit, 10. Octal, 11. Start, 13. Provide, 16. ProTalk, 17. Draw, 20. Input, 21. File, 22. Server, 23. Pascal  
**Crossword**

Wired June, 2004

## Pixar Out-Disneys Disney



CRICKETER AND COMMENTATOR Sunil Gavaskar was once asked how he felt when Allan Border crossed his world record for the most number of runs in Test cricket. He replied: "Hundreds of people have reached the summit of Mount Everest, but nobody has ever forgotten Edmund Hilary and Tensing Norgay."

Walt Disney is in a similar situation these days—the challenger has arrived, but we never forget Disney. Pixar, the company that apprenticed under Disney and created movies, such as *Toy Story* and *Finding Nemo*, now threatens to upstage Disney's unchallenged monopoly in the computer graphics (CG) animation features space.

Freelance writer Austin Bunn's excellent business and technology sketch of Pixar Animation Studios, in the June issue of *Wired* magazine, chronicles the rise of Pixar, and poses the question: Will Pixar now be the master, and Disney the apprentice?

An excerpt from the piece:

By any standards, Pixar Animation Studios has reached infinity and beyond. From 1995's *Toy Story*—the world's first all-CG feature—to last year's *Finding Nemo*, Pixar's five hermetically crafted movies have grossed a staggering \$2.5 billion at the box office, making it the most successful film studio, picture for picture, of all time. "You have to take your hat off to them," says Neil Braun, head of CG-animation company Vanguard and former president of the NBC Television Network. In the history of film, there's just one precedent for this level of economic triumph, this ability to add to the American childhood's beloved cast of characters: Disney Animation Studios.

Pixar hasn't just turned into the new Disney. It has out-Disneyed Disney, becoming the apprentice that schooled the sorcerer. Pixar's most talented animators grew up admiring Disney, worked at the sketching tables in Burbank, and went on to crib the company's DNA. Pixar's story development process as well as its internal lexicon—including sweatbox, when the director critiques individual animations, and plus-ing, heaping more and more good ideas on a structure that's already working—come directly from the 'House That Mickey Built'. Both companies are technical pioneers: Disney imbued 2-D cel animation with comedy and heartbreak; Pixar coaxed empathy from digital effects. Now the flipbook animation style that made the Magic Kingdom a powerhouse is fading to black: Disney's *Home on the Range*, released in April, is the last fully 2-D production for the studio, and competitors like DreamWorks are retraining illustrators to be 3-D mouse jockeys. Pixar's digital animation is the wave of the future.



Read the entire story at [www.wired.com/wired/archive/12.06/pixar.html](http://www.wired.com/wired/archive/12.06/pixar.html)

Business2.com June, 2004

## Does Google Show Other Corporates the Way?



WE ALL KNOW Google is the best, but can it be a role model for the rest of the world's corporates? Melanie Warner from *Business 2.0* provided the answer:

### The Wisdom of Google Lesson 1: Don't sell your soul to the highest bidder

From the start, Brin and Page took the high road with advertising. While other search engines were secretly

tucking paid advertiser sites into their listings—a process called "paid inclusion"—Google decided that the only parts of its site it would ever sell to advertisers would be clearly marked

"Sponsored Links" sections at the top and side of the page. The founders also refused to allow banners and pop-up ads. Brin, in particular, was adamant about this. He hated using search sites like AltaVista and Yahoo! and waiting while a colorful, inane ad lumbered across the screen.

### Lesson 2: Create a culture of risk taking

Now that Google dominates Web search, it's easy to forget how strange its approach really was in 1998. The notion that the world needed another search engine—there were already at least 10—was absurd. Though the quality of search results was declining as the Internet swelled, most people didn't seem to care. Even technologically savvy people like Kordestani were content with their search engines. "I was using Yahoo! and Netscape," (Omid) Kordestani (head of sales at Google) admits. "In some ways, you just didn't know any better."

Conventional logic held that the ability to do searches was, at best, a feature of some bigger, fancier product. Google stripped its search engine down to the point where it looked naked. No news, no weather, no horoscopes. Just a goofy logo in Romper Room colors, and a search bar floating on an empty page.

Such a counterintuitive move branded Page and Brin as serious mavericks, which in turn attracted kindred spirits. It's partly why Google CEO Eric Schmidt was so keen on taking the job. Schmidt tagged himself as something of a risk taker when he quit as Sun's (SUNW) chief technology officer to join the ailing networking company Novell. Brin delights in saying that he and Page chose Schmidt because "he was the only candidate who had been to Burning Man."

The risk-taking culture at Google is fostered by a policy that encourages engineers to spend 20 percent of their time working on personal projects that may or may not benefit the company. The point is to get people thinking creatively and independently...

Even the aspects of Google that make it seem more like a kindergarten than a company worth billions—the lava lamps, the Segway scooters, the remote-control UFOs Brin and Page bought at Costco a while back for no particular reason—send an important message. They remind people that companies don't have to operate the way everyone thinks they're supposed to.

Read the entire story at [www.business2.com/b2/web/articles/0,17863,634420,00.html?ref=specials](http://www.business2.com/b2/web/articles/0,17863,634420,00.html?ref=specials)

Newsweek June 21, 2004

## For Microsoft, All Roads Lead to China



CHINA IS, WITHOUT any doubt, the only superpower who can seriously think of challenging US hegemony—politically, militarily, technologically, and even economically. Hence, it is only natural that Microsoft, the world's largest software company, has its second largest set up after its Redmond headquarters, in Mao's country.

Newsweek analyst Sarah Schafer wrote about how Bill Gates and his CEO Steve Ballmer are courting China for the company's next big foray.

Excerpts from the brilliant feature:

Microsoft's largest beachhead outside the United States is in the state most hostile to it: China. Since arriving in Beijing in 1990, the Gates empire has assembled a network of business operations, from research and development to sales and marketing to customer support, second only to its Redmond, Wash., hub. Bill Gates and CEO Steve Ballmer, whose minutes are managed as priceless commodities, regularly swoop into China for meetings, trying to find a way to make it in the elusive China market...

For Microsoft, the problem with doing business in China comes down mainly to one thing: piracy. Touts line the street outside a new \$80 million Microsoft research center in Beijing, steering customers through alleys to run-down apartments where bootleg copies of Microsoft Office and Word are peddled for about \$1, at least \$199 less than the global retail price. Ninety percent of Microsoft products used in China are pirated...

But in China the government has been sympathetic to the pirates, openly hostile to the Microsoft monopoly and officially embraced Linux. Cheap software has been critical to China's economic boom, and Beijing saw no upside to forcing citizens with an average annual income of \$1,000 to spend much of it on Windows.

The new Microsoft China strategy attempts to create a constituency for full-price software, starting with the political and business elite. This means improving customer support for big Chinese companies, helping Beijing develop a domestic software industry trained on and tied to Microsoft products, sharing more technology and easing up on buyers of pirated software (but not on pirates). In

September Microsoft made

Timothy Chen its new China CEO and the face of its softer strategy. Chen, a 10-year veteran of Motorola China, says he was drawn by a mandate from the top-Gates and Ballmer-to revamp the Microsoft operation. "They all wanted to see an integrated China strategy, a road map," says Chen. He has dropped "the threatening-letter approach" and focused on recruiting large corporations as paying customers: "If we do that, I think then the legal users will come."

Read the entire story at  
<http://www.msnbc.msn.com/id/5239397/site/newsweek/>



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Now doctors can look inside the brain with a new 4D precision to perform life-saving procedures that used to be impossible. The new *InsituNav*™ from GE is a true medical breakthrough in image-guided surgery. You don't have to be a brain surgeon to see why.

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fun, anyone? PlayStation 2

Up to four of your "friends" can play against each other as any one of 18 top WTA and ATP tennis players. So be sure, it can get just a little competitive.

PlayStation 2

[www.sony.com](http://www.sony.com)

### Bloody hell, we are still friends!

Sony Playstation 2, easily one of the world's best gaming consoles, has this to say to their users. Our question: Was there equal blood shed when this ad was created?



## Reality on the Shores of America



FOR LONG, ANURAG Mathur's bestselling novel *The Inscrutable Americans* has been the benchmark in the confused-desi-in-America genre in Indian writing. It remained on the Indian best-seller list for a record seven years with no signs of leaving the Top 10 club. S Mitra Kalita's *Suburban Sahibs*, although steeped in fact and technically not in the same genre as Mathur's fast-paced poke at Indians trying to find the 'real' America, tries hard to beat the notion of a confused diaspora created by Mathur and later propagated by various movie including 'American Born Confused Desi'. It is a sincere effort, worthy of praise, but you get the same feeling you get when you miss the dessert after a hearty meal—something, somewhere seems to be missing even if you feel full.

Kalita's credentials, though, are impeccable—she is a reporter with The Washington Post and the head of the prestigious New York-based South Asian Journalists Association—and her writing skills are

beyond reproach. Her ability to get detail out of the most trivial matter betrays her journalistic instincts.

She tracks the lives of three families wanting to make it big in the US, amongst which are people naturally wanting to make it big with their H1B visas—their passports to technological heaven. Without being too sentimental about it, Kalita writes about the rise and fall of the dotcom generation, and how the technology layoffs in the US hurt the Indian economy in their wake.

Most importantly, Kalita records reality—something most tend to ignore when they reach America's shores and view the country with rose-tinted glasses. Reality dawns, albeit a bit late.

It is this virtue that makes *Suburban Sahibs* a readable book. It is not an unputdownable book—but it is definitely a competent effort that made US Senator Bill Bradley say: "It is beautiful book to be enjoyed by all."

Aparna Krishnakumar

### Suburban Sahibs

Publisher **Penguin Books** Authors **S Mitra Kalita**  
Phone **011-2649 0361/4401** Fax **011-2649 4403** E-mail  
**customer.service@in.pengroup.com**  
Web site **www.penguinbooksindia.com** Price **Rs 250**

## No Better than a Rugby Game

FROM THE HARRY Potter books by J K Rowling, one would assume that Quidditch is a racy, lively game. But Electronic Arts hugely disappoints with *Harry Potter: Quidditch World Cup*, which is nothing but rugby played in the air.

QWC has great graphics, and the tutorials are good, too, compared to the previous Potter games. One major hurdle is that you must play a tutorial before starting a match against another house team.

Despite the beautiful design of the arenas or 'pitches', the gameplay gets sluggish and boring. You are forced to play more than half the matches at your own national stadium. The character porting is meticulous. Special moves are another cool aspect of the game. While holding the Quaffle, you get to perform special moves that help you score goals whopping fast.

EA screwed up even the innovative special moves. These moves cannot be



blocked, and this can get very frustrating. Even the control system disappoints. EA seems to have assumed that the gamepad is the standard PC peripheral. The layout of the keyboard commands is cumbersome.

The game is highly recommended for all Potter maniacs. However, chances are that the casual gamer will find he's better off playing FIFA 2004.

### Harry Potter: Quidditch World Cup

Publisher **Electronic Arts**  
Developer **Electronic Arts**  
Web site **harrypotter.ea.com**

## Swinging Times

JORDAN MECHNER'S *PRINCE of Persia*, developed by Broderbund Software back in the hoary days of yore, was a masterpiece. *Prince of Persia: The Sands of Time* (SOT) is the 3D sequel to that classic title, and it remains faithful to its predecessor in remarkably creative ways.

The game begins in medieval times, shortly after the Prince and his father the king have defeated a Maharajah and looted his palace.

You have to travel through the entirety

of the palace, use wits, acrobatics, the sword, avoid traps, kill enemies, fall and rewind, and... fall in love? Well, you do meet a beautiful princess and an intriguing sub-plot unfolds.

A major part of the gameplay lies with the Dagger of Time. If you fall off a cliff, miss a jump, fall down a ladder, or get lured into a trap, you activate the Dagger of Time, which turns back time before your eyes. The environments and dialogues are all top-notch.

This is a tough game to beat. If you liked *Prince*, you'll love *SOT*.

### Prince Of Persia: The Sands of Time (PS2)

Publisher **Ubisoft**  
Developer **Ubisoft Montreal**  
Web site **www.prince-of-persia.com**



5

TOP SELLING GAMES

1. **Harry Potter and the Prisoner of Azkaban**  
Rs. 530
2. **Grand Theft Auto Vice City**  
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3. **Cricket 2004**  
Rs 999
4. **Need For Speed Underground**  
Rs 1,299
5. **Lord of the Rings: Return of the King**  
Rs 1,299

List courtesy: Crossword, Mumbai

## Pixellated Art

Artist Claude Bosset has uploaded a 100 cm x 140 cm painting of a pixel to celebrate the picture element's 50th birthday. It is being auctioned for 500 Euros. Bollywood is making a film on Bosset called 'Hum Aapke Hain Con'.



## Booby Trap

An anonymous British scambaiter scammed Nigerian scamster Prince Joe Ebohby convincing him to join the Holy Church of the Order of the Red Breast. Prince painted his nipples red, paying \$80 as fees to the church.



Illustrations: Mahesh Benkar

# Escape

## PATENT REGIME

# Microsoft under your skin

IT biggie Microsoft was recently awarded a patent. Hmmm, so what? Companies such as Microsoft and IBM keep applying for patents, and keep getting them at regular intervals. What's so special about their latest

carry in the near future.

"As a result of carrying multiple portable electronic devices, there is often a significant amount of redundancy in terms of input/output devices included," says the patent application. "For example, a watch, a pager, a PDA and a radio may all include a speaker."

The filing sketches a plan to present a single, uniform interface to these devices. Of course, Microsoft sees these devices with really small form factors with time—so an earring which doubles as an earlobe to pick up a call, which your wristwatch (also powered by your skin) has just received.

Such a Personal Area Network (PAN) is currently served by Bluetooth wireless connections, but each

device carries its own LCD screen, batteries, keyboards, etc. Microsoft says it will crunch devices such as MP3 players, PDAs, etc., to make the power source manageable, and the data input method uniform and logical. We are waiting for this one!

## GETTING EVEN

# An adventure in spam

Got fired? Get your revenge by spamming your bosses. Then get taken in by the cops for all the trouble you caused. A 17-year-old clerk in the UK did just that.

After being asked to leave by UK insurance company Domestic & General for failing to fill in a time sheet, he



patent is this: the company has patented a process that makes use of human skin as a pathway to electronic data.

Patent No. 6,754,472 says that the human skin can be used not only as a power source, but also as a data path for innumerable gadgets that we are likely



## ChandigarhCity.com

It advertises itself as a guide to the city of Chandigarh. Which is fine. The Web site however throws a bevy of all-encompassing and vague links such as Art & Culture, Festivals, Religious, etc. burying the visitor under confusion and doubt. The worst of it is the choice of colours employed for a navigation tab: light text over a light background. Way to go!



downloaded a mail bomber and hit his erstwhile employers with five million e-mails. You read that right—five million.

The spam did the job, bringing the insurance company's Web site down and causing a monetary loss amounting to £18,000 (Rs 15 lakh). "All the e-mails were harmless..." he pointed. "I just wanted to cause them a bit of

Win!

## My desktop

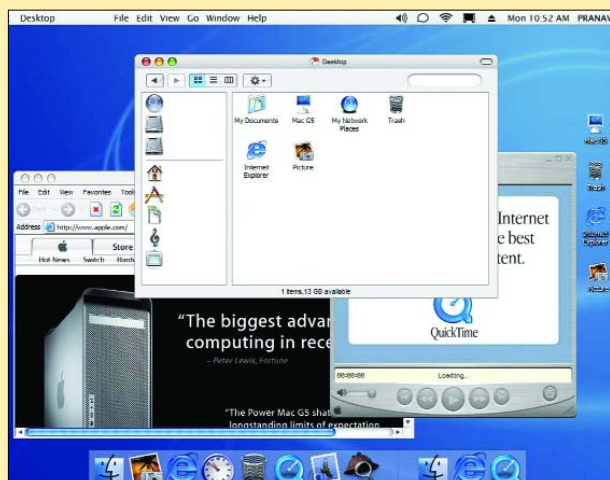
Think you got the most beautiful, most innovative desktop around? Send it to [mydesktop@thinkdigit.com](mailto:mydesktop@thinkdigit.com), and Digit shall publish the most eye-catching of them every month.



Sponsored by



The winning entry will win a cool Webcam worth Rs 1200. This month's winner is Pranav Naik.



The Windows that looks like a Mac: by Pranav Naik



## DigiPick of the month

### WIN!

An APUS Pen Drive worth Rs 2500 just by sharing an amusing picture which a tech angle to it.

Send your picture to [digipick@thinkdigit.com](mailto:digipick@thinkdigit.com). The prize-winning picture will be published every month.

**UMAX**



## Delete and Send to Recycle Bin?



**Tux as a Garbage Bin:** Bill Gates' fantasy comes true at Goa's Karmali Railway Station. Sent by **Rohini Sharma**, Goa

inconvenience." The damage was far in excess to the bit of trouble he was looking to cause as Scotland Yard's computer crime unit would attest to.

The law questioned him and then later released him on bail. If convicted, he faces a sentence of up to six months in jail or a maximum fine of £5,000. We await the book deal—Tom Clancy's Spam Force!

### POVERTY LINE

## Being Microsoft

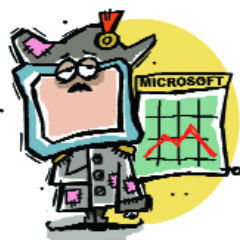
OK, don't laugh. Microsoft CEO says that the \$50-plus billion Microsoft is not as rich as it sounds. According to Bill Gates' chosen top man, stories of unfathomable riches are, just like Mark Twain's death we would presume, greatly exaggerated.

In a sermon e-mail to his staff, he intoned the pitfalls of capitalism, "We're a technology company with a lot of growth opportunities... Our

cash needs are always bigger than naked-eye observers might think," he then stepped down from his throne of solid-gold, removed his hat made up of US greenbacks and took a dive into the cash-pool, Uncle Scrooge style.

**The \$50-plus billion Microsoft is not as rich as it sounds, says the software giant's CEO, Steve Ballmer**

According to Ballmer, a hiccup in the cash flow came about when Microsoft spent, while the rest of the industry hung to dear paisa. This was circa economic-slump, which saw companies shed workers like yesterday's fashion; Microsoft, Ballmer said, was then busy investing while revenue was trying to catch up to the associated runaway costs.



"This obviously is not a trend we can continue," he declared. "This year, we are targeting nearly \$1 billion (Rs 4,600 crore) in efficiency improvement and cost

reduction across the company, primarily by rethinking how we do things." The rethinking has already seen the death of a few cafeterias and a reduction in the discount that employees receive when purchasing Microsoft stock.

To end with a cheery note, Ballmer said that he was happy with the PC industry and expected much love in the form of money. Amen!

### OPEN AND SHUT CASE

## Open Source is Evil

And still on Microsoft, Alone for the road. The company's chairman and chief software architect, who answers to the name of Bill Gates, doesn't like Open Source software. At all. And he wants everyone to hate it too. Why? OK, here is the history behind the statement.

On a recent visit to Malaysia, he made it a point to scare governments and companies away from this fast-approaching threat to his business. Don't get us wrong, the Open Source movement is far from the messiah-of-the-masses that

## They changed Computing

## David J. Bradley

Few would achieve immortality for spending five minutes sitting in front of a computer. That is precisely what David J. Bradley, retired head of Systems Architecture, IBM and one of the twelve people behind the first IBM PC, has achieved.

None of us even pause and think of the serendipities that gave us little things that have changed our worlds. Take for instance the well known key combination [Ctrl]+[Alt]+[Del], the 'three-finger-salute'. Any



PC user would tell you that it is the holy elixir for hung sessions and crashed computers.

Every day, millions of Windows users reach for these keys in frustration, trepidation or even contempt, only to forget all about it a few minutes later.

Bradley joined IBM in 1975 as an engineer at Boca Raton, California. He wrote the famous piece of code in five minutes some time in 1980-81. His claim to fame comes from those five minutes. The idea was to reset the PC without having to actually turn off the power and then turn it back on.

David J. Bradley retired from IBM at the age of 55.



# Bluff

YOUR WAY THROUGH

## 3D Studio

We give you absolute gems from the 3DS Max roster of jargon to help you get your friends to drop their jaws when they meet you next.

### Space Warp

This one takes the literal meaning of space warp—it warps space within physical objects in a controlled fashion. The commonest “warps” are ripples in a rectangular surface, a sphere exploding, etc.

**Jaw-dropper** My boss is worse than a mailer daemon; tells me to finish projects on Monday, even if he gives them to me on Tuesday. The next time he annoys me I will space warp his face, and nuke his GS on the side.

**Con Meter** 6/10

### Gizmo

Traditionally, something your rich friend possessed, and something you always wanted. In 3DSMax, a Gizmo controls the modification of an object. It allows you to visualise the modification. If you bend a Bend modifier Gizmo, for instance, the object bends too.

**Jaw-dropper** This new personal trainer of mine, who I am paying Rs 1,500 per workout session, thinks he has access to my Modifier Gizmo. He makes me stretch and bend beyond limit!

Sometimes, I wonder why I am paying him to torture me. But give me a few months, and I will sack him. Then let's see who controls his Modifier Gizmo.

**Con Meter** 6/10

### Mental ray

No relation to Satyajit Ray! In 3DS Max, a Mental Ray is a cool tool that allows physically correct simulations of light reflections and refractions producing life like effects such as concentrated light reflection through water surface and realistic global reflection effects. Confused? Wait until you use it on your unsuspecting friends.

**Jaw-dropper** Sorry I got late for the party. My new Mental Ray draws out such great scenes that sometime I really get lost in them. Oh, the stuff it does. I wonder whether it is me or just my Mental Ray.

**Con Meter** 8/10

# A Redesign Riot

The House of Digit often plays host to Chaos. It visits during issue-closing night, sits at the back, plays bad music, spews corny jokes and come morning is ceremoniously thrown out kicking and screaming. As an irritating but tolerated mascot, Chaos is par for the course. This issue it overextended the visit. Occasion: The Digit Redesign.

The meetings weren't the 20-odd minute fests of ideas, but mutants weaned on 90 MB PowerPoint files, which charted the redesign course, mutants that feasted on the brain-dump of a million editors. Give or take. Thus fed, these beasts boasted of a minimum five-hour half-life. Writers, editors and designers emerged with groggy eyes, and a burning desire to see their loved ones, pronto!

This is not to say, we didn't have our fun—we persevered when we had to and had our small doses of entertainment while no one

was looking. So, shush, don't tell but: *Counter Strike—Condition Zero* is a splendid game indeed, table tennis can be tiring when played for three hours non-stop, PopCap's *Zuma* is addictive, *Lakshya* sucks, and DVDs have too much space, if you ask us.

We worked, we played, Chaos danced in glee. Someone described the scene as “the entropy of the universe, packed in one office”... There were new section-names to learn, new layouts to follow and much to everyone's chagrin, a lot more software to be tested for the DVD.

We did it though.

Now, for the first time in two months, the office is quiet as the rat-a-tat of keyboards ceases and the dust settles down. Everyone's tired; weeks of 16-hour days will do that. Even the veteran writers now proudly exhibit callused fingertips like battle scars. It is 3 in the morning, time to head home to estranged families. Hope you enjoy our labour of love. Happy reading!



## DIGIT DIARY



statement that comes from a company known for the security-through-obscure approach to its products and customers. “Windows has opened up opportunities for computers and chips to be built in Asia.”

Which is true, but most of that software is pirated, which brings us to: the loss of tax revenue for governments Bill ascribed to, “when people don't pay for software.” As in pirated copies of Windows, Mr Gates?

He also pointed out that software piracy is on the decline in Asia. What he failed to mention however is the fact that Microsoft is now selling a ‘Lite’ version of Windows XP in Thailand and Malaysia—light on the wallet—something which wouldn't have been possible if Linux was not gaining popularity in those markets. Competition, good.

Perhaps next time, Bill Gates would deem us intelligent enough to address real concerns on Open Source and its progeny, until then, thanks for the laughs!

## FERTILE IMAGINATION

# Calling all sperm

That irritating ringtone could be ringing in news more dire than a missed meeting. Carrying a mobile phone in your trouser or jeans pocket could cut sperm count by nearly 30 per cent. This news came from a Hungarian study conducted by the department of obstetrics and gynaecology at the University of Szeged.

“The prolonged use of cell phones may have a



negative effect on sperm production and male fertility,” said Dr Imre Fejes. Fejes and his team analysed sperm from 221 men and questioned them about

# whatweretheythinking.com



www.lonelysocks.co.uk

"DID THE DOG get into my cupboard? Is there a vandal on the loose? Help, police, I've been robbed!"

After a thorough investigation, all hope of ever finding the missing twin is abandoned. Years pass—you don't heal. People come over with treats, to try and console you—it doesn't work. Your friends tell you that life just isn't fair sometimes, and recount their losses of

one of their twins—but yours was special. Nothing stops the pain and irritation of losing one of a pair. "They were born together; they serviced me for years together. How could someone take one and leave the other? How lonely they must be; they, and all like them, are meant to exist, again, together!", you tell your sympathisers.

Yes, it can be terrible to lose a sock! What can you do with one sock? A single sock has no purpose in life. It's meaningless. However, throwing it away is just not an option. So you get out a camera, take a picture and post it on Lonelysocks.co.uk. How does this help? It's the odds of probability at work here: Each sock manufacturer makes at least 10,000 identical pairs of socks. At least 5,000 people living near you probably buy clothes from the same store as you. Chances are 100 of these people bought the same pair of socks that you did. And finally, one of those 100 people has to be as careless as you, and lose one of his or her socks.

So why throw away a perfectly good sock? Just give it to someone who could reunite your sock with its twin. Right?

Ok so this is just our wildest guess at trying to figure out what the makers of this site were thinking. Tell us if you have any interesting theories, write to us at [WWTT@thinkdigit.com](mailto:WWTT@thinkdigit.com).

their use of mobile phones to correlate between the two. They found links between a cell phone, even in a standby mode, and reduced sperm concentration and quality.

Professor Hans Evers, a past president of the society was sceptical, "It appears not to take into account the many potential confounding factors that could have skewed the results," factors such as stress levels, the type of jobs the men have and whether they smoked, which could all influence sperm count.

## SHY GUYS

# Homepage owners put on the couch

Owners of homepages are shy, sensitive to criticism and suffer from low self-esteem. Oh, and most of them are likely male. Researchers at the Chemnitz University of

Technology in Germany interviewed more than 300 Web page owners to arrive at the series of conclusions. To all those who feel that homepages are an altar to the ego, an exercise in



narcissism, homage to trivial-pursuits of the HTML-skilled, an ode to... you get the point, the German researches would beg to disagree. They are a challenge to the timid, they said, a tool to transform their social anxiety into happiness, moreover the majority of homepage owners present themselves as naturally as possible to the world at large.

A fact that is slightly disturbing if you are a 35-year-old Satan-worshipping-vegan with a penchant for leather. ■

## Blog WATCH

Here's taking a look at a few riveting posts from the world of blogs. This month, we selected three interesting posts from Snipurl.com. Get an insight into the evolution of Google's famous doodles—from the creator himself. Muse over a fine comparison between TiVo and Windows Media Centre. Keep abreast of what's on offer at the looming fight over WLAN standard ratification

Googleblog  
<http://snipurl.com/7oud>

### Oodles of Doodles

My name is Dennis, and I'm the guy who draws the Google doodles. But the doodle tradition started here before I did. The first doodle was produced by (who else?) Larry and Sergey, who, when they attended the Burning Man festival in summer 1999, put a little stick figure on the home page logo in case the site crashed and someone wanted to know why nobody was answering the phone. By the time I began an internship here in the summer of 2000, the company was producing doodles on a regular basis. At the time I was a Stanford undergrad majoring in art and computer science, and, although I hadn't been hired to do anything remotely related to logo design, I eventually stumbled into my first doodle gig (Bastille Day, July 2000, for which I did a fairly boring flag motif).

Michael Gartenberg  
<http://snipurl.com/7o8w>

### TiVo comparison to Windows Media Center

I've spent a lot of time with both of them (and a few others) over the last few months as we're wrapping up a major report on standalone DVRs such as MCE and TiVo. There are other issues that need to be balanced. First, the PC is more flexible. If I want to store and view my pictures, music and other video content, burn to DVD, copy to a portable media player and stream that content to other devices in my home, I can do that

with the PC, and not with the TiVo. The MCE EPG is also more flexible. Try and record the West Wing on TiVo, just the 7 pm episodes shown on channel 44, not the other broadcasts. You can't do it. It's a snap on MCE (Why would you want to? To record a series according to airdates, so you can watch the episodes in order). On the other hand, my TiVo never crashed, locked up, missed a scheduled record, or any other annoying issue.

The Wireless Weblog  
<http://snipurl.com/7o8x>

### Big Fight Looming Over WLAN Standard Ratification

Next week's IEEE 802 plenary will surely feature fireworks between some of the big names in the next-generation wireless LAN world, including Sony, Intel, Texas Instruments, and Motorola. What's at stake is the ratification of a 802.11n WLAN standard that will enable rates of between 100 and 200 Mbits/s. Whomever is on the "winning side" of the debate could eventually see gigantic revenues in the forthcoming high-rate wireless audio, video, and data streaming marketplace. The 802.11n task group (TGN) will meet in Portland, Oregon, next week as part of the IEEE 802 plenary. It will sort through 61 proposals in search of a next-generation wireless LAN (WLAN) standard that will enable rates of between 100 and 200 Mbits/s, at least double that of current 802.11g/a standards.

techno\_funky

Joined **02 Dec 2003**

Posts **776**

Location **Mumbai**

Post Subject **Digitized!**

Bill Gates has been staring into his crystal ball and sees no future for the DVD. In an article published in the German mass-circulation daily *Bild*, Gates reckoned that DVD technology would be "obsolete in 10 years at the latest." He said the concept of carrying around film and music on little silver discs to stick them into a computer was ridiculous. He moaned that DVDs could get scratched or get lost.

Gates said that the home computer will know who we are from our voice or our face. It will know what we want to watch, or what the kids shouldn't be allowed to see. Here the crystal ball clouded over due to a blue screen of death. Bill's predictions and his crystal balls can be a little inaccurate. He once said that there was no future in that little networking novelty called the Internet!

\*\*\*\*\*

deleted\_empathy

Joined **04 Jul 2004**

Posts **45**

Posted **Wed Mar 17, 2004 10:03 am**

Post Subject **Warmed-Up Nerd**

Bill Gates says a lot of things. He was of the opinion that 640 KB of memory will be more than what one will ever need. He also said that Linux is just a '60s technology wrapped in a new package. How come then that '60s technology and its various cousins still give those Microsoft guys sleepless nights when they think of the server market?

Everything evolves. Dumb people keep getting replaced by saner, efficient ones. Quite on the lines of the Theory of Evolution. I have referred to Charles Darwin, though I personally feel he didn't have that great traits of intelligence, which many associate him with, but that's another story.

Technology is no exception. Most of the current-generation DVD technology, for example, is based on the red part of the light spectrum. The efficiency can be—and this is already being done—increased moving further down the spectrum and selecting lower wavelengths. Then come the different concepts themselves. Like those cool 3D holographic methods, for example.

So I am not surprised that Bill Gates had to rack his brain to come up with the idea of DVDs having no future. Which can be obvious to a 10-year-old school dropout as well!

## Mail order

E-mail users across the world should be indebted to Google. It wasn't until Google changed the rules of the game that free e-mail service providers Yahoo, Hotmail and Rediff woke up and went beyond the 2 MB to 6 MB limits they had.



The result was that, literally, all our important e-mail had to be deleted in the name of housekeeping. Not any longer. Google's announcement of 1000 MB inboxes left the rest scurrying to increase the size of their e-mail boxes. Now our *desi* Rediff offers 1 GB (24 MB more than Google!); Yahoo gives 100 MB; and Hotmail has promised a 250 MB free e-mail box.

So what would distinguish one from the other? Two things: service and spam. Factors such as accessibility, recall and speed would ensure better service. As for spam, Bayesian filters seem all set to become the standard to battle it, and so it is left to be seen who wins the race.

Until then—just as we did with search—let us thank Google.

**Madhulika Mathur**  
Agra

## SMS alert

Until recently, SMS was a great way to communicate. It opened a new window of opportunity to shy people who otherwise would not have gathered the courage to say something.

However, the fun things about a new, useful technology have lasted only this long. Of late, SMS spoofing has become alarmingly common. So much so that people have started distrusting messages from their own friends and family members. SMS spam is another hazard people have come to accept.

The question is: Do we really need to? While SMS spam violates the privacy of cell phone users, spoofing is set to bolster fraud. Tricksters can now make use of Web-based software specifically meant to

defraud through SMS. One can send misleading messages to people by using the cell phone numbers of other people. The person whose number is used wouldn't even know that his number is being used in sending messages to others.

The biggest bother is that one is helpless to mobile phone spam, as unsolicited messages cannot be blocked. Only a ban on advertising through SMS can stop this nuisance.

**Ashu D'Souza**  
Mysore

## Wake up, Google!

Looks like Google has competition. I recently read about a new search engine called Blinks, developed by Kathy Rittweger and Suranga Chandratillake. Some say it has an edge over Google because it doesn't just search the Web but also crawls news sites, e-mail attachments, our hard disk, and also blogs.



One has to download the Blinks windows client, which automatically finds Web pages and documents related to the content of the active window or based on a specific query.

Also, Blinks claims to use artificial intelligence to rate stories—not page rankings like Google. My fellow Digit readers can download a beta version on <http://www.blinks.com/>.

Will it beat Google. We don't know that yet.

**Satyabrat Chakraborty**  
Rourkela

## Thank you for the story

The July issue of *Digit* fed me to the gills every bit of information about cellular phones—be they the regular ones, or camera phones, or even smart phones.

All I can say is, thank you.

Having said that I would also like to





## Write to the Editor

E-mail [editor@thinkdigit.com](mailto:editor@thinkdigit.com)

**Snail Mail** The Editor, Digit, D-222/2, Om Sagar Building, MIDC, TTC Industrial Estate, Nerul, Navi Mumbai 400 706.

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# Inbox

add that even though urban and semi-urban centres in India (even rural, for that matter) have caught the mobile fever, there are still a few who stubbornly do not use cell phones. And these primarily include celebrities.

They may have their own reasons (or do they want to show-off?) for not carrying a cell phone, but I guess the market hasn't suffered from such anti-cell propaganda since this technology propagates something that we all need: communication. It's this very need that mankind has felt since time immemorial and the cell fulfills that in as small a form as it can get!

Thank you, Digit, for reminding us of this fundamental need.

**Meera Jain**  
via e-mail

## Love us? Hate us? Tell us!

Dear Reader,

The September pages of Inbox will be dedicated to your opinion of the new Digit. Did you like the new features? Did you like its people-centric approach? What do you feel of the all new sections? Did you love the DVD, or did you hate it?

No matter what you feel or opine, tell us. We would love to hear from you. Write to us at [editor@thinkdigit.com](mailto:editor@thinkdigit.com)

**Executive Editor**

## Asking for a balance

Your July issue was quite busy—full of articles that were of real value to the average reader rather than just concentrating on just hardware and software reviews.

Just when it was time for everyone to file their tax returns, you came up with a review of accounting and taxation software, which was refreshingly welcome. Even the article on IT jobs was good, but it needed a lot more inputs about personal experiences from job seekers, to be able to cover both angles in entirety. Perhaps space constraints caused you to commit the lesser of the two evils, as improper coverage of the employers' perspective would just be criminal.

The 'Tips & Tricks' on Easter Eggs

was 100 per cent entertaining, and 0 per cent beneficial—make that 50-50 at least the next time. For a gamer like me, the layout of the 'Game Cheats' section was confusing. The white boxes all over the place with text on a green background made for some terrible reading.

**Warren Dias**  
Delhi

## Usability is important too

Thank you for the special section on cell phones in the July issue, particularly smart phones.

But I think usability is a key criterion while purchasing cell phones. The 'eye-shaped' Nokia 7600, for example, has a radical design, but I am not sure how comfortable it would be



to handle and use everyday, even for people who can afford the handset.

It seems to me that designers should not compromise on usability just to catch the customer's eye.

**Saket Sharma**  
Via e-mail



## Goof ups

On Page 134 of the July 2004 issue, in the review of College Pro Science CD, you have mentioned two prices for the same product—Rs 1,350 and Rs 1,995. So which one is correct?

**Sachin Sharma**

Dear Sachin,  
The exact price of College Science Pro is Rs 1,350. We apologise for the error.

Notice any **goof-ups**?  
Write to [goof@jasubhai.com](mailto:goof@jasubhai.com)

## Just do it

Vipul Shah's column in the July 2004 issue of Digit ('Dear minister, Lend Me An Ear') was well timed. As a nation though, we are already late. Our illogical duties and exorbitant bandwidth prices have done their bit to stunt the growth of the Internet in particular, and information technology in general.

Shah's column article stokes a passionate issue for any serious Internet user or enthusiast. Indians don't realise this until their chat buddies abroad tell you about their 512 Kbps and 1.5 Mbps Internet connections (512 K has almost become the standard speed for any casual broadband connection abroad). So much so that broadband seems to be a misnomer in India.

Moreover, ISPs are poorly configured. You can very well surf the Internet, but try doing something a bit more advanced like running a SHOUTcast server from your desktop, or using a P2P application, and you will usually find yourself behind a restrictive firewall or a Network Address Translator (NAT). Port forwarding is a solution, but your cablewallah administrator is either too reluctant to configure that for you, or just does not know how to do it.

Quality of Service is a term they have never heard of. Be it cellular operators or ISPs, there's no bottom limit to how much their services might degrade. They usually fix it sooner or later but ideally, a customer should be compensated for any sub-standard service meted out to him.

A common argument is that Chandrababu Naidu lost the state elections in Andhra Pradesh because he ignored basic needs of the people, especially the poor and agricultural class, at the cost of technological advancement. Maybe so. My point is that while a minister need not be saturated with IT-promoting ambitions, each minister in key positions should have an understanding of the importance of IT and how we lag in certain aspects plainly because of archaic policies.

Other Asian countries are already ahead of us. We cannot wait any longer. No Sir! We have to start now.

**Yuvan Sankrityayan**

LETTER  
OF THE  
MONTH

# Tabloid TECH

People And Events Who Grabbed Headlines—For Better Or For Worse

## Jobs lambasts Redmond company



Steve Jobs warns copycats

In his address at the 2004 Worldwide Developers Conference, last June, Steve Jobs made references to things that Apple users will be look-

ing forward to—larger and better displays, a vastly improved operating system, etc. The latest version of Mac OS X v10.3 is codenamed Panther. “People are trying to copy Panther,” Jobs said, referring to a Redmond, WA, company.

About banners making fun of Microsoft, Jobs said, “We’re having fun with that in the lobby.” One banner read, “Redmond, we have a problem.” One wonders what will happen when Longhorn debuts. Perhaps, we’ll then have banners saying “Cupertino, are your cash registers kaput?”

## Gates plays the soothsayer again



Not quite Nostradamus?

At the World Economic Forum in Switzerland, Gates said, “Two years from now,

spam will be solved.”

Seven months later, spam is worse than ever. Delegates at an ITU spam conference in early July aim to control the ‘modern day epidemic’ of spam, again, within two years. Looks like it’ll always be ‘two years’, just because Gates said it would.

Bill Gates has a penchant for doing a bad job at playing Nostradamus. “Spam gone in two years,” at a time when serious analysts are predicting that spam will kill e-mail. 640 K, anyone?

## SMS match ends in court

A recent competition in Malaysia, involving text messaging, had a \$45,000 car as the grand prize. The prize was to be awarded by comparing slogans submitted to by the 50 most prolific messagers.

Wong Jee Wai and her boyfriend, Siew Kam Hong, spent more than \$5,000 on their entries, and still couldn’t win! Their slogans weren’t good enough. Now, the couple is complaining, and want

their money back. They’ve even taken their case to a tribunal. Naturally, the tribunal rejected their claim.

Wai and Hong did win something—a motorcycle worth less than a third of what they’d spent on the messaging. How’s that for a consolation prize?

A couple of clichés fit the bill here: “Quality is more important than quantity,” maybe, and perhaps “Always read the fine print.”

## Angel’s mask off?

Frisky footage of Cameron Diaz in a steamy S&M video recently hit the Internet, in which she poses topless and ‘walks’ a leather-masked man like a dog.

The video—made in 1992

\$3.3 million from her.

The video captures Rutter taking photographs of Diaz, a model named Natasha, and a man in bondage gear during a ‘spec shoot’ of photos meant to build Diaz’s portfolio, but



Cameron Diaz fights skeletons from the past

when Diaz was a 19-year-old model—shows the *Charlie’s Angels* star spraying her breasts with a can of compressed air.

The footage was shot by photographer John Rutter, who has since been involved in a legal battle with Diaz after she accused him of trying to extort

never published.

Rutter is currently out on bail, and has filed a \$10 million countersuit against Diaz for fraud and breach of contract. Last March, a judge denied Diaz’s request to dismiss Rutter’s fraud countersuit.

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- 2 Enter this 16-digit code and score points (you will find your code at this place every issue)
- 3 Your points get added every month and can be redeemed for exciting gifts!

