KODI

Why it's better than ever!

(and *lightning fast*)

Essential new tools and add-ons p40

- ✓ Add voice control
- ✓ Unlock new shortcuts
- ✓ Run Kodi from an SD card
- ✓ Play classic games for free
- ✓ Watch YouTube and iPlayer
- ✓ Build your own Kodi box

only **£2.10**

44

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USED & TRUSTED BY MILLIONS...

EASIEST VPN EVER

No clunky software needed **p56**

WINDOWS 10's NEW UPDATE

Eight tools to master – one you should NEVER USE **p64**

Kodi's still alive and streaming

"**C**ould Kodi be dead by the end of the year?" asked the *Herald* in March. "Is this the final blow for Kodi?" screamed the *Mail* in June. "End of Kodi?" pondered the *Express* in September. What a year it's been for speculation and misinformation about a name that few newspapers had even heard of 12 months ago. Legal trouble soon changed that, as dodgy add-ons, pirated streams and criminals flogging 'fully loaded' boxes threatened to 'kill' Kodi and ruin the media-streaming platform for its millions of loyal, law-abiding users.

In this issue's cover feature, we confirm that Kodi is very much alive, with an exciting new version – named after the late Carrie Fisher – due for release and plenty of brilliant legal add-ons to entertain you. We reveal our favourite tips and tools, and reflect on recent Kodi controversies, as well as providing official legal advice from anti-piracy body FACT to ensure you stay on the right side of the law.

Robert Irvine, Editor
robert_irvine@dennis.co.uk
#webuser
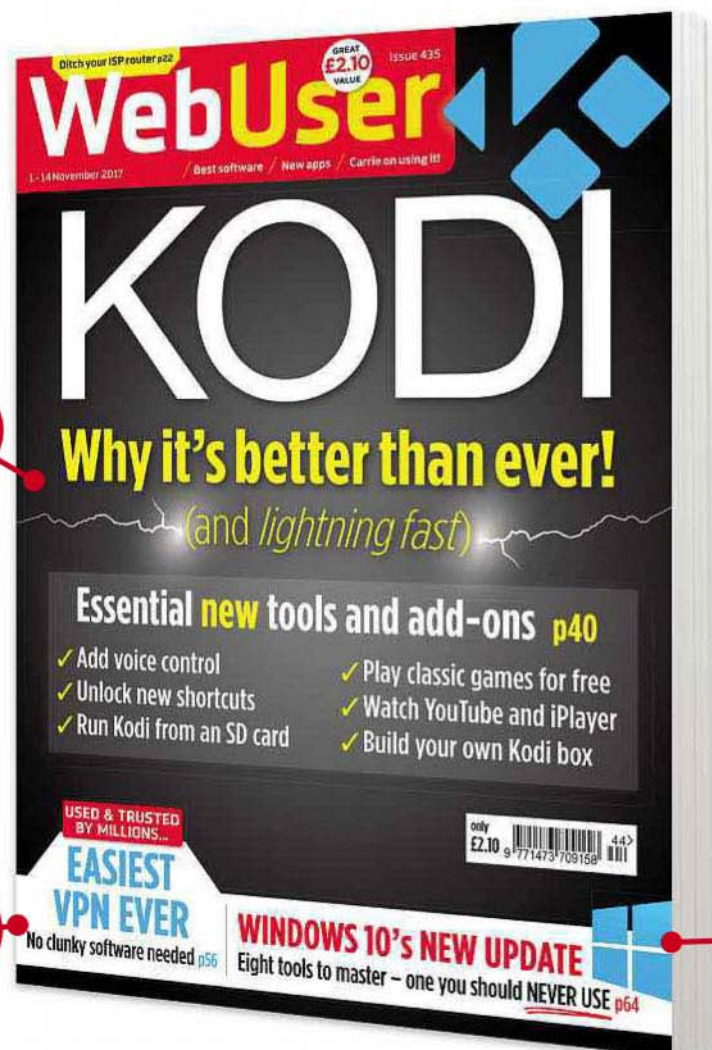
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abc Average sales, Jan-Dec 2016, 28,298 copies per issue

+ Share your knowledge at forum.webuser.co.uk

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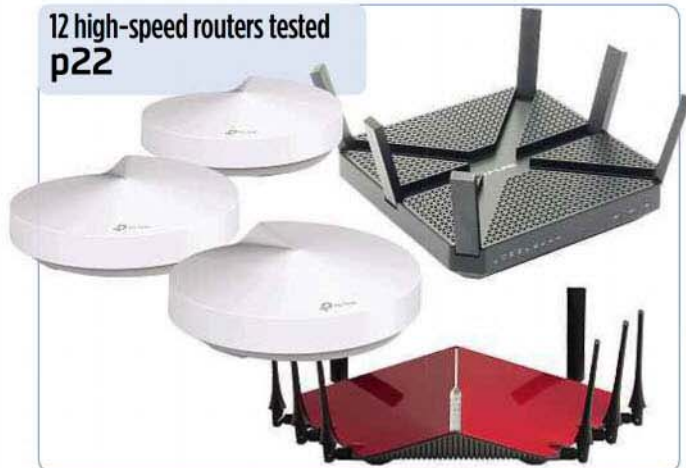
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What's New Online

Uncover secrets of the Solar System

Just over 20 years ago, the Cassini-Huygens mission – a collaboration between NASA, the European Space Agency and the Italian Space Agency – sent a probe to study Saturn. Over two decades, the probe sent back close to 500,000 images of the Solar System and, thanks to scientists piecing them together, you can now see space in all its glory via your browser.

There are 16 planets, moons and dwarf planets to explore, because Google Maps has supplemented Cassini's pictorial gems with images snapped from other missions. In each case, you can pick a celestial body, zoom in and out, tilt the view and get a good all-round look at the various aspects of our galaxy. You can also climb aboard the International Space Station and see the Solar System as astronauts have glimpsed it over the years.

You can also peer beneath the thick clouds of Titan to see methane lakes, and view the location on Enceladus where Cassini found water beneath the moon's crust. Click a label to get a brief description of an area.
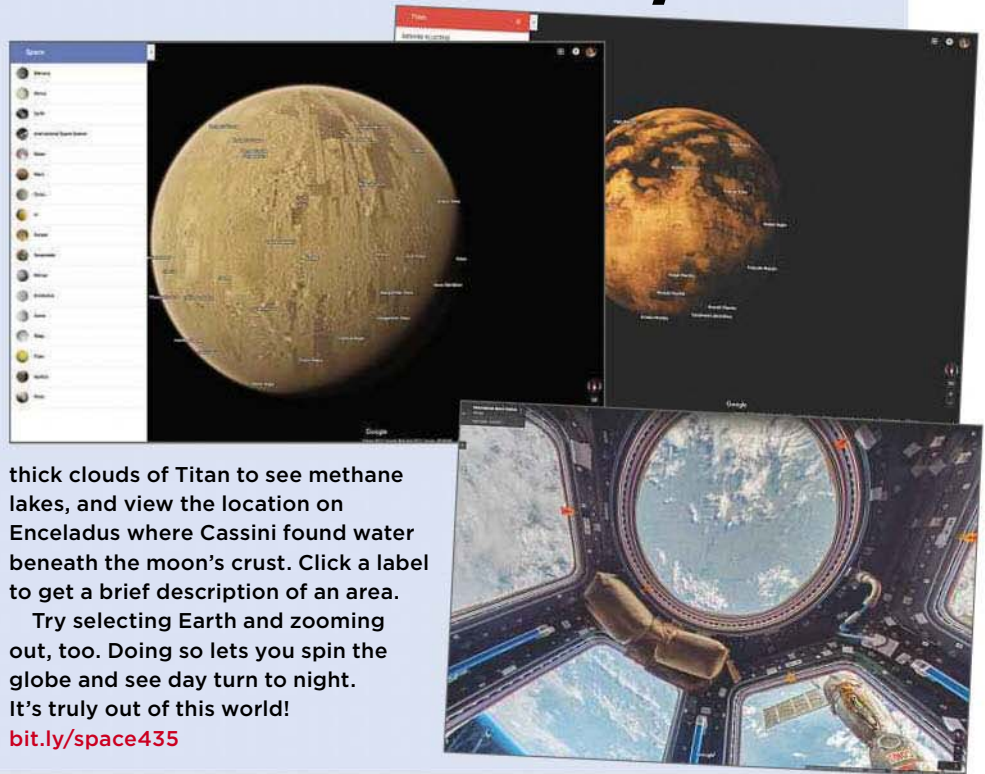
Try selecting Earth and zooming out, too. Doing so lets you spin the globe and see day turn to night. It's truly out of this world!
bit.ly/space435

Get behind the wheel of an Uber

ig.ft.com/uber-game

When Uber's London licence was revoked, it caused a furore, and the company has also been criticised for poor treatment of its drivers. You can find out for yourself what it's like to be an Uber driver by playing this shrewdly topical game. Created by the *Financial Times* and based on interviews with dozens of Uber drivers, it takes place over the course of a week and the idea is to earn $1,000. Selecting 'easy' means you live in San Francisco with cash in the bank, while 'hard' puts you in Sacramento with a bad credit rating, which gives you an idea of the challenge ahead. Progress through the game by answering a series of scenario-based questions that can have you driving for 30 minutes for no income, splashing your cash on car repairs and cleaning up vomit.

Teach a machine tricks using your webcam

bit.ly/teach435

If you're curious to know how machine learning works, you'll love this new experiment from Google. It lets you use your webcam to train a basic artificial-intelligence program, getting it to respond in fun ways with a GIF, sound or speech sample of your choice.

To get started, click the green, purple and orange buttons and make gestures in front of the camera. The machine will then recognise your actions and learn to match them with a response whenever it sees those gestures in the future. It takes a little time to get perfect results but there's a brilliant and comprehensive tutorial and some useful hints, tips and examples. None of this requires any coding and, since the experiment is conducted over a local neural network, your images are not sent to a Google server, either.
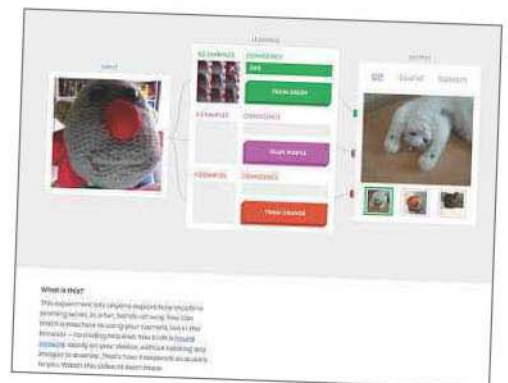
We pick the 10 best things you must do on the web this fortnight

Share your location in real time in WhatsApp

www.whatsapp.com

When you're chatting on WhatsApp, you can now share your location with others in real time and let them follow your movements until you decide to stop. It's a great way to give people directions and it's useful for safety, too. To use the new feature, tap the attachment icon, choose Location, select Share Live Location and specify a time period.

Check the altitude of planes

bit.ly/planes435

This new tool takes flight tracking to greater heights by letting you see the altitude of aeroplanes and helicopters as they fly across the globe. As well as searching for an airport and getting an overview of the number of aircraft reporting their positions, you can click anywhere on the map to see the planes close up: the larger icons represent aircraft flying at higher altitudes and the smaller icons show those closer to the ground. Hovering your mouse over any of these tells you the type of plane you're viewing and its altitude in feet. Where they've come from and where they are flying to remains a mystery, however.

Use the new Google Calendar

calendar.google.com

Google has redesigned its Calendar for the first time in six years, giving it a clean modern look and enhanced feature set. You can now better customise what you see; show or hide weekends; view an entire year at a glance; and look at two or more calendars from different people and places. You can also use the new event add screen; link to documents, spreadsheets and presentations; add rich text to your invites; and view and restore deleted items. To access the redesign, click the Use New Calendar option in the top-right corner.

Mess up your emoji

emoji.debijl.xyz

Drag and drop one of hundreds of emoji into the canvas area of this fun tool and you can rearrange the various bits to create something unique. Even better, if you bring in more than one emoji, you can mash up their features and really go to town. When you're finished, click Download and you can keep your redesigned emoji forever.

5 TO FOLLOW ON TWITTER

@youtubeartifact
This bot detects glitches in YouTube videos and turns them into works of art

@pennywise_dance
Pennywise the Dancing Clown from the *It* movie bops to a range of hits

@milliestopshate
Millie Bobby Brown – Eleven in *Stranger Things* – is determined to only post positive things

@SoVeryBritish
Hilariously astute observations on what makes our country so unique

@jonbonjovi
The 'Livin' on a Prayer' rocker has joined Twitter to impart his wisdom

Explore a Canadian National Park

bit.ly/national435

Street View ventures north to capture the splendour of Canada's Quttinirpaaq National Park. Just 500 miles from the North Pole, you can trek along the ocean shoreline and climb lofty ridges.

Play a game about paperclips

bit.ly/paperclips435

This mundane-sounding but highly addictive online game puts you in charge of a paperclip-making startup. Set the price, fret over stock inventories and benefit from automation, before tasking the AI with world problems.

Listen to Tomorrow's World

www.bbc.co.uk/tomorrowsworld

Presenters Britt Wray and Dr Ellie Cosgrave host a new *Tomorrow's World* podcast series, providing an insight into the latest scientific and technological developments. Boasting "high-end sound design", new episodes are added fortnightly.

Tell us your favourite new things at forum.webuser.co.uk

Wi-Fi flaw leaves nearly every device vulnerable

What happened?

A far-reaching flaw in the security system that protects Wi-Fi connections has had the security industry scrambling for a solution, but there's no reason for the rest of us to panic just yet.

The KRACK flaw – which stands for Key Reinstallation Attack – affects Wi-Fi networks using the WPA2 security protocol and was discovered by Mathy Vanhoef, a researcher at Belgian university KU Leuven.

When your phone, laptop or other device tries to connect to a wireless access point, such as a router, the two devices carry out a secret handshake to verify identities and encrypt the data being sent. The KRACK flaw potentially allows a skilled hacker to reset and rewatch that handshake, making it easier to guess, leaving your web browsing, messages and anything else you do online visible to that criminal. In theory, the hacker could even insert traffic in your connection, redirecting you to a malicious web page.

The flaw is particularly frightening because the WPA2 security standard was widely assumed to be safe, and because the vulnerability affects any router or device, regardless of the operating system or hardware.

On the positive side, it's not an easy flaw to exploit so the hacker would need to be highly skilled. Additionally, they would have to be within striking distance of your router and device,

lurking on your front lawn or hidden in your home – and if they're doing that, your Wi-Fi security is probably the least of your problems.

Meanwhile, plenty of companies have already patched the security flaw, with many more currently working on a solution. However, KRACK could prove to be a long-term security problem because some devices aren't as easily patched as phones and laptops, in particular smart-home gadgets and routers themselves.

How will it affect you?

The lesson from KRACK is to always keep your devices updated. If you have an update waiting on a smartphone, computer or other device, run it immediately – and make sure you always run other updates in a timely fashion to keep your devices safe from all bugs, even those that aren't as high profile as KRACK.

At the time of writing, Microsoft had already pushed out a patch for Windows devices, while Apple and Google were working on their own versions for iOS and Android.

Meanwhile, manufacturers of home hubs and routers, such as Amazon and Cisco, are also working on updates. Some of these devices are now designed to update automatically, but others require you to go into the admin panels. Don't be put off if the procedure looks complicated – it's worth searching online to find out how to do it, because keeping your router updated is good security practice.

That said, so long as one of the devices in every 'handshake' has the patch, you're safe. If your router hasn't been patched but your laptop and smartphone have, you've nothing to worry about from this particular flaw.

What do we think?

There are two lessons to learn from KRACK: we're not as safe as we think, and manufacturers need to ensure
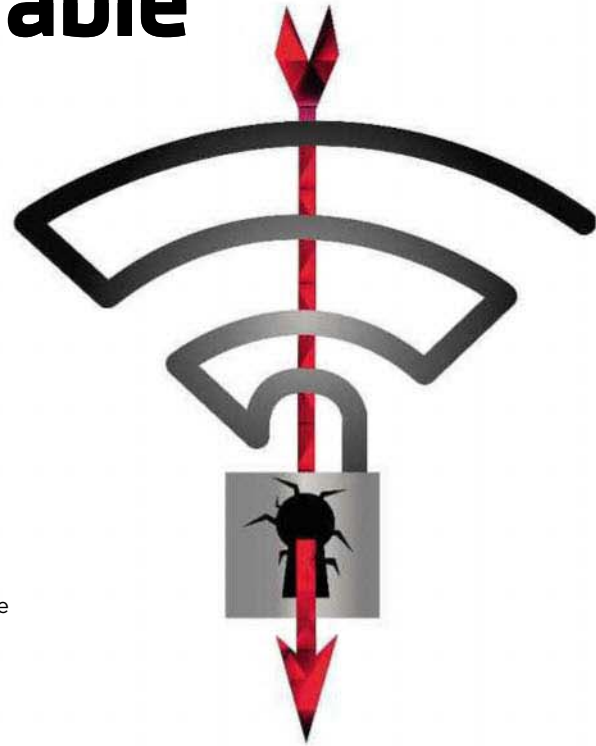
devices can be quickly updated.

This particular flaw alarmed security researchers because they thought WPA2 was safe, and it turned out to have a massive hole. It's a worthwhile reminder for such experts that nothing is ever perfect. If WPA2 is flawed, any other protocol, standard or protection could also have vulnerabilities. For web users, that means we need to take extra measures to protect ourselves. This bug can be avoided if you use a VPN (virtual private network) or if the website you're visiting is secured with HTTPS, as most bank and shopping sites are.

With regard to updates, there are plenty of devices, from routers to smart-home gadgets, that will never be updated to protect against the KRACK flaw – simply because the manufacturer didn't consider security when making the device. Routers in particular should have automatic or easy-to-install updates with interfaces that don't need an IT specialist to navigate. Keep that in mind next time you're buying connected devices or routers for your home – and don't buy any gadget that doesn't have basic measures to protect your security.

Belgian researcher Mathy Vanhoef discovered and named the KRACK flaw

What we think of this fortnight's top tech news stories and rumours, and how they affect you

Gmail adds advanced protection — for some

What happened?

Google has unveiled a set of new security tools called Advanced Protection Program, but they're not for general use. The new physical security key and settings have been developed for those at a high risk of targeted attacks, Google said, highlighting journalists, those in abusive relationships and political campaign managers.

The program offers three protective techniques, the first of which is a physical security key – a small USB or wireless device that adds two-factor authentication. To log in, you not only enter your password but also have to plug in or connect the encrypted key. If you don't have the key, you can't access the account.

Alongside the physical key, the program also limits which apps can be connected to your Gmail account and asks tougher questions for account recovery.

How will it affect you?

To sign up for Advanced Protection, you'll need a U2F security key – they're available from Amazon for a tenner – and must also use Chrome, because other browsers don't yet offer the required support.

However, you don't have to sign up for Advanced Protection if you just want to use this kind of key to protect your accounts. Google offers two-factor authentication for all its accounts – just go to the 'Sign in & security' section of your account settings and select 2-Step Verification.

You don't need to buy a physical key, either – you can just print a set of one-use codes, install a free authentication app or use a code or prompt sent to your phone.

What do we think?

It's high time tech companies got smarter about security. It's clear from the constant hacks that we need to take security into our own hands, and it's good to see Google giving us the tools to do so. Now, we need to take the time to install, use and understand such protection. Most of us are not high risk, but we could all use more security.

Google's strongest security for those who need it most

The Advanced Protection Program safeguards the personal Google Accounts of those most at risk of targeted attacks— like journalists, business leaders, and political campaign teams.

Twitter brings in new rules to tackle abuse

What happened?

Twitter has long been accused of not doing enough to halt abuse, hate speech and 'trolls', but now CEO Jack Dorsey has announced another set of measures that he hopes will improve the tone of conversation on the social network.

The tweaks to how Twitter deals with abusive users include better educating those who break the rules so they know exactly which line they've crossed, and automatically suspending accounts that use violence to advance a cause. Other moves include hiding offensive imagery and hate symbols, and banning user names that feature abusive language.

There's also a new system for appealing suspensions, after actress Rose McGowan was temporarily kicked off the site for posting a phone number – which is against the rules.

How will it affect you?

The new rules will roll out over the next few months – it may take until January for all the changes to be implemented. Well- behaved tweeters are unlikely to fall foul of the new rules, but if you are reported and find your account suspended, it should be easier to discover the details of what happened so you can appeal.

Much of the abuse on Twitter comes from anonymous accounts that can be easily set up by users who have been booted off the site, and these small changes aren't likely to make much difference.

What do we think?

It's no wonder Twitter is taking small, careful steps: every time the site makes the tiniest tweak, there's an angry outcry from its users. While it's sensible to carefully track the effects of each change before rolling out the next, abuse and harassment have long been a problem on the site and this change may be too little, too late. Twitter wants to be a place where people can discuss and debate meaningfully – but perhaps that was never possible with the site's 140-character limit.

Mobile networks are overcharging customers

What happened?

Consumer-rights group Citizens Advice has discovered that three of the four largest mobile-phone networks are overcharging their contract customers for handsets that they have finished paying for.

Customers of Vodafone, EE and Three who choose to stay on the same phone plan after their fixed deals end do not get their bills reduced, which means they pay – on average – an extra £22 a month, after the cost of their handset has already been covered. For contracts with high-end handsets, such as the iPhone 7, the Galaxy S8 and the Xperia XZ Premium, the extra cost can be as much as £38 per month.

When customers take out a handset-inclusive contract, the cost of the phone is paid in 24 monthly instalments. However, customers who stay on the same contract with their provider, instead of switching to a new contract or network, continue to be charged the same amount, even after the two-year period is up and their phone is paid off.

Gillian Guy, chief executive of Citizens Advice, said: "The way that the cost of handsets is hidden within some mobile phone contracts gives phone providers a way to exploit their customers".

How will it affect you?

It's important to keep a close eye on your mobile-phone bills and to know exactly when your contract ends so you don't fall victim to this kind of rip-off. Sometimes, providers notify you when your two years is nearly up, so they can persuade you to upgrade to a new handset, but – as the report from Citizens Advice shows – they may just keep quiet and keep charging you the same amount, even though you've already paid for your phone.

Citizens Advice found that 23% of over-65 year olds on this kind of contract stayed in it for more than 12 months past the end of the fixed-deal period, and has called for Ofcom to act to protect consumers.

What do we think?

Mobile-phone contracts are expensive enough without unscrupulous providers profiting from customers who continue to shell out for devices they've finished paying for, so we think this practice needs to stop. Our sister website IT Pro (www.itpro.co.uk) contacted the networks to challenge them about their overcharging. A spokesperson for Three said: "Whenever a new customer signs with us, we make the end-date of the contract term very clear". Similarly, an EE spokesperson said: "We send our customers regular updates about their options before and after they reach the end of their contract."

FIRST LOOK

Xbox One X
bit.ly/onex435

Microsoft is pitching its new Xbox One X as the world's most powerful games console. It's effectively a souped-up version of the Xbox One aimed at gamers with 4K TVs and deep pockets. It will be released on November 7 and cost £449.99, which is £100 more than its closest rival – the PlayStation 4 Pro.

The new console's design differs only marginally from that of the Xbox One S: it's black rather than white; the optical disc slot has moved a bit; and the USB port and infrared receiver have swapped sides. It's also fractionally bigger.

However, the Xbox One X significantly out-punches its rival in hardware specifications. It's capable of running at 6 teraflops, compared with the PS4 Pro's 4.2, and is equipped with an octa-core 2.3GHz processor and custom graphics processor capable of running at 1,172MHz. That's essentially double what the Xbox One S can manage.

It's hard to tell exactly what this will equate to across multiple titles and media apps, but from our hands-on session with the console, Assassin's Creed Origins looked precisely detailed and ran smoothly. As with the PS4 Pro, though, you're only going to get the full effect of this advantage if you have a 4K TV or projector.

Like the Xbox One S, it supports Ultra HD Blu-Ray – something that the PlayStation 4 Pro doesn't offer – and comes with the same Bluetooth controller introduced with the One S.

The Xbox One X is an impressive console that can provide a superlative sensory experience, but you need the right setup (and money to burn) to get the full effect of all it has to offer.

WHAT'S THE RUMOUR

Is broadband going to get 30 times faster?

A recent report found that the UK ranks 31st in the world for broadband, with average download speeds of only 16.5Mbps – only a little faster than the average 4G connection. However, this could be about to change because Researchers at University College London have developed new hardware that "provides consistently high-speed broadband... at more than 10,000 megabits-per-second (Mbps)".

The UK's consumer networks or 'optical access networks' currently require customers to share bandwidth and although the technology is cheap to run, it is not fit to meet future broadband needs.

In fibre-optic networks, data is transferred using different wavelengths – or colours – of light. To avoid customers having to share bandwidth, service providers would need to dedicate a wavelength to each customer. This is made possible with highly sensitive hardware known as coherent receivers, but these are costly and only financially viable on a large scale.

UCL's technology claims to solve the problem by changing how the signal is sent to customers, while also shrinking the receiver size. Scientists from the university's Optical Networks Group and the University of Cambridge used a simplified receiver on optical access networks to connect internet users directly to service providers. Data was sent 108km to eight users at speeds of at least 10Gbps, which is more than 30 times faster than the UK's current fastest broadband.
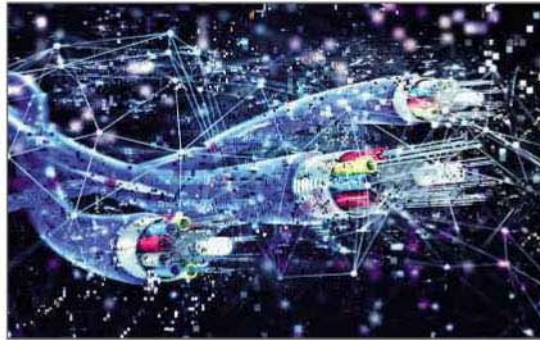
LIKELIHOOD RATING
✓✓✓✓✓

The new, simplified network receiver developed by UCL keeps many of the advantages of existing receivers, but it's simpler, cheaper and smaller, requiring just a quarter of the detectors used in standard models. The researchers said it can coexist with the current network infrastructure, so there's no reason why we shouldn't expect to see it rolled out in the UK in coming years.

What's new on Kickstarter
Our favourite new project on the crowdfunding site

Beacon Helmet
bit.ly/beacon435 | **From £125**

As the nights draw in, the roads become more dangerous for cyclists. Beacon Helmet aims to increase cycling safety and prevent 'blind-spot' accidents with a helmet that projects a bicycle-shaped laser image 5-12m in front of the cyclist. It also tackles dangerous overtaking by using side lasers to show the minimal (or legal) space around the cyclist that drivers should observe. The helmet is weather-resistant; offers brake and indicator lights; and features two speakers for voice navigation or music. The team hopes to raise £60,000 by 5 December.

WEBOMETER

WE LIKE...

↑ Loon restores internet in Puerto Rico
Mobile-data services have been given a boost in hurricane-hit Puerto Rico, thanks to an initiative from Google's parent company, Alphabet. Project Loon uses clusters of balloons to extend communications.

↑ Google uses rewards to make apps safer
Google Play has teamed up with bug-detection service HackerOne to create the Google Play Security Rewards System. Hackers can win up to $1,000 for finding flaws in popular Android apps.

WE DON'T LIKE...

↓ Half the UK has broadband problems
53% of all broadband users in the UK experience problems with their ISP, with slow speeds, rising prices and router failures among the most common complaints, according to a survey by *Which*.

↓ Pixel 2 XL affected by screen burn
Google is 'actively investigating' claims that its new Google Pixel 2 XL has a problem with screen burn. Ghostly imprints of buttons can reportedly be seen on the screen, even when they're not being displayed.

Stay Safe Online

News about the latest threats and advice from security experts

SECURITY ALERT! | What's been bothering us this fortnight

Security flaws found in children's smartwatches

Some smartwatches designed for children could be vulnerable to hackers, according to a new report. The Norwegian Consumer Council (NCC) and the security firm Mnemonic tested watches from brands including Gator and GPS for Kids, and found significant security flaws in the GPS devices.

The five vulnerabilities identified include unauthorised access, remote-audio surveillance (allowing young users to be eavesdropped on), location spoofing, insecure storage of data and a compromised 'SOS' feature (intended to let children instantly call their parents).

Mnemonic warned: "the flaws are not technically difficult to exploit and, in two cases, allow a third party to covertly take control over the watch".

Consumer-rights watchdog *Which* called the watches "shoddy" and said parents would be shocked if they were aware of the risks. "Safety and security should be the absolute priority. If that can't be guaranteed, then the products should not be sold."

The manufacturers involved say the problems with the smartwatches, which are sold by retailers including John Lewis, have either already been resolved or are being addressed.
bit.ly/watches435

UK companies are not prepared for cyber-attacks

Despite the growing threat of cybercrime, new research has shown that businesses in the UK are failing to effectively prepare themselves for an attack.

A study conducted by PwC found that almost half of UK companies lack a dedicated team to deal with security issues, and more than 15% do not conduct any cybersecurity drills or preparations.

The report also found that a third of companies have no idea how many cyber-attacks they suffered in the past year, or how the attacks they fell victim to were carried out.

PwC said that for UK companies, the biggest risk comes from their own employees, with more than a quarter of attacks originating from the actions of staff members. This is compared to the rest of the world, where compromised mobile devices present the most common threat.

"Cybersecurity needs to be viewed as a 'team sport,'" said a PwC spokesman. "To be most effective, everyone in an organisation should be considering the security implications of their actions."
bit.ly/cyber435

Security Helpdesk | Your questions answered by security specialists

**THIS ISSUE'S EXPERT:
Marty Kamden,
CMO of NordVPN
(www.nordvpn.com)**

Q How worried should we be about the Wi-Fi flaw that's been discovered (see news story on page 8)?
James Bowden, Twitter

A Pretty worried. Past experience shows that these types of vulnerabilities don't get easily fixed. Some devices will get a firmware update, but many home users might not know how to apply it or may not have enough information about how to deal with the threat.

ISPs can take a long time to switch to routers with a safer protocol. For example, when the WEP protocol was cracked in 2001, it took years for ISPs to provide routers with WPA and WPA2 enabled by default, leaving many customers at risk of attacks.

Everyone should assume that their wireless network is now vulnerable, and take precautions. First of all, you should assume that any

> **Everyone should assume that their wireless network is now vulnerable**

wireless network is vulnerable to potential breaches and take necessary precautions. At the very least, you need to use HTTPS connections whenever possible, but that still won't provide full protection for your devices.

Virtual Private Networks – VPNs – remain the strongest defence against these types of vulnerabilities. A VPN will add an extra layer of security to your Wi-Fi network by rerouting your online data through a 'tunnel' secured with military-grade encryption, ensuring that no third parties can eavesdrop on it. However, your devices must be connected to a VPN from within your network because a VPN will not protect you if it's configured on your router.

What's more, you should look for security patches for all smart gadgets in your house. Depending on their configurations, they could be hacked to leak data, and allow hackers to copy or change your passwords.

Email us your security questions at webuser@dennis.co.uk

Best New Websites

Site of the Fortnight

MUSEUM — RELAUNCH

Science Museum

www.sciencemuseum.org.uk

London's Science Museum has been experimenting with a new website and the result is overwhelmingly positive. Making better use of the browser's width, it instantly introduces its latest exhibits and lets you discover what's on and when by exploring its drop-down menus. Video and animation make the site feel less static, bringing energy to the overall design. But the main attraction is the huge online collection. By pooling objects and archives from its other museums in the North, you can now search and filter 250,000 items, with many interesting collections flagged for your attention. It's a fantastic resource.

Our rating ★★★★★
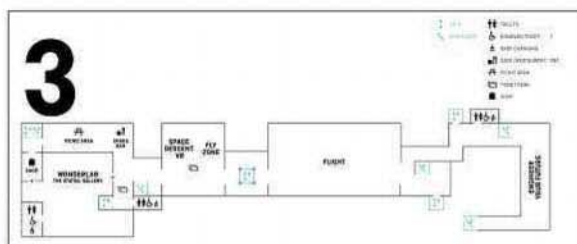
VISITOR INFO
Download a map of the museum, check the opening times and find out how to get there

SEE AND DO
Use the menus to select a date, choose an age range or select a type of experience

SCIENCE MUSEUM

WONDERLAB: THE STATOIL GALLERY IS

ILLUMINATIN
A CELEBRATION OF INDIA'S CONTRIBUTI

FIND OUT MORE →

EXHIBITION ROAD
SOUTH KENSINGTON
LONDON SW7 2DD
VIEW ON GOOGLE MAPS

OPEN DAILY
10.00–18.00

HISTORY — NEW

The Thistlegorm Project

thethistlegormproject.com

Plunge deep into the delights of this underwater project to learn about the remains of the SS Thistlegorm, which was sunk by a German bomber in 1941 off the coast of Egypt. You can read lots of information about the wreck's history and the subsequent survey, and discover why it's under threat. What's more, you get to check out a set of stunning interactive 3D models, with an option to view them through Google Cardboard, and take a virtual dive through a 360-degree underwater video taken from five different perspectives around the wreck. There's no denying the depth of detail here and you can really feel the enthusiasm of the marine archaeological team.

Our rating ★★★★★

CASHBACK — NEW

Boom25

boom25.com

Cashback sites have become a routine part of online shopping for many web users. But what if there was a service that promised to refund your entire shop? That's what Boom25 does for every 25th shopper who uses its site to buy an item. Simply search for a retailer via the prominent search bar, make a purchase and cross your fingers in the hope that you've won. The downside is that you don't get cashback on every purchase since the affiliate money is pooled to pay the winner. It's also limited to just under 600 retailers which is far fewer than TopCashback and Quidco.

Our rating ★★★★☆

Reviews by David Crookes

We review this fortnight's best new and relaunched websites and rate them for content, design and features
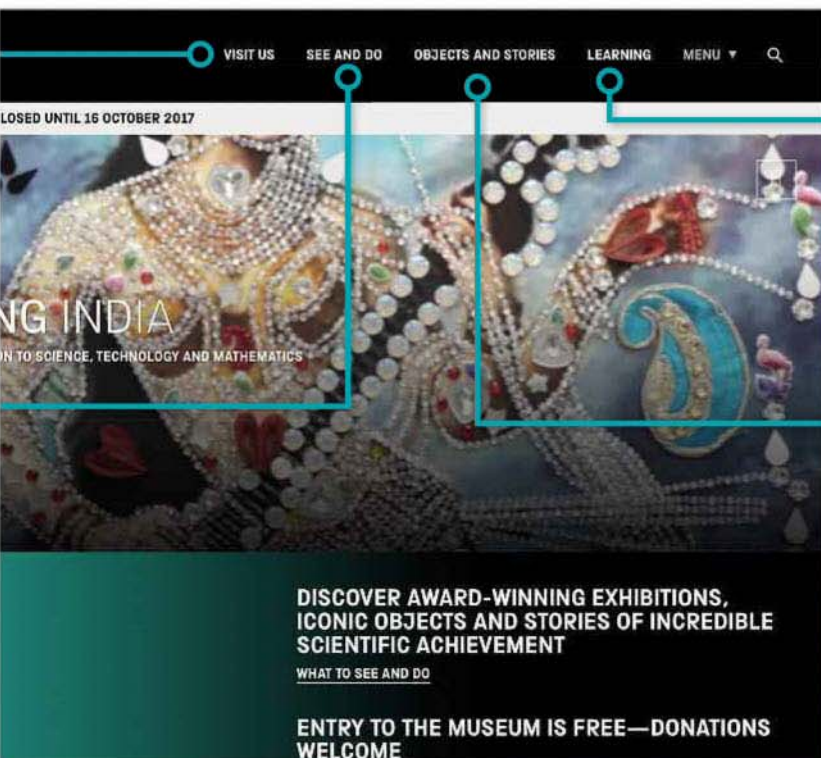
RESOURCES
There are lots of resources for children including 3D objects and maker projects

OBJECTS AND STORIES
Search the objects and archives of the Science Museum and its partner museums

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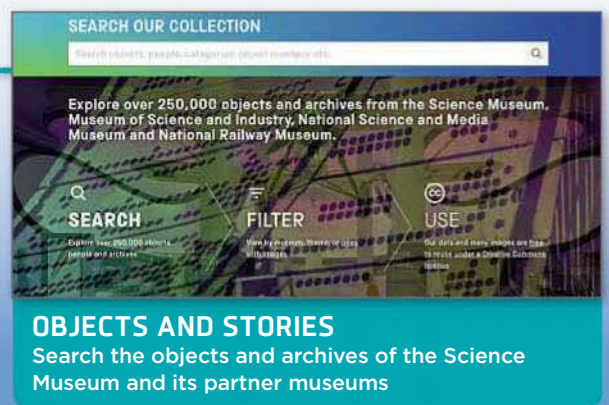
LITERATURE `NEW`

Reimagining Wordsworth

www.reimaginingwordsworth.org.uk

"This morning gives us promise of a glorious day," wrote Wordsworth, and this well-presented site, created by a group seeking to modernise Wordsworth Museum in Cumbria, similarly predicts wonderful things to come. You can read about the plans, make donations and check progress on the project, as well as read extracts from the poet's work. Sadly, it's rather lacking in detail and the news is out of date, but the sweeping footage of the majestic Lake District scenery is breathtaking.

Our rating ★★★☆☆

INFORMATION `NEW`

Ethnicity Facts and Figures

bit.ly/ethnic435

The lack of visual flair in this government site is made up for by its sheer volume of data. You can explore the influence of ethnicity in the UK across six wide-ranging topics: crime, culture, education, health, housing and work. A variety of sub-topics offer a summary of the main facts along with explanations, graphs, charts and tables. There are even downloadable data sets and images, along with details of the data sources and methodology. You can't help but be impressed by the scope of the site, and it's all rather eye-opening, too.

Our rating ★★★★☆

FRAUD `NEW`

FraudSmart

www.fraudsmart.ie

Online fraud is becoming ever more sophisticated and remains a growing threat, so any website that gives solid advice to the general public and business has our support. FraudSmart is packed with info about various frauds, including those carried out by email and phone, and it does a great job of explaining how scams work and what you should look out for. There's a wide selection of downloadable PDFs, along with a jargon buster and lots of updated news on the latest fraud trends. The only downside for UK users is that – being an Irish site – the contacts are all based in Ireland.

Our rating ★★★★☆
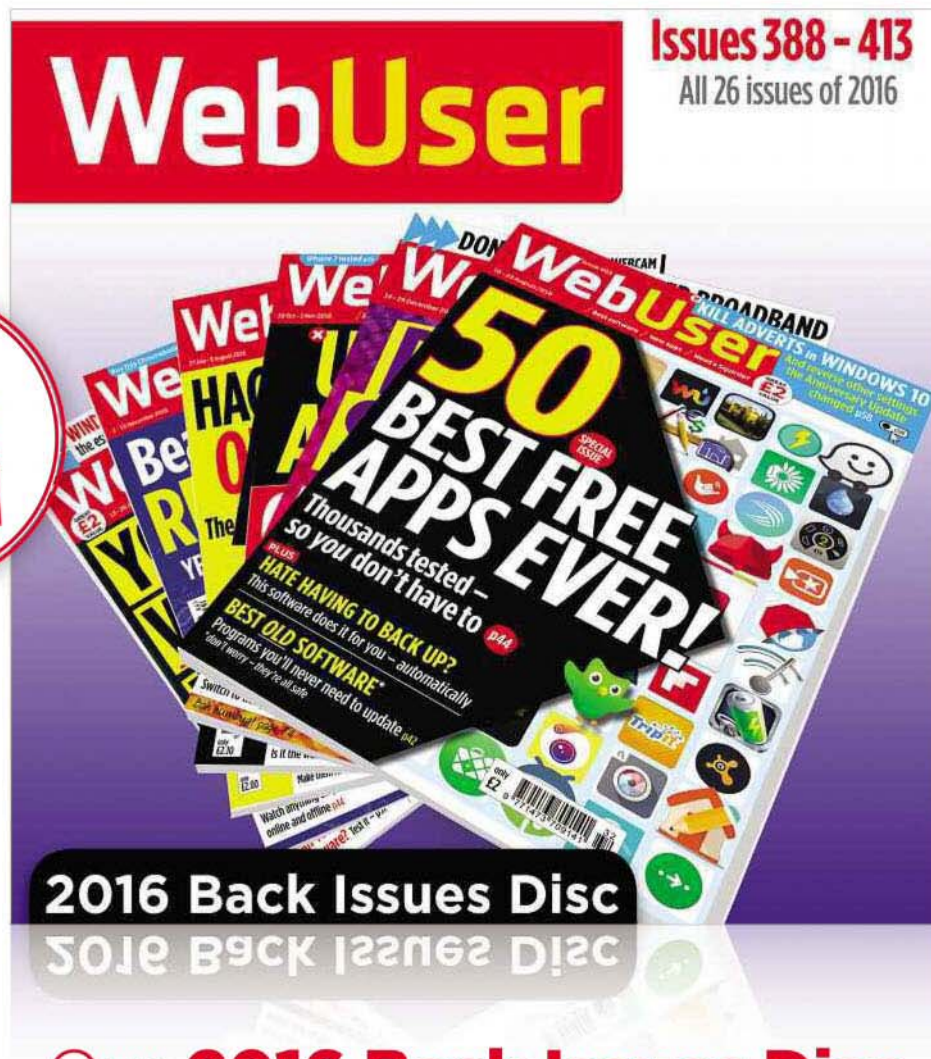
✚ Tell us about your website via webuser@dennis.co.uk

BACK ISSUES
DISC 2016

RELAUNCH

VIDEO

YouTube Creators

bit.ly/creators435

If you want to discover the programs and resources that will take your YouTube videos to the next level, then this revamped site has plenty to inspire and engage. Its fresh design incorporates some useful new features, including content from its Twitter feed, a Creator Blog and a series of Master Class videos from the Creator Academy. Depending on your level of expertise, you may also want to pop into the Newbie Room, check the location of video-production studios around the world and discover more about the Partner Management program. Help and explanations are provided throughout the site.

Our rating ★★★★☆

RELAUNCH

ALCOHOL

Majestic Wine

www.majestic.co.uk

Plonk yourself in front of Majestic Wine's relaunched site and you'll appreciate the new uncluttered design that gives the site room to breathe. In addition to the company's focus on customer wine ratings, it's now less of a chore to find the right bottle. As well as making it easier to rate wine, you can see how many people would buy each bottle again and read their reviews. You can also book tickets to tasting-club events and follow a live news feed from your local store. With good filters, a straightforward ordering system and informative descriptions, we reckon the new additions are well worth toasting.

Our rating ★★★★☆

RELAUNCH

MONEY

Living Wage

www.livingwage.org.uk

The national living wage for over-25s is currently £7.50-an-hour but this revamped site is part of a campaign to raise that to £8.45 (or £9.75 in London) for everyone over 18. By using clear text, well-chosen images and a wealth of statistics, the site does a great job of explaining the reasoning behind this. It also lets you search a database of thousands of companies that already pay such sums, which you can filter by region, sector and industry. We love how the site keeps campaign followers up to date with the latest news and that it offers a downloadable booklet for companies looking to take the necessary steps.

Our rating ★★★★☆
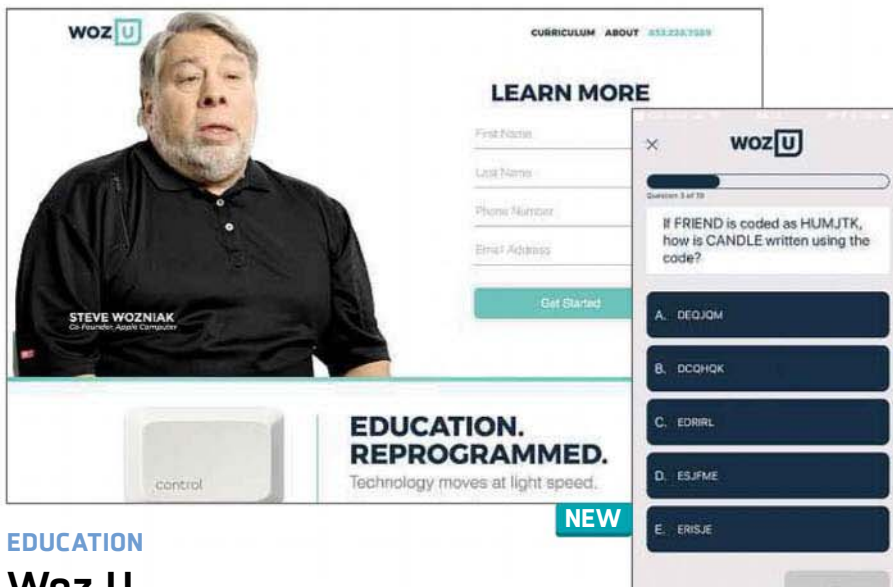
NEW

EDUCATION

Woz U

woz-u.com

Apple co-founder Steve Wozniak has launched an online education platform that aims to get people skilled-up and into tech-based jobs in the shortest possible time. Kicking off with an Apple-style video from the man himself, the site outlines the ethos of Woz U and briefly explains what the courses involve. To learn more, you must give your details, watch another video and await a call. There's no indication of the prices and most courses won't start until 2018, so it feels a little unclear about its current aims. For more fun, download the accompanying iOS app to see if you're suited for the courses. The test is rather challenging!

Our rating ★★★☆☆

RELAUNCH

TOYS

Sylvanian Families

sylvanianfamilies.net/uk

Shrewdly moving away from the use of Flash, the relaunched Sylvanian Families website breathes new life into the decades-old set of collectible plastic animal figurines. You can easily browse the product lines, view large images of the items and see the latest additions to the catalogue. Buying involves clicking the links to the product pages of stores such as Argos and Toys R Us, but at least there are lots of other areas to explore. Children can enjoy stories, videos, games and colouring activities while parents can get up to speed on the toys. We could do without the dreadful Comic Sans-style font, though.

Our rating ★★★★☆

✚ Tell us about your website via webuser@dennis.co.uk

Build a Better Site

Specialist tips, top tools and practical help

Top Tips of the Fortnight

Website X5 evolves

There are lots of ways to create a website but fans of WYSIWYG (What You See Is What You Get) software should try Website x5 Evolution (www.websitex5.com), which has just upgraded to version 14.

Updates include a full-screen photo gallery, a powerful new tool for creating custom menus, support for Google Fonts and parallax scrolling (where background elements move slower than the foreground).

Prices start from £14.90 for the Starter edition, which includes 50 templates but is limited to 25 pages. For unlimited pages, try the standard version, which costs £59.99.

Check your links

The web is an ever-changing environment, so it pays to regularly check that your links
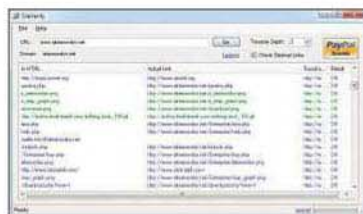
still go to valid web pages. One way to do this is to download an excellent free link-checking tool called SiteVerify (bit.ly/sitev435). This handy Windows software scans your website, checking that your links don't produce errors because the site has changed at the other end. It also checks internal links to your own site and makes sure your images are all displaying properly.

Deal of the Fortnight

UK2 (www.uk2.net) is offering your second year of hosting for free, if you pay for your first year upfront.

Web-building Helpdesk

THIS ISSUE'S EXPERT:
Russell Hogg,
Managing Director
of Hogtronix (www.hogtronix.com)

Q I want people to be able to find my website of photos. Which keyword should I use: 'photos', 'images' or 'pics'?

Colin, via Web User Forums

A Why not use them all? There won't be a single 'silver bullet' when it comes to keyword preference. Does your website have more than one page? Search Engine Optimisation (SEO) best practice would be to target a couple of key phrases on each page of your website. So if you have 10 pages, you're targeting 20 key phrases. Don't use a single phrase across the whole website or else you will dilute your SEO efforts. For keyword research, try Google's free keyword planner (bit.ly/kp435) to help you find out which search terms carry the most traffic.

MINI WORKSHOP | Give your WordPress posts an individual makeover
Elementor: elementor.com | ⏱ 10 mins | WordPress website

One of the problems with WordPress is that all your pages can end up looking the same. Elementor uses drag-and-drop design to help make your new posts look unique and interesting
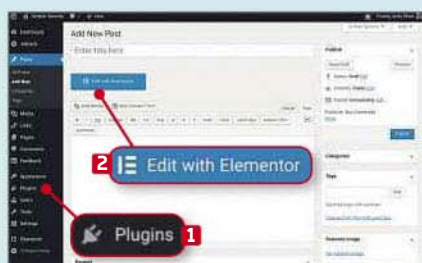
1 To install the Elementor plugin, click Plugins. **1** Click Add New, then type `elementor`. Next to Elementor Page Builder, click Install Now, then Activate. When you go to add a new post, you can choose whether to create it using the normal interface or click 'Edit with Elementor'. **2**

2 This takes you to a new editing page with a menu of options **1** and a pair of buttons for adding a new section or template. **2** To add something specific, drag its widget from the menu and drop it onto the page in the required position. The menu will change and a blue bar above the new element lets you edit it further.
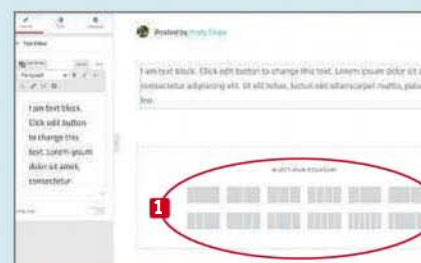
3 If you click the Add New Section button, you can choose from a range of layout options by clicking the grey icons. **1** Once you've chosen one, you can drop elements from the menu into it as before.

✚ Email us your website building questions at webuser@dennis.co.uk

Pick of the fortnight

BBC iPlayer
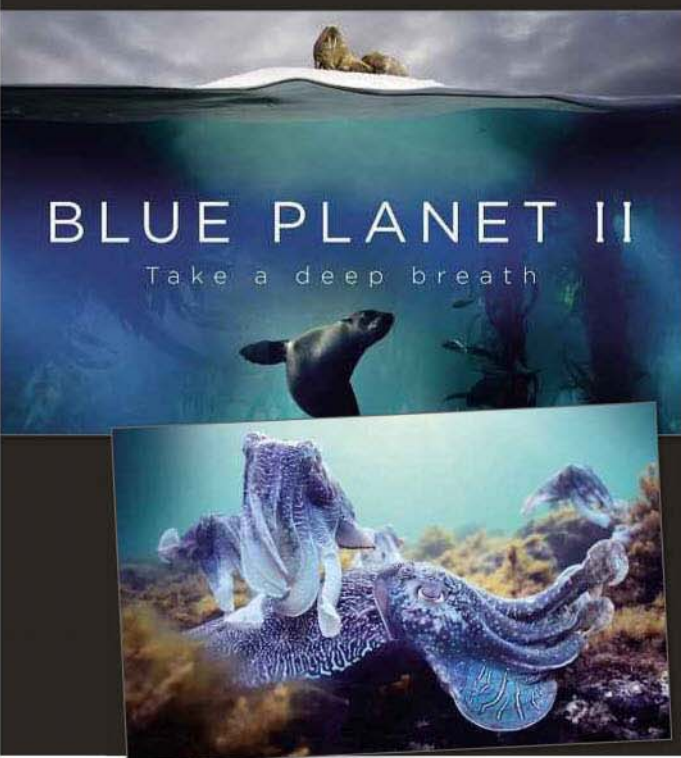
Immerse yourself in *Blue Planet II*

From 29 October

A new David Attenborough wildlife series is always a must-watch and the sequel to the BBC's eye-opening exploration of marine life, first screened 16 years ago, is possibly the most breathtaking yet. All seven episodes will be available to watch live and on catch-up on BBC iPlayer, along with exclusive behind-the-scenes clips explaining how the amazing footage was captured. You can also stream the programme in glorious, ultra high-resolution 4K if you have a compatible device.

According to the Beeb, *Blue Planet II* will reveal an array of never-seen-before creatures and their behaviour, including a tuskfish that uses tools to survive; snubfin dolphins that catch their prey by spitting; and the hairy-chested Hoff Crab – named after *Baywatch* star David Hasselhoff.

The series was filmed over four years around every continent and in all of the Earth's oceans, to immerse viewers in some of the least-known parts of our planet. On a graver note, the programmes also examine the effects of global warming on life underwater. We can't wait to dive in!

Watch Margaret Atwood's *Alias Grace*

From 3 November

Following the success of dystopian drama *The Handmaid's Tale* (episode 1 of which is still available to watch on All 4), Netflix is screening an adaptation of another award-winning Margaret Atwood novel, *Alias Grace*. The six-part miniseries is based on the true story of Grace Marks, a mild-mannered Irish housemaid who was convicted – perhaps wrongly – of a savage murder in 1840s Canada. As with many Netflix original series, all episodes will appear on the streaming service at the same time, though *Alias Grace* has already been broadcast on network TV in Canada.

Get a new Roku for under £30

Want a cheap, compact streaming solution for watching web content on your TV? Then you need a Roku Express, one of the first Roku devices to be launched in the UK for three years. It gives you access to more than 4,000 streaming channels, including 150,000 films and TV episodes, yet costs a mere £29.99 – about the same as a Google Chromecast. The new device comes with a remote control and HDMI cable, and is five times more powerful than the previous Roku Express.

If you need a more portable solution that streams 4K movies and TV shows wirelessly, Roku has also launched the Streaming Stick+, priced at £79.99.

Watch Discovery's virtual-reality series

From 3 November

The Discovery Channel has teamed up with Google on an immersive, 38-part virtual-reality series that takes you around the world like never before. Discovery TRVLR devotes each of its seven chapters to a different continent, bookending each one with an amazing

We reveal what's new on Netflix, BBC iPlayer, Amazon Prime Video and other streaming services

sunrise and a magnificent sunset. In between, the episodes look at the rituals, traditions and quests that define different cultures, and surround VR viewers in extraordinary environments, sights, sounds and stories that "reveal the extremes of human nature". The series is available to stream on YouTube using a Google Daydream headset and via Google Cardboard using Discovery's Android and iOS apps. It can also be viewed – less immersively – on the web at www.discoveryvr.com.

Stop autoplaying YouTube videos on Android

In last issue's 'Stop autoplaying on any device' feature, we explained how to prevent your favourite websites and apps from playing content automatically as soon as you open them. Sadly, Google seems determined to thwart us because it's now started autoplaying videos in the YouTube app for Android.

Play as you browse
- ◉ On
- ○ Only on WiFi
- ○ Off

When you open the app, the first featured video on the homepage will now begin automatically – albeit silently – with subtitles replacing the sound. Fortunately, there is a way to fix this new annoyance. Tap your profile photo in the top-right corner to open your Account page, select Settings, General and switch off the new 'Play as you browse' option. If you prefer, you can leave it on but choose to only allow autoplay when you're connected to Wi-Fi.

Free Amazon Prime Video for students

Amazon is offsetting the expense of going to university by offering students a six-month free trial of its Amazon Prime service, which includes unlimited

Streaming deal of the fortnight

Try AMC for free for a week on Sky
Until 5 November

The TV channel AMC is usually only available for free for BT Sport Pack subscribers, but for one week it's bringing its drama series and films to Sky customers, too. Just go to channel 192 on your Sky box – or find AMC in your Sky Go or Now TV – and you'll be able to watch up to seven days of programming (depending on when you're reading this) without paying for the privilege. Highlights of AMC's Showcase week include the third season of *Fear the Walking Dead*, the premiere of new Rupert Grint-fronted series *Snatch* and martial arts drama *Into the Badlands*.

streaming of thousands of movies and TV shows with Prime Video. Once the trial is over, Prime Student (bit.ly/student435) costs £39 for the next year – half the usual price. As well as the usual Prime perks, students get 10% off a Fire TV Stick, Echo Dot, textbooks and more. You'll need a valid 'ac.uk' university email address to sign up.

See what's new on streaming services

The excellent TV-streaming guide JustWatch (www.justwatch.com/uk), which lets you see exactly which shows and movies are available on 22 UK services, has updated its Android app with a useful new feature. This enhances

the app's timeline to tell you exactly how many episodes of a programme have been added to your favourite services today. This means you can see, at a glance, if it's worth heading over to Netflix, Amazon Video or Now TV to catch some new content or if you should wait for more episodes to appear.

Streaming across the pond
What's new in the US that we want over here

Disney has revamped its Movies Anywhere service (moviesanywhere.com) to let US viewers store all their favourite films online, so they can watch them when and where they want. The company has struck a deal with Warner Bros, Universal, Sony Pictures and 20th Century Fox, so that any content bought from those studios – and Disney, of course – on iTunes, Amazon Video and Google Play is pulled into one handy account. Movies Anywhere is available on iOS, Android, Apple TV, Amazon Fire devices, Roku and Chromecast, and is completely free to use, with a gift of five free films when you join.

Will it come to the UK?
Licensing issues may prevent the launch of Movies Anywhere outside the US, but Disney's subscription service DisneyLife (disneylife.com) is available in the UK and Ireland.

High-speed routers

We've tested 12 of the fastest routers around, comparing mesh systems with regular models, so you can decide which to buy

If you're fed up with flaky Wi-Fi, why not boost your signal with a new router? Here, we've tested 12 models designed to upgrade your existing kit. Six are mesh systems, which connect several units with their own network to give you better overall coverage in your home. The other six are regular routers that we believe will improve on the Wi-Fi you've already got. Each of the routers needs to be plugged into your existing system via an Ethernet cable, so you'll either have to connect it to your current router and switch off the old Wi-Fi, or hook it up to a new Ethernet modem.

HOW WE TESTED

We took each router and set it up in our three-storey test house. We tested each router using a computer with an 802.11ac adapter, measuring the speed of the internet connection at close range, and then again on the first and second floors. We also took the computer out into the back garden to check the strength of the signal when stretched to its absolute limits.

TP-Link Deco M5 | £229.99 |
Buy from Amazon: bit.ly/tpl435

FEATURES ★★★★★ **PERFORMANCE** ★★★★☆
EASE OF USE ★★★★★   **VALUE FOR MONEY** ★★★★★

WebUser GOLD AWARD

To set up the TP-Link Deco M5 mesh system, you just connect one unit to your existing router via an Ethernet port – each unit has two, so you can also connect other wired devices – then position the other two 'satellite' units with the help of an app, which checks whether the Wi-Fi signal between them is strong enough. There's no pre-configured network so you can just switch off the Wi-Fi on your old router and use the same ID and password. This means you won't have to type a new password into your connected devices.

The mesh system automatically decides which network (2.4GHz or 5GHz) your devices connect to, depending on its capabilities and the signal strength. While this keeps things simple, you may not appreciate TP-Link making the choice for you, but there are some innovative software tools to fine-tune your network, including built-in antivirus and parental controls, which can be individually set for each device.

Bandwidth is shared between the mesh network and the devices attached to it, so it's not as fast as a dedicated router, but the reach is better and extended far into our garden.

VERDICT ★★★★★

This is a finely balanced mesh system with a good range, though it isn't the fastest. However, it's got some useful additional features including built-in antivirus and powerful parental controls.

TP-Link Archer C3200 | £149.99 |
Buy from Amazon: bit.ly/tpli435

FEATURES ★★★★☆ **PERFORMANCE** ★★★★☆
EASE OF USE ★★★★★   **VALUE FOR MONEY** ★★★★★

WebUser SILVER AWARD

This is a tri-band router, which means it has two 5GHz networks and a 2.4GHz network, so you have plenty of room to spread out your devices to minimise congestion. There are five Ethernet ports at the back (one for connecting to an existing router or modem to get your internet connection) and a USB port that can be used to share storage or a printer. It also comes with web-filtering tools, which require you to manually fill out a whitelist and blacklist of sites.

The Archer C3200 has been available for a while but we think it deserves revisiting because it's fast and offers phenomenal value for money. However, it doesn't have MU-MIMO – a technology that filters individual devices and reserves them their own bandwidth – which you find on some more recent models.

Performance in our tests was still good, though. It was third fastest in our long-range 5GHz test and came top in two out of three of our 2.4GHz tests, only falling behind the D-Link DIR-895L at medium range.

VERDICT ★★★★★

Because this is an older model, it may not be as future-proof as some of its rivals, but it's still a great router for the price. It performed extremely well in our tests, holding its own against rival routers that cost twice as much.

D-Link DIR-895L | £276.99 |
Buy from Amazon: bit.ly/dlin435

WebUser BRONZE AWARD

The D-Link DIR-895L's eight antennas provide a lot of bandwidth and reach. The router comes pre-configured to manage your networks for you, but you can switch this off and open up two 5GHz networks and a 2.4GHz network if you prefer. Performance was excellent in all our tests.

There are plenty of ports for plugging in Ethernet and USB devices but it only comes with a basic web filter.

If you're looking for a standard router with blistering speeds across all our distance tests, the D-Link DIR-895L is a great option, but be warned: it isn't cheap.

VERDICT ★★★★☆

BT Whole Home Wi-Fi | £199.94 |
Buy from Amazon: bit.ly/btwh435

As with TP-Link's Deco M5, you connect one of BT's mesh-based routers to your existing equipment via an Ethernet cable and set up two satellites. You can't choose whether devices connect to the 2.4 or 5GHz networks, though.

Because this is a mesh system, we found that it did a better job than most at getting a usable signal to the furthest-flung corners of our test house. However, the speed results weren't brilliant, particularly at close range where it came second from last. At a distance, though, the performance improved compared to some of its rivals.

VERDICT ★★★★☆

Synology RT2600ac | £224.55 |
Buy from Amazon: bit.ly/syno435

The Synology RT2600ac has a superb interface, which resembles a full operating system complete with applications and windows, and is by far the best in this Group Test. It also adds some great additional tools including web filtering and parental controls.

We found its performance was good at short and medium range but dropped off a bit at long range, on both the 2.4 and 5GHz networks. The router normally uses band steering to choose the network for any device that connects to it, but you can turn this off if you prefer.

VERDICT ★★★★☆

Netgear Orbi | £322.55 |
Buy from Amazon: bit.ly/net435

The Orbi was one of the first mesh systems to go on sale in the UK and it's still one of the most expensive, particularly as your £322.55 only buys you the base unit and one satellite.

Close-range performance in our tests was superb, putting it second from top, but the raw speed dropped off as we shifted floors. The reach was brilliant, though, providing a strong and reliable signal in every area of our test house so we always managed to get a good connection.

It uses band steering, though, which you can't opt out of.

VERDICT ★★★★☆

TEST-RESULTS CHARTS

Router speeds over 5GHz network

Bar chart: Router speeds over 5GHz network, measured in Mbps (0 to 500), showing 5GHz close range (blue), 5GHz first floor (red), 5GHz second floor (yellow) for:
Linksys EA9500, Netgear Orbi, D-Link DIR-895L (B), Synology RT2600ac (S), TP-Link Archer C3200, Linksys Velop, Google Wifi, Netgear Nighthawk X10, TP-Link Deco M5 (G), F-Secure Sense, BT Whole Home Wi-Fi, Ubiquiti AmpliFi HD
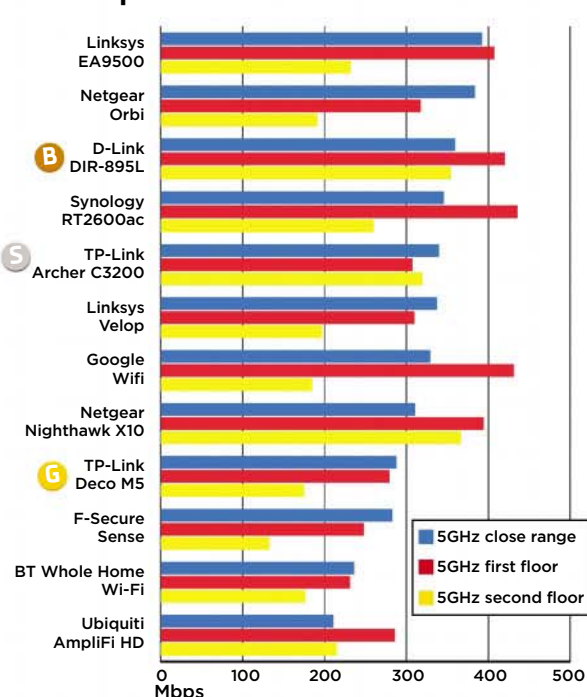
BEST OF THE REST

We tested a further six routers, three of which use the mesh system. **Google Wifi** (**£223.89** for a twin-pack | bit.ly/goog435 | ★★★★☆) lost out to TP-Link by being a bit more expensive but we like its app, which is the best of the group. The **Linksys Velop** (**£379.99** | bit.ly/lin435 | ★★★★☆) was let down by its performance, particularly at longer range, despite being the most expensive router in this test. The **Ubiquiti AmpliFi HD** (**£369.12** | bit.ly/ubiq435 | ★★★☆☆) is a great-looking system with an innovative touchscreen base station, but its speed results were the worst of all the routers we tested.

Of the three other standard routers we tested, the **Linksys EA9500** (**£249.99** | bit.ly/link435 | ★★★★☆) comes impressively equipped with eight Ethernet ports and three Wi-Fi networks (1 x 2.4GHz and 2 x 5GHz), but its performance dropped off at longer ranges. The **Netgear Nighthawk X10** (**£364.99** | bit.ly/netg435 | ★★★★☆) is future-proofed with 802.11ad Wi-Fi and has six Gigabit Ethernet ports. It also performed well in our tests but it's very expensive. The **F-Secure Sense** (**£183.22** | bit.ly/fsec435 | ★★★★☆) has some useful preinstalled security tools including antivirus software that will protect any devices that connect to the network. However, this requires a subscription after the first year that will set you back an extra £100.

	TP-Link Deco M5	TP-Link Archer C3200	D-Link DIR-895L	BT Whole Home Wi-Fi	Synology RT2600ac	Netgear Orbi
WEBSITE	uk.tp-link.com	uk.tp-link.com	www.dlink.com	www.shop.bt .com	www.synology .com	www.netgear .co.uk
PRICE	£229.99	£149.99	£276.99	£199.94	£224.55	£322.55
BUY FROM AMAZON	bit.ly/tpl435	bit.ly/tpli435	bit.ly/dlin435	bit.ly/btwh435	bit.ly/syno435	bit.ly/net435
TYPE	Mesh	Standard	Standard	Mesh	Standard	Mesh
WI-FI STANDARD	802.11ac	802.11ac	802.11ac	802.11ac	802.11ac	802.11ac
BANDS	1 x combined network of 2.4GHz and 5GHz	1 x 2.4GHz, 2 x 5GHz networks	1 x 2.4GHz, 2 x 5GHz networks	1 x combined network of 2.4GHz and 5GHz	1 x 2.4GHz, 1 x 5GHz networks	1 x combined network of 2.4GHz and 5GHz
SECURITY	WPA2-AES	WPA2-AES	WPA2-AES	WPA2-AES	WPA2-AES	WPA2-AES
WAN PORTS	1	1	1	0	1	1
LAN PORTS	2 x Gigabit Ethernet	4 x Gigabit Ethernet	4 x Gigabit Ethernet	1 x Gigabit Ethernet	4 x Gigabit Ethernet	3 x Gigabit Ethernet
USB PORTS	✗	1 x USB3	1 x USB2, 1 x USB3	✗	1 x USB3, 1 x SD	1 x USB2
GUEST NETWORKS	1	2	3	0	1	1
MEDIA SERVER	✗	✓	✓	✗	✓	✗
DIMENSIONS	120 x 120 x 38mm	200 x 200 x 39mm	418 x 263 x 150mm	165 x 165 x 77mm	280 x 169 x 77mm	226 x 169 x 60mm
WARRANTY	Three-years return-to-base	Three-years return-to-base	Two-years return-to-base	Two-years return-to-base	Two-years return-to-base	Two-years return-to-base

OUR VERDICT

Our Gold Award goes to the TP-Link Deco M5, a mesh router that has excellent range, decent performance and a great selection of additional tools to control your network security and how people use it. Although it isn't the fastest device we tested, it will improve the speed of most ISP routers by a significant margin. It's also great value for money.

TP-Link scooped the Silver Award, too, with the Archer C3200. This router is older than most of the others in this test but we found it performed almost as well for a fraction of the price, and is an ideal upgrade if you want better Wi-Fi without spending a fortune.

Our Bronze Award goes to another standard router, the D-Link DIR-895L. This is a more expensive option but we found that the router's eight antennas helped it achieve fast speeds in all our tests, no matter how far we ventured from it.

Win Affinity Designer...
and send us your creations!

We're giving five readers the chance to win the professional graphic-design software Affinity Designer

Launched in 2014, Affinity Designer is an award-winning graphic-design program compatible with Windows and Mac. It's the fastest, smoothest, most precise software available for creating exceptional designs – whether you're working on branding, concept art, print projects, icons or web mock-ups.

Affinity Designer is incredibly fast to use, allowing you to pan and zoom at 60 fps (frames per second). Any changes you make are shown in real time, helping you make perfect adjustments. The interface is also highly customisable, letting you create keyboard shortcuts that suit how you work. And you can undo/redo your work over 8,000 times, so it's easy to retrace your steps.

In this exclusive competition, we're giving away Affinity Designer (version 1.6) to five *Web User* readers. We'll then showcase our winners' work – created using Affinity Designer – in a forthcoming issue, sharing it with thousands of readers.

To enter, please tell us what you'd like to use Affinity Designer for, and on which device: Mac or Windows PC. Simply email us at webuser@dennis.co.uk with 'Affinity' in the subject line by 1 December. We'll pick the five most interesting entries.

Serif Affinity Designer is available for Mac OS and Windows (£48.99 each). For more information on Affinity Designer, visit https:// affinity.serif.com.

WHAT'S NEW IN VERSION 1.6

Light mode
The new light mode (pictured right) is an excellent alternative to the popular dark mode (pictured top right). It's one of the most-requested options from Affinity users.

Stroke stabiliser
This innovative tool helps you draw more accurate circles with your mouse.

Large documents
Version 1.6 works much better with large documents, giving you the confidence to work on extensive projects.

Pixel-differencing pixel shader
You can add colour pixel by pixel for outstandingly detailed designs.

Better font menu
The improved drop-down menu makes it simpler

to pick recently used and favourite fonts.

New PDF export function
There are many improvements to how PDFs are exported, including the option to export vectors of multi-stop gradients.

Web User's Best Buys

Web User and its sister titles test over 2,500 products every year

HARDWARE

BUDGET TABLET

Amazon Fire HD 8

£89.99 from bit.ly/fire433
Tested: Issue 433

Long battery life, superb build quality and decent performance make this an excellent 16GB tablet for the price. It's worth paying the extra £10 for this ad-free version, too.

KEY SPECS
Quad-core 1.3GHz MediaTek MT8135 processor ■ 1.5GB memory ■ 16GB storage (expandable to 256GB) ■ 8in 1,280 x 800 pixels screen ■ 2-megapixel rear camera ■ Fire OS ■ 214 x 128 x 9.7 mm ■ 369g ■ One-year return-to-base warranty

BUDGET PHONE

Samsung Galaxy J5 (2017)

£219 from bit.ly/sams432
Tested: Issue 432

Samsung's updated Galaxy J5 does everything you could ask of a budget phone. Battery life is top-notch, the screen is rich and vivid, and its camera quality is excellent.

KEY SPECS
Octa-core 1.6GHz Exynos 7870 processor ■ 13-megapixel front and rear cameras ■ 2GB RAM ■ 16GB storage ■ 5.2in 1,280 x 720-pixel screen ■ Android 7 ■ 146.2 x 71.3 x 8mm ■ 160g ■ Two-years return-to-base warranty

HYBRID LAPTOP-TABLET

Lenovo Yoga Book

£548.97 from bit.ly/lenw431
Tested: Issue 431

The Yoga Book laptop-tablet hybrid genuinely feels like a step forward, with its virtual keyboard and fantastic writing surface that makes it an exceptional note-taking device.

KEY SPECS
Quad-core 2.4GHz Intel Atom x5-Z8550 processor ■ 4GB memory ■ 64GB storage ■ 10.1in 1,920 x 1,200-pixel screen ■ 1 x Micro USB port ■ 802.11ac Wi-Fi ■ Windows 10 ■ 256 x 170 x 9.6mm ■ 690g ■ One-year return-to-base warranty

NAS DRIVE

Synology DS216j

£161.13 from bit.ly/syn430
Tested: Issue 430

The DS216j is a great-value network storage device with lots of features that make it incredibly flexible. It's not the most powerful choice, but it can do most of the things other NAS drives can do, including pricier models.

KEY SPECS
Dual-core 1GHz Marvell Armada 385 32-bit processor ■ 512MB DDR3 memory ■ 2 x drive bays (drives not included) ■ 20TB (2 x 10TB drive) maximum capacity ■ 165 x 100 x 225.5mm ■ 880g ■ Two-years return-to-base warranty

SSD

Samsung 960 Evo

£211.16 from bit.ly/s9e428
Tested: Issue 428

It looks expensive on paper, but the Samsung 960 Evo is an excellent 500GB SSD that came at or near the top of all our performance tests. It comes with Samsung's Data Migration software to clone your existing Windows installation from your old hard drive.

KEY SPECS
250GB – 1TB capacity ■ AES-256 encryption ■ M.2 connection ■ 200TBW write tolerance ■ Samsung Magician, Samsung Data Migration software

£500 PC

Mesh Home PC

£499 from www.meshcomputers.com
Tested: Issue 426

The Mesh Home PC is compact and quiet, with a great processor. It has a premium operating system in Windows 10 Pro and includes an SSD and a dedicated graphics card.

KEY SPECS
Quad-core 3.4GHz Intel Core i5-7500 processor ■ 8GB memory ■ 120GB SSD, 1TB hard drive ■ 2GB Asus GeForce GT710-2-SL graphics card ■ 6 x USB 2 ports; 2 x USB 3 ports ■ Windows 10 Pro ■ Lifetime labour warranty, two-years parts, one-year collect-and-return

All prices correct at time of review

SOFTWARE & SERVICES

INTERNET SECURITY

Kaspersky Internet Security 2018

£19.95 from bit.ly/kaspersky2018
Tested: *Computeractive* Issue 493

Kaspersky is rock solid at protecting your PC from the worst of the web, and has come top in nine of our most recent tests, blocking all malware with its robust defences. Use the URL above to save £15.04 on the software (normal price £34.99).

KEY FEATURES
Antivirus and firewall tools ▪ Protects online shopping and banking ▪ Identity and privacy tools ▪ Dangerous-website alerts ▪ New software updater ▪ Secure-connection VPN ▪ Advanced ad-blocking system ▪ Multi-device version ▪ Compatible with Windows 10

ONLINE STORAGE

Google Drive

From free from drive.google.com
Tested: Issue 389
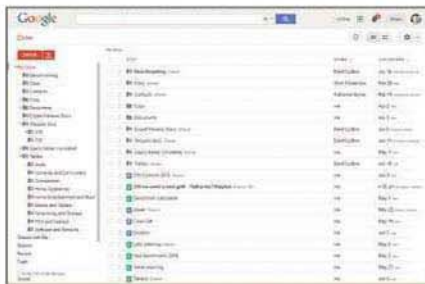
Google Drive is easy to use and has lots of free storage with the option to buy more if you need it. The Windows software integrates seamlessly with Explorer, so saving and syncing files is like keeping them in any other PC folder.

KEY FEATURES
16GB free storage ▪ Web-based office software ▪ Works with XP, Vista, 7, 8+ and 10 ▪ Chrome browser add-on ▪ Android and iOS apps ▪ 100GB extra storage for £1.36 per month; 1TB for £6.01 per month; 10TB for £60.16 per month

Web User Gold Award winners

VIDEO-EDITING TOOL

Microsoft Photos

Free from bit.ly/phot434
Tested: Issue 434
This tool is built into your Photos app and is very efficient at turning your home videos into professional-looking movies.

NEW!

HOME-SURVEILLANCE SOFTWARE

Ivideon

Free from bit.ly/ivid433
Tested: Issue 433
Simple to set up and use, Ivideon is ideal for monitoring one or two cameras and lets you store footage for 24 hours.

PDF READER

Sumatra PDF

Free from sumatrapdfreader.org
Tested: Issue 432
Sumatra is simple and easy to use. It's also one of the fastest PDF readers available.

PASSWORD MANAGER

Sticky Password Premium

From £19.95 per year from www.stickypassword.com
Tested: Issue 431
Packed with features, this password manager is very secure and good value for money.

FILE-COPYING TOOL

TeraCopy

Free from bit.ly/ter430
Tested: Issue 430
TeraCopy is very easy to use and offers lots of useful features. Its handy shortcuts make regular copying tasks much faster.

Best Free Software

Macrium Reflect 7 Free Edition

bit.ly/reflect435
Min requirements: Windows XP/Vista/7/8+/10 **File size:** 3.6MB (installer only)

We all know how important it is to back up our personal files, to keep them safe in case disaster strikes. There's certainly no shortage of tools for the task, and some are easier to use than others.

Macrium Reflect isn't a backup tool as such, although it can be used as one. What it does is create a copy of your hard drive that you can use to restore your system in the event of hardware malfunction or a major malware infection, such as a ransomware attack. If you're upgrading to a new hard drive, you can use it to copy the contents over from your old one.

The free software offers disk imaging and cloning; lets you reorder and resize partitions; and can create a bootable rescue disc. It comes with a collection of management tools that you can use to schedule, compress and browse your backups.

The new version of Macrium Reflect doesn't introduce as many new features as version 6 did, but it is now licensed for commercial – as well as home – use. That means you can use it in an office environment, provided that you're only backing up and restoring one PC.

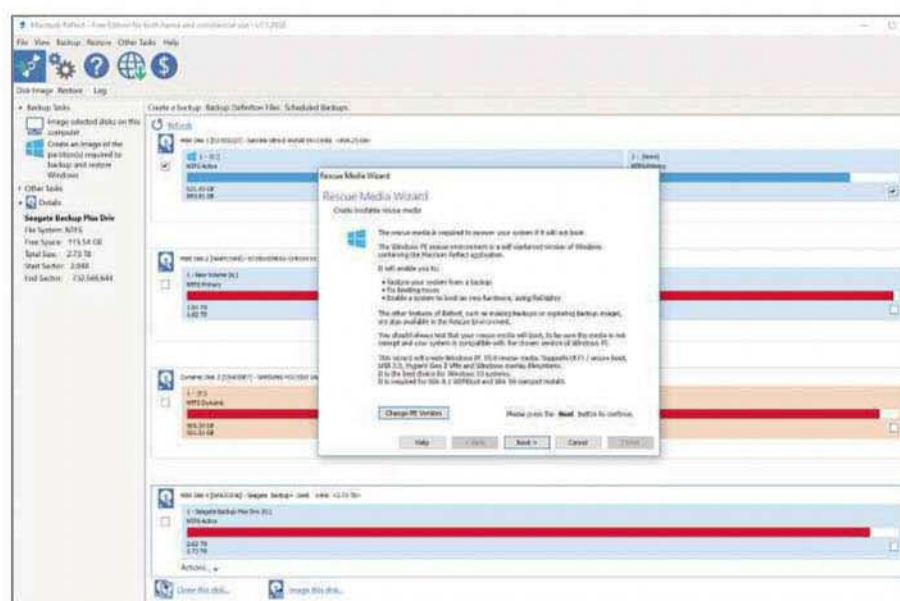A useful feature called viBoot integration – which allows you to create, start and manage Microsoft Hyper-V virtual machines from Macrium Reflect image files – has been updated, and the Task Scheduler gains better compatibility with Windows 10 (Anniversary Update and later).

When you run the program's installer, you'll be given the option of downloading the Windows PE component, which is used to create the rescue disk. This is an additional 809MB and while it isn't essential, it's certainly very useful for emergencies.

MINI WORKSHOP | Copy your hard drive using Macrium Reflect 7

1 Macrium Reflect 7 displays all the drives (and partitions) in – or connected to – your PC. Select one or more, **1** then choose to clone **2** or image your selection. **3** The former creates an exact copy on a different drive, while the latter saves the information required to completely restore a drive or individual partitions.

2 The 'Image this disk' option will copy the hard drive (or partition) exactly as it is, which means you'll need to remember to update the image regularly. Select the source to copy **1** and pick a destination. This can be a folder elsewhere on your PC **2** or you can write the image to CD or DVD. **3**
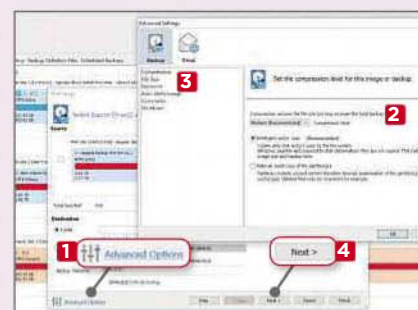
3 Click the Advanced Options link **1** to set the compression level you require for the image, **2** specify a maximum file size, password-protect the image, verify it and more. **3** Click Next **4** to start the process. If you're writing to CD or DVD, you'll be prompted to insert a blank disc.

This fortnight's top new software downloads to help you make the most of your PC, and they're all FREE
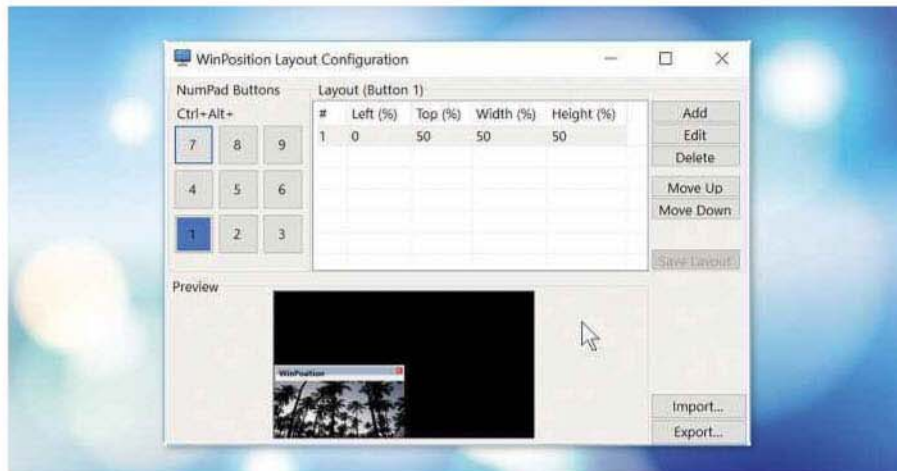
DESKTOP TOOL
WinPosition
bit.ly/winpos435
Min requirements: Windows XP/Vista/7/8+/10 **File size:** 477KB

Windows 10's Aero Snap feature lets you arrange multiple windows on a single monitor, but it's pretty basic. WinPosition is more advanced and is designed to be used with large, high-resolution screens. You can move any open window to a pre-defined position using Ctrl+Alt and one of the NumPad keys (Ctrl+Alt+NumPad 1 moves a window to the bottom-left corner, for example). The Layout Config screen lets you add, edit or delete placement options, and import and export layouts.

ANTI-MINING TOOL
Anti-WebMiner
bit.ly/webminer435
Min requirements: Windows XP/ Vista/7/8+/10 **File size:** 474KB

A growing number of websites have started adding web-mining scripts to their code. These 'borrow' the processor of a visitor's computer to mine for cryptocurrencies such as Bitcoin, often without your knowledge. Anti-WebMiner blocks these mining scripts by making a change to the Hosts file (a system file that maps hostnames to IP addresses). To use it, just click the large Protect button.

IMAGE VIEWER
QuickViewer
bit.ly/qview435
Min requirements: Windows 7/8+/10 **File size:** 21.8MB

We've covered early beta versions of QuickViewer in the past, but the superfast portable image-viewing software has finally hit the 1.0 milestone. The program supports all the major image formats and can also display pictures inside ZIP, 7Z and RAR files, and CBR and CBZ comic book archives. The first full release adds support for changing the text format of title and status bars.

New Windows Apps

Nextpad
bit.ly/nextpad435
Min requirements: Windows 10
File size: 22.5MB
Nextpad is a fast, lightweight tabbed Notepad app for Windows 10. It supports all major text file formats, offers text to speech and lets you pick up where you left off in a note.

Modern Glance
bit.ly/glance435
Min requirements: Windows 10
File size: 2MB
This PC version of the old Lumia Glance phone app is a highly customisable screensaver manager that offers a wealth of options, including the ability to pull images from various different sources.

Podcasted
bit.ly/podcast435
Min requirements: Windows 10
File size: 22.7MB
This is a podcast manager that lets you build or import your own library and sync it across devices. You can listen to a podcast on one PC, then pick up where you left off on another.

BACKUP SOFTWARE
FBackup 7
www.fbackup.com
Min requirements: Windows XP/
Vista/7/8+/10   **File size:** 78.7MB

If you're looking for a straightforward but powerful backup tool, the updated version of FBackup is an excellent option. To use it, just click the New button, then give your backup a name and optional description. Click Next and choose a save destination for the copy. This can be a local or networked drive, CD/DVD, Google Drive or – new to this release – Dropbox.

Choose what you want to back up, then pick a method: Full or Mirror. The latter is a new option which only copies files that have been updated. You can password-protect your backup and schedule future ones to save you having to perform them manually.
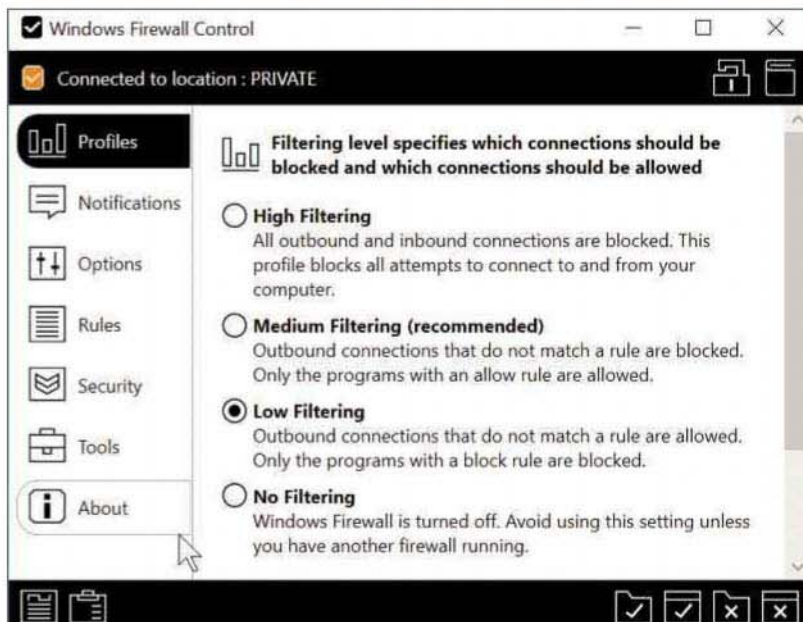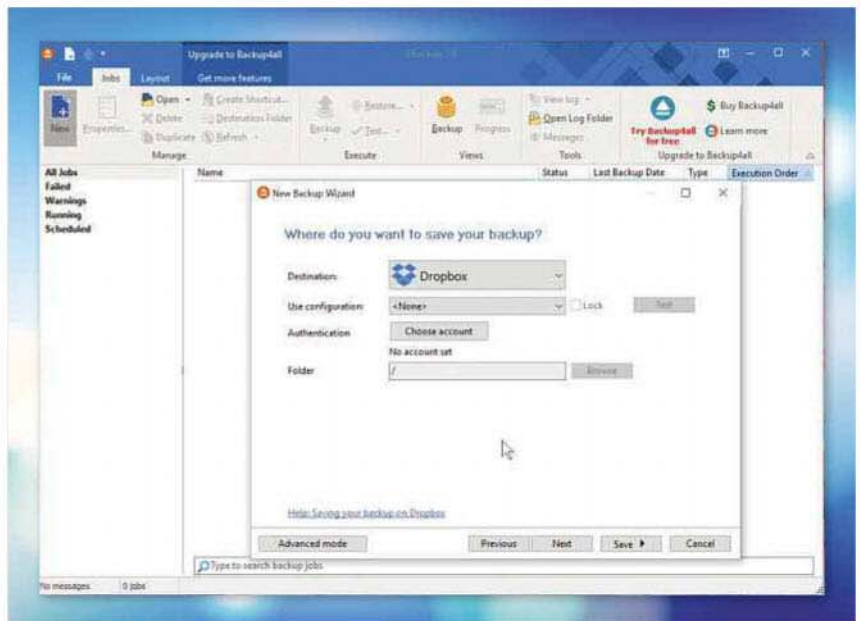
FIREWALL
Windows Firewall Control 5
bit.ly/wfc435
Min requirements: Windows 7/8+/10
File size: 1.6MB

Firewalls control internet traffic in and out of your computer, helping to keep you safe online. Windows comes with its own firewall, but it's very basic and only monitors incoming traffic. Windows Firewall Control expands the capabilities of the built-in tool, offering a choice of filtering modes – High (blocks all outbound and inbound connections), Medium (blocks outbound connections based on rules you set), Low (allows outbound connections based on your rules) and No (firewall is off).

The latest version of the program fixes a lot of problems, gains some minor new features and now shows you which location the Windows Firewall is connecting through.

RESCUE DISC
AOMEI PE Builder Free 2
bit.ly/aomei435
Min requirements: Windows XP/
Vista/7/8+/10   **File size:** 147MB

AOMEI PE Builder Free lets you create a bootable environment on a CD/DVD or USB flash drive that you can use to get things working again if your PC fails to start up. It offers a familiar-looking Windows interface with a file manager, Start menu and taskbar, and comes with some useful AOMEI tools including Backupper and Partition Assistant. You can even add your own tools to it.

The latest version of the software is compatible with all versions of Windows – from XP to 10 – and you can now create a recovery disk that works on both modern UEFI PCs and older legacy BIOS systems.

GAME

The Silent Age

bit.ly/silent435

Min requirements: Windows XP/
Vista/7/8/10 **File size:** 181MB

This revamped version of a classic
point-and-click game is set in "groovy"
1972 against authentically garish
backgrounds. The aim is to help
sideburned hero Joe as he travels into
the apocalyptic future of 2012 to
discover the truth behind humankind's
extinction. Use your time-travel device
to solve puzzles that bring you closer
to answers and saving humanity. It's a
hefty download, but worth the wait.

✗ Don't install...

Whatsie

bit.ly/whatsie435

Min requirements:
Windows 8+/10, MacOS or
Linux
File size: 14.8MB

Whatsie was a "simple and
beautiful" Desktop client
for WhatsApp. However,
it's now been discontinued,
perhaps because it was
unofficial and frowned
upon by WhatsApp's
owner, Facebook. This
makes it potentially unsafe
to use, although the
download is still available
from the developer.

...Install this instead ✓

WhatsApp Desktop

www.whatsapp.com/download

Min requirements: Windows 8+/10 or MacOS
File size: 64.4MB

If you enjoyed our WhatsApp cover feature in
our last issue, why not install the official Desktop
version for times when you can't use the service
on your phone – such as when it's charging. Your
conversations are displayed on your monitor,
automatically syncing your phone's contacts and
settings, and letting you chat to people
individually or in groups. As with the phone app,
you can share photos, videos and your location,
and get extra features including Desktop
notifications and keyboard shortcuts. Scan the
onscreen QR code with your phone to connect
the program to your WhatsApp account.

🔄 UPDATED | New tweaks and fixes for your favourite free programs

SCREEN TOOL

F.lux 4.55

justgetflux.com

Min requirements:
Windows XP/Vista/7/
8+/10, MacOS or Linux
File size: 749KB

F.lux intelligently changes
the screen hue of your
monitor to match your
environment and the time
of day, keeping you safe
from eyestrain. This update
includes more explanatory
menu text, and no longer
shows notifications when
the software is disabled.

PAINTING TOOL

Artweaver Free 6.0.6

www.artweaver.de/en

Min requirements:
Windows 7/8+/10
File size: 11.9MB

Artweaver Free lets you
create works of art from
scratch, but it can also be
used to edit and improve
your existing photos. It offers
all the usual editing tools,
including magic wand and
clone stamp. This update
improves the loading of
preset previews and fixes
various bugs.
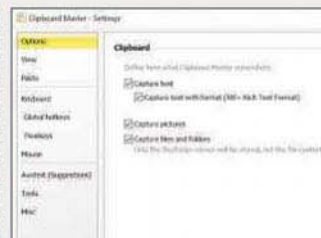
CLIPBOARD MANAGER

Clipboard Master 4.5.6

www.clipboardmaster.com

Min requirements:
Windows XP/Vista/7/8+
File size: 11MB

Clipboard Master is
a powerful alternative to
the Windows clipboard that
can store multiple copied
objects across several
clipboards. The new release
improves the hotkeys feature
and introduces changes that
will allow future versions of
the software to recognise
additional file types.
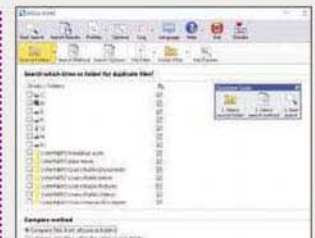
DUPLICATE FINDER

AllDup 4.0.40

bit.ly/alldup435

Min requirements:
Windows XP/Vista/7/8+/10
File size: 7.6MB

AllDup scans your system
for duplicate files and lets
you delete any unwanted
copies. The program has
been updated to let you
find files which are similar
but not quite identical.
Performance has been
improved, bugs squashed
and an Arabic translation
added. ◼

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Best New Browser Tools

Stop websites using your PC to mine cryptocurrency

Cryptocurrency is all the rage at the moment, with Bitcoin's price hitting an all-time high and many people using their PCs to 'mine' virtual coins. The downside to this 'cryptocurrency rush' is that hackers are now injecting code into websites that harnesses the processing power of their visitors' computers to mine coins without their knowledge. Torrent site The Pirate Bay was also caught using a well-known cryptocurrency miner called Coinhive as a means of sneakily making money from its users. Fortunately, you can prevent your own PC from being exploited for someone else's gain by installing a Chrome extension called MinerBlock (bit .ly/miner435), which blocks all known cryptocurrency miners all over the web. Its filters are constantly updated to add newly detected miners and it keeps track of how many it's blocked. Alternatively, try No Coin (bit.ly/nocoin435), which works in the same way.

Skip to the music in YouTube videos

YouTube is the best video jukebox in the world, but many songs are preceded by spoken introductions that delay your listening pleasure. You can fix this audio annoyance using a new Chrome extension called Skipper (bit.ly/skipper435), which skips the talking at the beginning of music videos to take you straight to the tunes. The add-on works automatically but y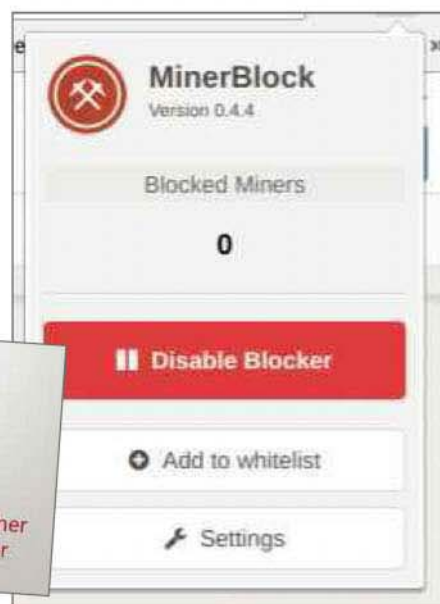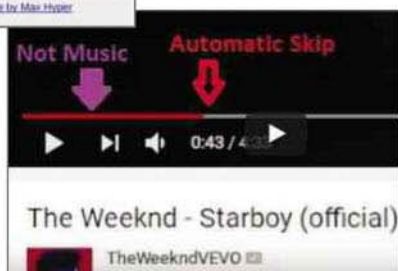ou can also manually set the start and end points for playback and disable it when you want to hear the intro for a video. Usefully, Skipper keeps track of how many seconds of waffle you've skipped, and future plans include the ability to skip any talking in the middle and at the end of videos, too.

Reveal the truth about property listings

Looking for a new home to rent or buy invariably involves reading between the lines of estate-agent speak, which is used to make properties sound much nicer than they are. Help is now at hand from a new extension, charmingly called Sh***move (our asterisks cloak a word some readers may find offensive), which automatically replaces property-selling clichés with "something a little more truthful". For example, "a bright, modern and good-sized studio" becomes "a tasteless, characterless and poor-sized cupboard"; "modernised to a high standard" changes to "done on the cheap to a bare minimum"; and "available now" translates to "please, we're desperate". The add-on works with various property sites including Rightmove, Zoopla, PrimeLocation, Foxtons and Gumtree, and can be expanded to work across the web "for maximum bleakness". Despite its vulgar name, we found it amusing and enlightening. Install it for Chrome and Firefox from bit.ly/smove435.

Block distracting sites using sad animals

When you've got lots of work to do, it's easy to get distracted by fun activities like browsing Facebook, watching YouTube videos and shopping on Amazon. PawBlock (bit.ly/pawblock435) is a new add-on that stops you procrastinating by letting you compile a blacklist of time-wasting websites that it will block until you've finished the task at hand. When you try to access a forbidden site, PawBlock displays a photo of a sad-looking cat, dog or bird and asks if you're sure you want to continue. Decline to do so and the picture changes to a happy pet. If you don't trust yourself, you can configure a 'hard' block that won't let you bypass the mournful critter, so your conscience sends you back to work.
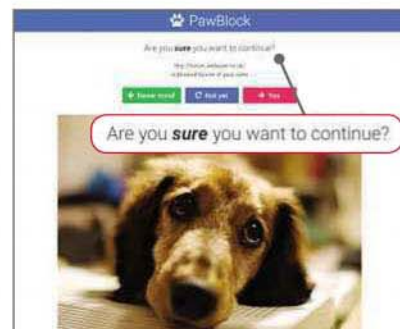
This fortnight's most useful tips and add-ons to help you get the most from Chrome, Firefox, Opera and more

FIREFOX

Share web pages between devices

With the release of the game-changing Firefox 57 (Quantum) only a couple of weeks away, these are exciting times for Mozilla's browser, which is finally gaining some worthwhile tools. One new feature that you can try now is Send Tabs, which makes it easier to share interesting web pages between your desktop and mobile devices. Rather than emailing yourself the link, you can now simply right-click the relevant tab and choose 'Send Tab to Device'. Your data is encrypted end to end, so that nobody else can see what you're sharing – not even Mozilla. You need to be signed into Firefox Sync to use the Send Tabs option, but this is easy to set up and syncs with the Firefox app on both Android and iOS.
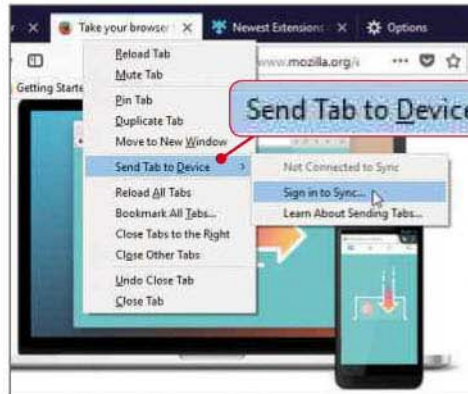
Reopen any recently closed tab

The keyboard shortcut Ctrl+Shift+T is a handy way to reopen a tab that's been accidentally closed but it doesn't tell you which web pages you're restoring. You can make things easier by installing Close Tab History Button (bit .ly/closetab435), which displays all the Firefox tabs you closed recently in a convenient list. Just click the add-on's toolbar button to view your tab history, then select the name of a page to reopen it, or choose Restore All Tabs to reopen the lot.

Close website overlays with one click

Some websites use an overlay to mask their content, such as a message asking you to sign up to a mailing list, for example, or a nag to subscribe. You can remove these overlays with a single click by installing Behind the Overlay Revival (bit.ly/overlay435), an updated WebExtension version of a popular but neglected add-on. When you encounter a site with an overlay, just click its toolbar button to close the annoyance and reveal the page below.

Search Google in private mode

Searching the web with Google is a privacy minefield because not only are you letting the search giant see and store what you're interested in, but you're leaving a record behind on your own computer. One way around this is to switch to a more private search engine such as DuckDuckGo or StartPage but if you'd rather stick with Google, you can use a new Firefox add-on called Search Google in Private (bit.ly/private435). Highlight and right-click a word or term on a web page, as you would normally, and select 'Search Google in Private for...'. This will open your Google search results in a private window so that the details aren't stored in your browsing history. Additionally, because Firefox's private mode signs you out of Google, the search giant won't be able to collect your data either.

OTHER BROWSERS

Perform quick conversions in Opera

The latest version of Opera, 48, expands the browser's built-in currency converter to let you instantly convert measurements and time zones, too. Simply highlight a weight, distance, size, time zone or amount on a web page and a pop-up will appear showing the value converted into your preferred unit of measurement, zone or currency. Conversions include miles into kilometres, Fahrenheit into Celsius, pounds into kilogrammes, yards into metres and many more, and figures can be copied to your clipboard with a single click. To set your default currency, go to Settings, Browser, 'User interface'.

Adjust colour saturation in Vivaldi

Do you find the colour scheme on some websites so bright that it makes your eyes hurt? Some people have experienced this problem on YouTube since the video site's recent redesign, which has spurred Vivaldi to deliver a solution. The innovative browser now offers an option that lets you reduce the colour saturation of pages to make them easier on the eye. To access this setting, go to Tools, Settings, Appearance and, under Color, drag the Limit Accent Color Saturation slider to the left to reduce the brightness.

App of the Fortnight

VOICE ASSISTANT
Google Assistant

bit.ly/gadroid435
bit.ly/gaios435

6 **9.3**

NEW

Google's voice-controlled smart assistant isn't new, as you'll know if you've got a recent Android device, but this app *is* new – and it works on iPhones and iPads as well as Google's Android platform.

What you get from it depends on your device. If you're running Android Nougat (7.0 or above), then you already have Google Assistant and can access it by saying "OK Google". However, it doesn't appear in your apps list or as a home-screen widget – and that's what this app effectively gives you.

If you're running Android 6 (Marshmallow) or iOS 9.3 and above, the app brings the power of Google Assistant to your device, albeit a little less powerfully on iOS than on Android. It also works on Chromebooks, so if you own one of Google's stripped-back laptops, you can now link it more smoothly with your Android device than ever before.

Like Apple's Siri, Google Assistant responds to all manner of voice commands, allowing you to ask about the weather, request a morning alarm (Android only), open a specific app, get directions and so on – like a souped-up Google Search, with added hearing and listening abilities.

The app's Explore section has tips and examples, but what really makes Assistant worth using is the shortcuts feature, which lets you automate certain tasks using your own custom voice commands.

It's intuitive and accurate, but not quite ingenious. It failed to understand our "say goodnight" request to send a WhatsApp message to a contact. However, it did understand the video-launch command in our Mini Workshop (right) – which worked straight away.
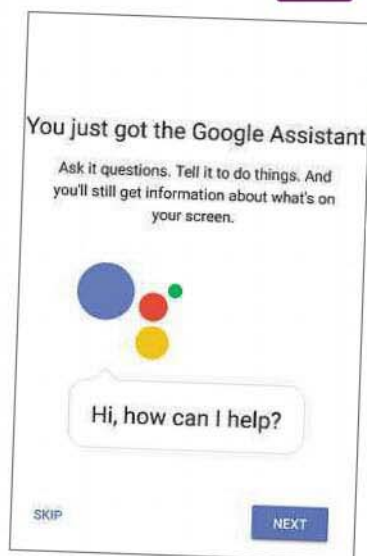
MINI WORKSHOP
Create voice shortcuts using Google Assistant

1 Install and launch Google Assistant. Tap Next, then Get Started. When the 'Teach the Assistant to recognise your voice' screen opens, say "OK Google" until the first bullet point turns into a tick, **1** then repeat twice. **2** To skip setting up voice activation, select Skip. **3** On the next screen, select the option to sign up for email tips, or leave it and tap Next.

2 Say "OK Google" so the microphone icon **1** turns into animated dots, then ask a question before the dots turn back into a mic (if they do, say "OK Google" again). Assistant will transcribe your question, **2** then answer it – both in text form and out loud. **3** To type instead of speak, tap the keyboard icon. **4** To start creating shortcuts, press the tray icon, **5** then tap Your Stuff.

3 Swipe up and tap Add Shortcut. Press the top mic and say a command, for example "123 rolling". **1** Then tap the bottom mic and say an action, for example "launch camera and record video". **2** Assistant will confirm your commands. Press and type if you prefer. Tap Savings, **3** then say "OK Google" followed by your shortcut, and see if your command works!
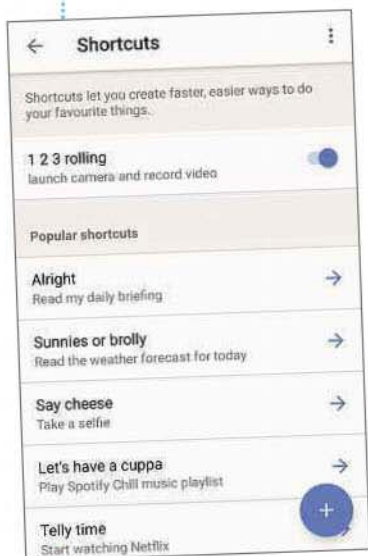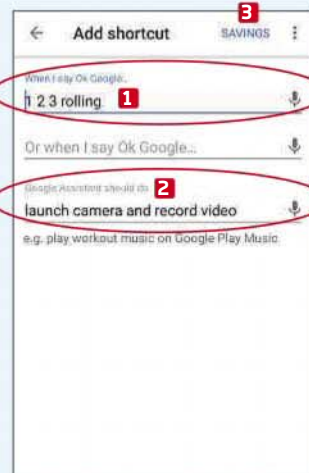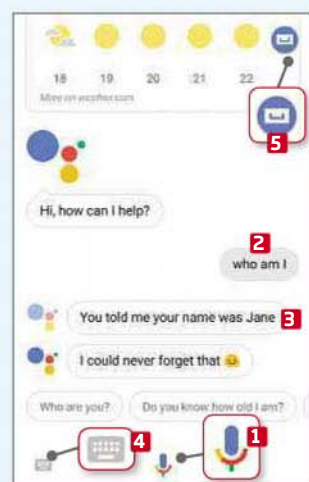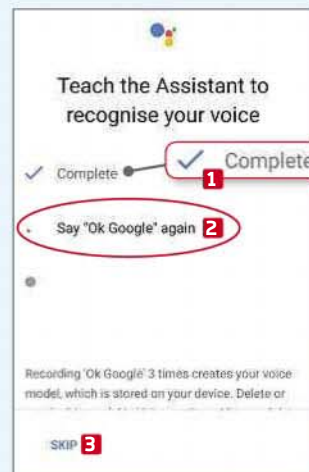
Our rating ★★★★★

This fortnight's top free and paid-for apps for
Android, iOS and Windows phones and tablets

ACCESSIBILITY

NEW

Be My Eyes
bemyeyes
.com

🤖 4.4 🍎 10

"Lend" your sight to a visually-impaired person by using this fantastic app to link you securely to their device's camera, so you can describe what they're struggling to see. For example, you could read out the small print on the packaging for their medication; tell them the expiry date on a carton of milk; or even let them know if their clothes match. And if your eyesight isn't what it was, you can submit a request to the Be My Eyes community of sighted volunteers, which includes multi-lingual speakers.

Our rating ★★★★★

NEWS

NEW

The Guardian VR
www.
theguardian
.com/vr

🤖 6 🍎 9

The Guardian may be nearing its 200th birthday but it can still teach younger news-gatherers a thing or two about digital technology. Its latest app offers a small but growing collection of immersive, interactive, virtual-reality (VR) video-news features. Contents currently include a virtual experience of autism, a 360-degree tour of the Arctic and a crime-scene investigation. It's free with no in-app purchases, but we knocked off marks for its high-end device requirements – you need at least a Samsung S6 or iPhone 6S.

Our rating ★★★☆☆

PHOTOGRAPHY

UPDATED

Microsoft Pix Camera
bit.ly/pix435

🍎 10

Microsoft's powerful camera app is packed with superb shooting, editing and video tools, and this update adds smart scanning support – making it one of the most feature-rich free camera apps around. The new scanning tool understands when you're taking a photo of blackboards, receipts, bills and other documents, and uses artificial intelligence (AI) to crop and sharpen automatically. Pix has also added several new Prisma-style filters including lined notepaper and more rotation options. Shame it's iOS-only, but we're told an Android version is in the works.

Our rating ★★★★★

HOME

NEW

Ikea Place
bit.ly/ikea435

🍎 11

Trekking back to Ikea to return furniture that doesn't fit in your living room is one of modern life's more tedious Sunday traditions. The Swedish sofa-seller's new app aims to give you back your weekends by letting you try before you buy, using 3D augmented reality (AR). Hold up your device to your room, then overlay the image with virtual Ikea products, scaled so you can see if they fit. It even shows you how the room's light falls on an item and affects its colours and textures. There are currently 2,000 products available, with many more to follow. An Android app is also due to launch soon.

Our rating ★★★★☆

GAME

NEW
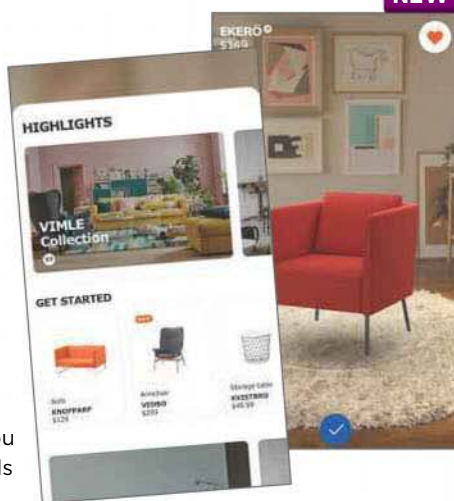
Stranger Things: The Game
bit.ly/stranger435

🤖 4.4 🍎 9

The Eighties-set retro TV sensation has spawned an official mobile game, and judging by the user ratings, it's destined to become just as popular. The app looks and sounds like a classic top-down RPG (role-playing game), with blocky graphics that remind us more of Nineties PC games than *Stranger Things*-era 8-bit – but we're fine with a bit of artistic compromise. You play as one of the kids from the Netflix series, wandering around solving puzzles using your character's special abilities. There's a decent storyline to keep you hooked, and no in-app purchases or ads – although you could argue the whole app is just an ad for Season 2.

Our rating ★★★★☆

5 NEW APPS WORTH PAYING FOR

SOUND
Speccy Spectrum Analyzer
bit.ly/speccy435
Price: 59p
🤖 4

Measure environmental noise levels – including sounds you can't hear with the naked ear – then see the data on fascinating graphs and export it to your clipboard.

PHOTOGRAPHY
Control Room
bit.ly/control435
Price: £3.59
🤖 4.4

This excellent third-party app turns your Android device into a remote control panel for Adobe Lightroom on your PC. It lets you apply Lightroom presets to photos on your device, organise your library, create collections and much more.

FLIGHT SIMULATOR
Ultrawings
bit.ly/uwings435
Price: £8.99
🤖 7

The brilliant virtual reality open-world flight simulator is now available on Android – but you'll need a Daydream-compatible device such as a Galaxy S8, Moto Z or Google Pixel to use it.

CLOCK
Big Ben Chimes Again
bit.ly/bigben435
Price: 99p
🤖 4.2

Big Ben will be silent during its four-year refurb, but this app will bong for you on every quarter-hour, using actual recordings of the parliamentary bell.

ELECTRONICS
Electronic Toolbox Pro
bit.ly/toolbox435
Price: £4.29
🤖 6
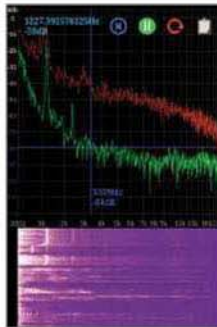
Never mess up a circuit board again, thanks to this comprehensive electronics resource that includes calculators, converters and in-depth guides. It's free of adverts and works entirely offline.

Speccy Spectrum Analyzer

Control Room

Ultrawings

Big Ben Chimes Again

Electronic Toolbox Pro

❌ Don't install...

Bluefire Reader
bit.ly/blue435

This free app aims to be a Kindle equivalent for books protected by Adobe Content Server technology, used by many academic publishers and libraries. It supposedly lets you read, annotate and share textbooks you've paid to download or borrowed from the library, but it hasn't given any thought to the way people read on mobile devices. It won't let you zoom the tiny text, it struggles to work in landscape mode and users report "random page turns". Back to school for you, Bluefire!
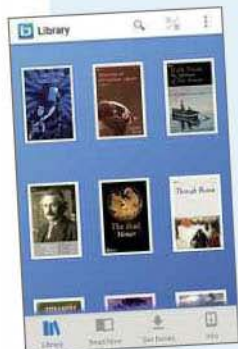
...Install this instead ✔

Wattpad
www.wattpad.com
🤖 (varies) 🍎 9

Wattpad is The People's Amazon – a huge community of readers and writers built on a library of more than 100 million ebooks and growing. It claims that between 100,000 and 250,000 chapters are uploaded every day (reports vary, but there are always lots of noughts), with every single one free to download and read offline. Among the fan fiction and amateur autobiographies, you'll find thousands of classics sourced from Project Gutenberg, along with contemporary work from writers such as *The Handmaid's Tale* author Margaret Atwood and *Da Vinci Code* megascribe Dan Brown. You can discuss content with fellow readers and upload your own stories for others to enjoy. ◼
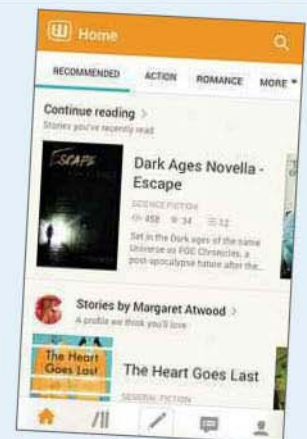
Take a Screen Break

Give your eyes a rest from your browser by taking our fiendish fortnightly challenges. Can you guess our horror film emoji and solve our word puzzle?

CAN YOU GUESS THE HORROR FILMS FROM THE EMOJI?

1. 🎤 🧛
2. 🔊 🐑 🐑
3. 🍬 👴
4. 🇺🇸 🐺 🇬🇧
5. ⭕ 👬
6. 😈 🏇 ⬆️

WEB USER WORD PUZZLE

Enter the answers in the grid to reveal a tech-related term in the highlighted column

1. US name for aubergine
2. Tottenham Hotspur midfielder (4,4)
3. US state, capital Baton Rouge
4. Shakespearean sorceror from *The Tempest*
5. *Coronation Street* character played by Liz Dawn
6. North Korea's head of state (3,4,2)
7. Oscar-winning song from *Breakfast at Tiffany's* (4,5)
8. *Friends* character played by Matthew Perry
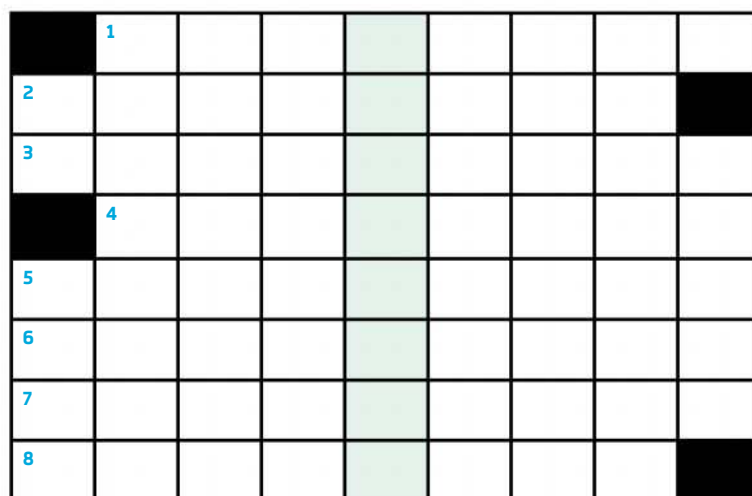
COMPETITIONS

WIN 1 OF 3
BlasterX H5 Tournament Edition gaming headset

WORTH £99.99 EACH

The new version of Creative's outstanding gaming headsets have improved audio drivers that deliver better sensitivity and clearer, louder, more accurate sound reproduction. Looking sleeker than ever, they come with new brushed metal earcup plates and gun-metal finish. To enter, email your address to webusercomp@dennis.co.uk with 'BlasterX' in the subject line. For more information visit uk.creative.com and follow @creativelabs on Twitter.

WIN 1 OF 5
MAGIX Movie Edit Pro 2018

WORTH £59.99 EACH

Thanks to a partnership with Intel, MAGIX's latest version of Movie Edit Pro supports hardware acceleration, making it five times faster to process edited videos. Even 4K footage will play smoothly. There are also Plus and Premium versions available, priced at £79.99 and £99.99 respectively.
To enter, email your address to webusercomp@dennis.co.uk with 'pro' in the subject line. For more information on MAGIX products, follow @MAGIX_INT on Twitter.

Google Clips

Google's new camera takes photos of your family automatically, but is it ingenious or invasive? **David Crookes** explains all

What is Google Clips?

Google Clips is a small camera that's constantly watching, ready to capture life's special moments automatically. The idea is that it acts as a 'designated photographer', patiently waiting in the background until it spots particular individuals or situations that it deems worthy of a snap. This means everyone in front of the lens can simply carry on with what they're doing without having to stop and pose. Google hopes it will make your photos feel more spontaneous.

Google Clips watches and waits for you to do something worthy of a photo

How does it work?

The camera uses artificial intelligence, relying on pre-trained machine-learning algorithms called Moment IQ to determine who is around and whether it's a good moment to take a photo. The technology has been honed by video editors and image experts to determine what works and what doesn't. Once Clips recognises a familiar face and spots a suitable scene, the camera waits until it can take clear, stable shots before recording a seven-second video "clip" (hence the camera's name). The best shots are then selected for you to view.

Where do the images appear?

All clips are stored on the camera, which has 16GB of storage. However, the camera has no screen of its own, so the images need to be wirelessly synced with the Google Clips app to view them. The app is available for Android and iOS, and

Review the shots Clips has secretly captured of your family on its mobile app

lets you select individual frames of your recordings to save as high-resolution photos. Anything you keep or delete helps Clips learn what you like and dislike to ensure its shots are relevant.

Can I take my own shots as well?

Yes. There's one shutter button on the camera and another in the app, in case you want to snap something on the spur of the moment. These manually captured images are stored alongside your automatic shots.

How good are the images?

Clips has a 12-megapixel camera and shoots footage at 15fps (frames per second), using a 130-degree field of view. It uses the JPEG format with embedded MP4s for its moving images, and offers features including auto-focus adjustment, a night mode and three

Even your pets will love being photographed without permission

hours of battery life per charge. However, you can't record audio since the camera doesn't have a built-in microphone.

Where should I put the camera?

Anywhere you like, although Google recommends using Clips indoors where it will work more effectively. The main thing is that it is supposed to be hands-free and portable, weighing only 60.5g and measuring just 49mm in height. It's certainly possible to stand it on a sideboard or table without it falling over, or clip it to a chair or the handle of your child's toy. As long as the camera is stable and well-positioned to capture the moment, it will do its own thing.

Isn't this all a bit creepy?

You wouldn't be the first person to say so. Some people have expressed concerns that Clips is invasive because it's 'always on' and automatically captures footage of you and other people in your home – even making a note of facial expressions. There is a fear that Clips could be used to spy on people and that parents may even be breaching their own children's right to privacy. Add the fact that you get alerted

Elon Musk took time out from inventing things to cast aspersions on Clips

if the lens is blocked and the ever-present danger that the camera could be hacked, and Clips perhaps isn't as clever as it first sounds.

Tech entrepreneur Elon Musk reflected many people's worries when he tweeted about the camera: "This doesn't even *seem* innocent".

Surely Google has considered the privacy concerns?

Of course, we all know how much Google cares about privacy (ahem). In fact, when it announced Clips, Google went to great lengths to address such concerns. For example, it said the camera lights up when it is capturing footage, in the same way that smart speakers make it obvious when they are listening. Furthermore, all the AI and machine learning takes place on the camera rather than in the cloud, and all the content captured is encrypted and stored locally.

The only way those clips can actually leave the camera is when you decide you want to transfer them to your phone. You certainly won't suddenly find them flying around the web – if your images find their way on to Facebook, Twitter or Instagram, it will be because you chose to put them there.

Forget about buying your children trousers and get them a Clips camera instead

When can I get hold of one?

Not for a while. The camera is coming out in the US first, costing $249 (£188), but there's no news yet about when it will make it to our shores (where we fully expect it to cost £249). It's also worth pointing out that Android users must have Android 7 Nougat or higher to use the Clips app and it will currently only work with Google Pixel, Samsung Galaxy S7 and Galaxy S8 phones. Meanwhile, Apple users need iOS 10 or higher as well as a minimum of an iPhone 6.

It's unfortunate that Clips can't work with a computer since these restrictions (combined with a rather high price) look set to make this camera rather niche.

OTHER NEW GOOGLE PRODUCTS

Google Home

There are two new additions to the Google Home range: Mini and Max. The former is Google's answer to the Amazon Echo Dot and is a tiny thing that comes in three colours – charcoal, coal and chalk. Capable of projecting 360-degree sound and picking up your voice from across the room, it costs £49 and works with your Chromecast to let you stream TV shows, films and music to your TV or speakers. Max, meanwhile, is a premium smart speaker boasting two 4.5in woofers and is 20 times more powerful than the standard Home. Unfortunately, Max will only be available in the US.

Pixel Buds

The battle of the buds is on. Just over a year after Apple introduced its Bluetooth AirPods, Google has unveiled a set of its own wireless headphones. Costing £159 and designed for use with the Pixel 2 phone, these offer up to five hours of listening time and incorporate Google Assistant, which lets you access your messages, music and more. The killer feature, though, is real-time translation with Google Translate. Ask the Pixel Buds to "Help me speak Japanese," for example, before talking in English, and the speakers will pump out your translated words. They'll then translate the other person's reply.

Pixelbook

Although it'll set you back a wallet-busting £999, Google's Pixelbook is nevertheless a very desirable-looking hybrid. Part-laptop, part-tablet, it's a mere 10.33mm thick and super light at only 1.1kg, with a 12.3in high-resolution display, a backlit keyboard and a long-lasting battery that can charge in just 15 minutes. It's also the first laptop to have Google Assistant built in, allowing for hands-free control, and will automatically update with the latest software. The Pixelbook runs Chrome OS and offers a generous 128GB of storage.

KODI

Kodi isn't dead – in fact, it's now bigger and better than ever. **Wayne Williams** reveals its best new tools and add-ons, and explains how you can use Kodi without breaking the law

WHAT'S NEW IN KODI 18 (LEIA)

Kodi has yet to confirm a release date for its 18th version – named Leia in tribute to the late Carrie Fisher's *Star Wars* character – but you can download and try a test build now from kodi.tv/download. Click the Development Builds tab and choose the top option.

As with all pre-release software, you may encounter bugs and stability problems, and you shouldn't rely on it for your everyday Kodi needs. But if you're keen to explore the cutting edge, we reveal the best new features you can try before everyone else. For the full list of additions, improvements and other changes in Leia, check out the Kodi v18 change log at bit.ly/changelog435.

Version 18 of Kodi is named after Carrie Fisher's character in Star Wars

Control Kodi with your voice

If your Kodi box is powered by Android TV (which is completely legal so long as you don't have any dodgy add-ons installed), you'll be pleased to hear that Leia integrates the media software with Google's smart TV platform so that content from your Kodi library appears on the home screen alongside Netflix, iPlayer and YouTube. This means you'll

Activate Leia's voice-control option to use Kodi hands-free

see suggested content such as unwatched episodes of TV shows and random albums from your music library. What's more, you can use Google voice search to find content to watch and listen to, with no need to type anything. To activate this feature, open Kodi and go to Settings, Services, then Control and turn on the option 'Allow remote control via HTTP'.

Run 64-bit Kodi on Windows

The MacOS, Linux and Android versions of Kodi have been 64-bit for a while, but Leia will be the first version of the software to have a 64-bit Windows version. The main benefit of this is that Kodi will be able to use more than 4GB of memory, which means it will run more quickly and with fewer crashes on 64-bit systems. Kodi also claims that the 64-bit version will be better able to cope with new video formats.

Kodi 18 is the first version of the software to offer 64-bit Windows support

Play games more easily

Kodi is primarily designed for streaming music and video, but version 18 has taken steps to enhance its gaming capabilities so you can use your PC or TV as a games console. Additions include a RetroPlayer 'player core' that lets you play classic arcade games using emulators; support for gaming add-ons; a new Games option in the main Kodi interface; and a dedicated gaming window. You can also use your keyboard


Kodi's new RetroPlayer feature lets you play classic games on your TV or PC

Better than ever!

I t's fair to say that 2017 has been a massive year for Kodi (www.kodi.tv), with the media software attracting millions of new users and acres of press coverage. However, the attention hasn't all been positive: legal crackdowns, court cases, vanishing add-ons and other bad publicity have combined to create a Kodi backlash and speculation that it could be 'dead' by the end of the year. Kodi's developers and loyal community have always insisted that the software was not designed for illegal purposes, but many newer Kodi users will be wondering if it's still worth bothering with.

In this feature, we redress the balance by revealing the best new features in Leia, the latest version of Kodi; choose our favourite add-ons for streaming content legally; and reflect on Kodi's recent controversies. If you're worried about the legal ramifications of using Kodi, we explain how to set up your own Kodi box in a way that won't get you into trouble, and get official legal advice from FACT, the organisation that is tackling online piracy.
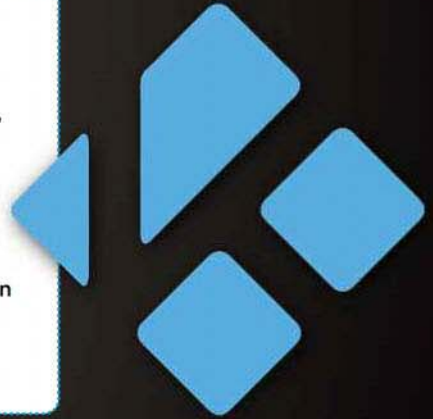
as a joystick to play games and save your in-game progress rather than having to start from the beginning each time. Visit Kodi's RetroPlayer forum (bit.ly/retro435) for more about the new gaming features.

Add anything to Favourites

One of Kodi's most useful features is the ability to right-click a TV series, artist or photo album to add it to your Favourites, so you have quick and easy access to your favourite content from the main Kodi menu. In Leia, this functionality has been expanded so you can add an item to your Favourites, allowing you to create shortcuts to recently added streams, commonly used settings and favourite sources, which will save time in future.

Create shortcuts to your most frequently used Kodi options

Run Kodi from an SD card

Installing Kodi on an Android device takes up quite a lot of space, so we're pleased that version 18 of the software adds the option to move the Kodi app to an SD card. Not only does this free up storage, but it also makes Kodi easier to carry around and run on other devices.

No more Kodi on Vista

If you're one of the 0.43% of Windows users still running Vista, it really is time you upgraded because as of Kodi 18, the media centre will no longer work on the outdated operating system. However, the good news for Vista diehards (if there is such a thing) is that you'll still be able to use Kodi 17 indefinitely, although certain add-ons may stop working. Kodi says: "we never force users to upgrade their Kodi version. You should only update if you wish to do so".

Kodi 18 is the first version to drop support for Windows Vista

Find out what's on next

Leia makes it easier to plan your viewing by adding a channel-guide button to the Kodi interface. Clicking this brings up an electronic programme guide (EPG) for the current channel so you can see exactly what's on and when.

Check the channel guide to make sure you don't miss out on your favourite shows

Use Leia on your Xbox One

The Kodi team says it's working on a Universal Windows Platform (UWP) app that you'll be able to install from the Windows Store and use on your Xbox One as well as your PC. It's widely predicted that this will coincide with the release of Leia, although this has yet to be officially confirmed.

Leia is expected to also be available for the Xbox One

7 REASONS TO KEEP USING KODI

Despite recent controversy, Kodi is still the best free media player around. Here, we explain what makes it so superior

Record live TV to watch later

Kodi lets you watch and record live TV via PVR/DVR (Personal/Digital Video Recorder). This means actual, live broadcast TV, in addition to streaming content via add-ons.

To use the feature, you need to have a TV tuner installed in (or connected to) your Kodi device. There are plenty of tuners to choose from – ranging from cards you install in your desktop PC to devices you plug into a spare USB port.
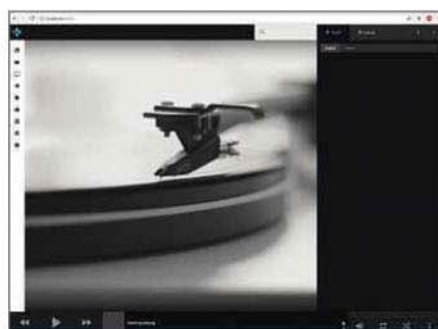
You'll also need a third-party 'backend' to decode the broadcast signals (Kodi provides the 'frontend' – the interface used to browse, watch and record TV). The best option for this is NextPVR (www.nextpvr.com), which is entirely free for personal, non-commercial use. You can watch and record live TV on it, set series links and much more.

Record live TV shows from Kodi to watch later using NextPVR

Access Kodi over the web

Kodi has a special web interface that lets you browse your media library remotely and play content via your web browser. To activate this feature, click the settings cog, then choose Service Settings, Control. Make sure the options 'Allow remote control via HTTP' and 'Allow remote control from applications on other systems' are turned on. You can change your username, password and port here, and also alter the look of the web interface.

To access the web interface from the same computer as Kodi, open your browser and type `http://localhost:8080` (assuming you've left the port specified as 8080 – the default choice). If you want to use the web interface remotely, first make a note of the IP address of the system running Kodi. To do this, click the cog icon, then click System Information and note the IP address. On the remote device, enter `http://[your-ip-address]:8080`, replacing '[your-ip-address]' with the actual IP address.

Control Kodi using a remote

Although you can control Kodi with a mouse and keyboard combo, or touch controls, it's really designed to be used with a remote control. It has what's referred to as a '10-foot interface', which means it can be viewed comfortably from that distance in your living room. You can buy a compatible remote from Amazon or eBay. You'll either want an MCE Remote (which uses infrared and will work with Kodi on Windows and Linux, including on Raspberry Pi) or RF Remote (which uses a dongle or Bluetooth).

You can access Kodi content over the internet using its web interface

Buy a remote control to make the most of Kodi's 10-foot interface

Customise Kodi's appearance

You can make all sorts of changes to how Kodi looks and behaves. This flexible customisability is one of the main benefits it has over rivals such as Plex (www.plex.tv).

For example, you can change the default background and give Kodi a makeover by installing a different skin. Click the cog icon at the top, then click either Interface Settings or Skin Settings and browse the options on offer. To get a new skin, go to Interface Settings and click Skin, 'Skin – Estuary' (the default theme). Click 'Get more' to browse the available choices.

Skin Settings has a 'Main menu items' option that lets you choose which categories appear in Kodi's menu. Toggle off any items you don't require, such as Radio, Add-ons or Weather.

You can change Kodi's skin to make it more compatible with your taste

Run Kodi on multiple platforms

You can install and run Kodi on pretty much any device. There are builds available for Windows, Linux, MacOS, Android, iOS and Raspberry Pi, as well as separate builds for different hardware. For example, you can get a free Kodi Windows 10 app from the Windows Store (bit.ly/kodiwin435).

Although Kodi is technically available for iOS, you need to jailbreak your iPhone or iPad to install it, which risks invalidating your warranty and 'bricking' your device.

Create custom user accounts

If you're concerned about other family members having access to Kodi and installing add-ons that will let them watch illegal content,
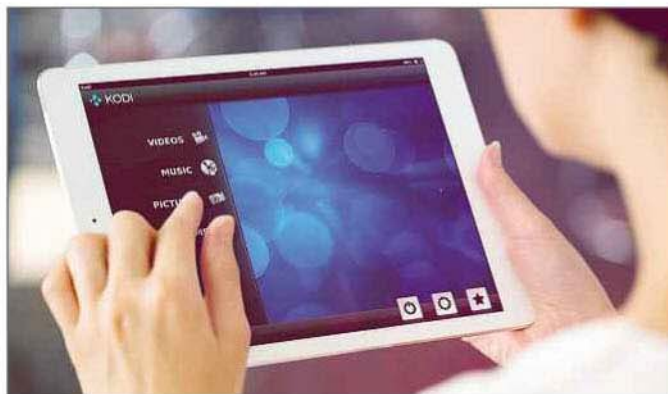
You'll need to jailbreak your iPad if you want to run Kodi on it

Set up separate accounts for everyone in your home who uses Kodi

the great news is that you can set up multiple user profiles for each person, and limit what they can and can't do. To set up profiles, just click the cog icon at the top and open 'Profile settings'.

Select Profiles in the sidebar, then click the 'Add profile' tile. You can keep your media library separate, secure each profile with a password and fully customise each account.

Join the thriving Kodi community

Although many popular third-party add-ons have vanished recently – either for legal reasons or because the developer has withdrawn them – there are still plenty of excellent user-created add-ons and Kodi community sites that you can access.

The official Kodi forum (forum.kodi .tv) is both busy and friendly. Meanwhile, over on Reddit, you'll find the /r/Kodi community offering advice and answers to questions. Because these resources are populated by loyal Kodi fans, they don't promote dubious add-ons that could get you or Kodi in legal trouble.
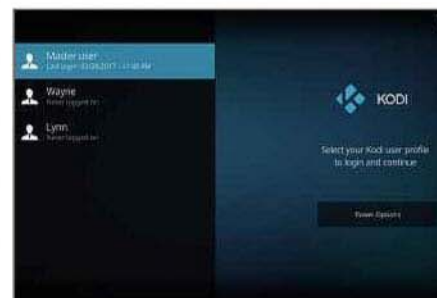
BUILD YOUR OWN KODI BOX

It's now illegal to buy 'fully loaded' Kodi boxes (see our legal FAQ on page 47), but you can still purchase them without the dodgy add-ons. You can also install Kodi on devices you already own or that are reasonably cheap to buy. The three best and most affordable choices for making your own Kodi streaming box are Amazon's Fire TV Stick, Google's Chromecast and the Raspberry Pi. These all cost £30-£40, but can sometimes be picked up for even less – look out for Black Friday deals on 24 November.

The process for using Kodi on these devices is very different. It's possible to install the software on the Fire TV (stick or box – see our Mini Workshop below) or the Raspberry Pi. In fact, there are dedicated Kodi operating systems such as LibreELEC (libreelec.tv) designed for the latter. However, you can't install it on the Chromecast; instead, you need to stream content from Kodi directly to Google's dongle. Alphr has a guide explaining how to do this at bit.ly/chromecast435.

Get recommendations and advice from Kodi's knowledgeable community

MINI WORKSHOP | Install Kodi on a Fire TV Stick

1 One of the easiest ways to get Kodi onto your Fire TV Stick is to use the Downloader app. First, connect your Amazon device to a screen and go to Settings, Device, Developer Options (or Settings, System, Developer Options on the old interface). Enable 'Apps from Unknown Sources' **1** and OK the warning that appears.

2 Return to the Home screen, search for 'Downloader' and install that app. Open Downloader and type `kodi.tv/ download` in the address box. **1** You might need to enable JavaScript, which you can do through Settings. **2** Scroll down to the Android downloads and select the option 'ARMV7A (32BIT)'.
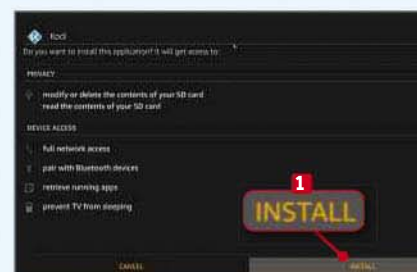
3 Once the download completes, you'll be asked if you want to install it. Click the Install button in the bottom-right corner. **1** Once it's installed, you'll be able to open Kodi and configure it as required. You'll find the app under 'Your Apps & Games'. Tap the three-line button on your remote and select 'Move to Front'.

15 BEST LEGAL KODI ADD-ONS

There are hundreds of official Kodi add-ons that are completely safe and legal to install and use. Here are some of our favourites

1 YouTube
bit.ly/youtube435

Google's video site works brilliantly with Kodi, which makes this add-on a must-install for anyone wanting to enjoy YouTube's billions of hours of free content. The add-on isn't created by Google but it's completely legal to use.

2 Met Office
bit.ly/metoffice435

The Met Office provided weather data for the BBC for 93 years, before being dropped by the corporation in 2015. Its forecasts are some of the best around, and this add-on tells you what to expect weather-wise before heading out.

3 iPlayer WWW
bit.ly/iplayer435

The BBC's streaming service is available on most smart TVs and set-top boxes, and it makes sense to have it installed on Kodi, too. Although iPlayer WWW isn't an official BBC add-on – it's not created, maintained by or affiliated with the Beeb – it's perfectly legal because it merely provides a front end to the service. You need to be based in the UK to access iPlayer content, and have a BBC ID and valid TV licence.

4 Kermode & Mayo's Film Review
bit.ly/kermode435

If you're planning a trip to the cinema, this popular add-on can help you choose what to watch – and what to avoid! It provides access to full-episode podcasts and video clips in which Mark

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KODI CONTROVERSIES

Kodi has always sought to distance its software from online piracy but, as our timeline shows, it hasn't always succeeded

XBMC GAINS SUPPORT FOR ADD-ONS
Version 10.0 (Dharma) of XBMC (Xbox Media Centre, later to be renamed Kodi) is released, and introduces the ability to install third-party add-ons. Few people realised at the time quite what this would mean for its future.

XBMC BECOMES KODI
Due to potential legal problems, and an increasingly nonsensical name, XBMC is renamed Kodi. Not everyone is happy with the new name, and the transition takes a while to be accepted.

KODI THREATENS THIRD-PARTY PRODUCTS
Kodi says it will strictly enforce its trademark to prevent third-parties from selling fully-loaded devices. Not much happens.

ADD-ONS UNINSTALL ADD-ONS
Team Kodi reports that some users have discovered third-party add-ons going missing. The cause turns out to be bad add-ons removing rivals from the installation.

Dec 2010 · May 2011 · Aug 2014 · June 2015 · Dec 2015 · Feb 2016 · May 2016 · Jan 2017

NAVI-X TAKES OFF
The Navi-X Media Browser, which launched in 2007, grows in popularity after it becomes able to play streams, including pirated content (it finally closes down in May 2017, due to legal issues).

AMAZON DROPS KODI
The Amazon Appstore pulls Kodi on the grounds that it can be "used to facilitate the piracy or illegal download of content".

FIRE TV STICK SELLS OUT
Amazon's Fire TV Stick experiences a major stock shortage in the UK. The main cause is believed to be Kodi users buying it to stream content from the web.

EXODUS USED TO LAUNCH DDOS ATTACK
Popular third-party Kodi add-on Exodus was adapted by its creator to attack users who he felt were trying to get him into legal trouble. This move essentially turned Exodus into a DDoS (Distributed Denial of Service) botnet. After the controversy, the developer pulled the plug on the add-on.

Kermode and Simon Mayo pass their verdict on the week's movies.

5 SoundCloud
bit.ly/sound435

The online audio-distribution platform looked set to close earlier this year, but happily it's since found the required funding to stay afloat. SoundCloud's add-on offers a great way to discover new music, with many tracks uploaded directly from the artists themselves.

HOW TO INSTALL LEGAL KODI ADD-ONS

To install add-ons from within Kodi, select Add-ons in the left-hand menu and click the open-box icon in the top-left corner to open the Add-on browser. From here, you can either search for a specific add-on or choose 'Install from repository', 'Kodi Add-on repository' and browse the categories. Click the Install button and after a few seconds, an 'Add-on installed' message will appear.

Alternatively, find the add-on at kodi.tv/addons, download its ZIP file to your computer, then choose the 'Install from zip file' option in Kodi's Add-on browser.

6 Plex
bit.ly/plex435

Plex is a powerful media server that lets you stream movies, music and photos stored in a central location to any device on your network – or beyond. The official Plex for Kodi add-on was recently updated to let everyone enjoy the benefits of Plex in Kodi for free, without needing to switch between the two. If you upgrade to a paid-for Plex

Pass, you can unlock additional features.

PREMIER LEAGUE GOES AFTER ILLEGAL STREAMERS
The Premier League gains a High Court injunction that allows it to force ISPs such as BT, Sky, TalkTalk and Virgin Media to block unauthorised football streams on Kodi.

AMAZON BANS KODI BOXES
Amazon makes a change to its policy to state: "Anyone selling products that 'promote, facilitate, or enable' illegal access to copyrighted TV will now have their accounts suspended."

FULLY-LOADED BOX SALES MADE ILLEGAL
The sale of fully loaded Kodi boxes across the EU is ruled illegal by the European Court of Justice.

ILLEGAL FOOTBALL STREAMS RISE
It becomes clear why the Premier League targeted Kodi owners when a BBC survey discovers that nearly half of all football fans have watched illegal streams, with 36% doing so at least once every month, and 22% once every week.

A MILLION PIRACY BOXES
The Intellectual Property Office (IPO) estimates that over a million Kodi boxes with piracy-enabling software installed on them have been sold in the last couple of years.

March 2017 — **April 2017** — **July 2017** — **August 2017** — **September 2017**

APRIL 2017
Kodi fans are shocked when the official Kodi website opens with a message stating the site has been seized by Homeland Security. Hilariously, it turns out to be an April Fool's joke.

TVADDONS SUED
A controversial Kodi add-ons site vanishes from the web after being sued. It comes back, but continues to face legal woes. Kodi itself is not a fan of the site and calls for it to be shut down, saying it brings "nothing but misery".

KODI BOX SELLER ON TRIAL
Middlesbrough-based shopkeeper Brian 'Tomo' Thompson was set to go to court in what promised to be a landmark case over the sale of 'fully loaded' Kodi boxes. He eventually struck a deal and changed his plea to guilty to avoid a trial.

offers a great selection of content, including movies, TV, music, user-uploaded clips, 3D video and live streams. Install this add-on to browse and watch all the available content on your Desktop.
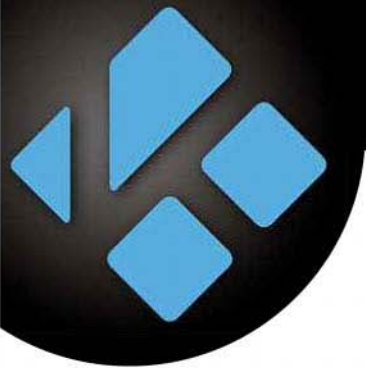
7 Apple iTunes Podcast Browser
bit.ly/pod435

Apple iTunes gives you easy access to thousands of free podcasts, but there's just one downside – you need to have Apple's media software installed. This unofficial add-on lets you browse and search through all the available podcasts – audio and video – arranged by genre, and you don't need iTunes on your computer to use it.

8 BuzzFeed
bit.ly/buzz435

Even if you don't visit the massively popular website (www.buzzfeed.com), there's a good chance you'll have read or watched some BuzzFeed content elsewhere on the web. This add-on gives you access to BuzzFeed Motion Picture's flagship channel, where you can enjoy some excellent video content for free.

9 Dailymotion
bit.ly/dailym435

Dailymotion is a video-sharing site based in France. The YouTube rival

10 OneDrive
bit.ly/oned435

If you use Microsoft's free cloud-storage service to host your audio and video content, you can use this add-on to stream media files directly from your account. You can connect an unlimited number of OneDrive accounts, and search across them. As you might expect, this add-on is not endorsed by or affiliated with Microsoft.

11 Geek & Sundry
bit.ly/geek435

Geek & Sundry are the creators of numerous nerdy but entertaining shows, such as *The Guild*, *Critical Role*, *Tabletop*, *Sagas of Sundry*, *Shield of Tomorrow*, *Space Janitors* and *Alpha Schedule*. Check them out through this unofficial add-on.

12 TED Talks
bit.ly/ted435

TED (Technology, Entertainment, Design) is a non-profit organisation devoted to "ideas worth spreading". Its lectures are delivered by experts in a wide range of fields, and in many
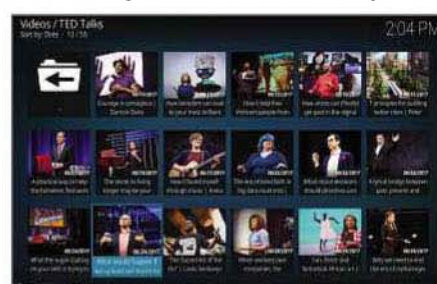
different languages. Whatever your interests, you're bound to find a talk to educate and inspire you.

13 Vevo
bit.ly/vevo435

Vevo is *the* place to watch music-related content, including new and classic videos, artist interviews and original shows. This unofficial add-on gives you access to all the content hosted on the website and works like a kind of unlimited video jukebox.

14 Vimeo
bit.ly/vimeo435

After YouTube (and Facebook), Vimeo is the biggest and best video-sharing site on the web. It doesn't have the same breadth of content as Google's site, but it does host a wealth of high-quality curated videos, including creations from professional filmmakers and videographers.

15 Twitch
bit.ly/twitch435

The Amazon-owned Twitch (www.twitch.tv) is best known for streaming live gaming but it also streams TV content. This unofficial add-on lets you browse and watch whatever you want on the service. It comes with playlists and collections, and works very well on a big-screen TV.

YOUR LEGAL STREAMING QUESTIONS ANSWERED

We asked Alice Skeats from FACT (www.fact-uk.org.uk), the UK's leading intellectual-property protection organisation, to answer your most frequently asked questions about the legal issues surrounding Kodi

FA C T

Q Is it legal to download and use Kodi?

A Yes, Kodi is perfectly legitimate software. It is also legal to buy a digital TV device preloaded with Kodi. It is when the device is preloaded with apps and add-ons that allow access to copyrighted content, such as TV, films, sports, music and games, that it becomes illegal

Q What are the risks of streaming illegally?

A Whether it's illegal streaming or downloading, these unlawful activities can leave you and your family at risk from malware, viruses, ransomware, scams and fraud. Protection of copyright is important in ensuring our creative industries continue to flourish and the jobs of the

people behind the scenes – such as carpenters, costume designers and sound engineers – are protected.

Q How can I avoid illegal streams?

A If you come across a device or service that is offering films that are currently showing at the cinema – or is giving away premium TV services without a subscription from an official provider such as Sky, BT or Virgin Media – then it's illegal. Our advice is to stay clear of any service or product that offers ways to dodge direct subscriptions. If you want to watch premium paid-for channels, go directly to the official provider. As the old saying goes, if it looks too good to be true, then it probably is.

Be cautious of offers for 'free' content when searching for and purchasing

downloads from unfamiliar sites. Look out for terms such as "Unlimited Movie Downloads" and "100% legal", which usually indicate pirated product.

Q Why is watching a temporary stream illegal?

A The EU Court of Justice ruled earlier this year that people using a digital device to stream and watch content without the right permissions were breaking the law (bit.ly/justice435).

This ruling also applies to temporary acts of reproduction of a copyright-protected work without the consent of the copyright holder.

Q How is FACT tackling online piracy?

A FACT is working closely with our clients such as the Premier League, Sky, BT Sport, Virgin Media, Studiocanal and Eone – as well as law enforcement and the government – to tackle online piracy. We lead on days of action across the country where multiple raids are executed, and we also carry out online disruption and internet investigations.

If you have information on illegal streams or add-ons, you can report it anonymously to Crimestoppers online at bit.ly/crimestoppers435.

FACT helps to protect intellectual property from being pirated online

Illegal streaming of copyrighted content has increased in recent years

TURN BACK TIME

GO BACK ONLINE

Wasn't life so much better in the good old days? **Robert Irvine** finds out as he reveals how to revisit the past using the web's latest tools

🕐 See how your area looked 130 years ago

There's no shortage of historical maps to explore online, but few sites put them to such interesting and effective use as the National Library of Scotland's georeferenced maps viewer (bit.ly/georef435). Search for a location in the UK or choose a county from the drop-down menu, then select a historical map or map series to apply it as an overlay. The available data goes back as far as Ordnance Survey one-inch maps from 1885 and includes maps showing railways, roads and population change. You can zoom right in to explore in detail and – best of all – use the transparency slider to adjust the opacity and see how that area looks today, in either map, satellite or hybrid view. The NLS also offers tools for comparing historical maps side by side, not just for the UK but the whole world.

Where has the Shell Centre gone? That's building-site London for you!
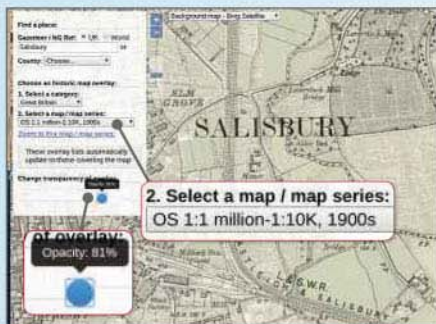
Use the NLS's opacity slider to travel back and forth through time

🕐 Take a trip backwards in Street View

If you want to see how an area has changed at street-level over the past few years, Google Street View can be your TARDIS. Search for a place in Google Maps (maps.google.co.uk), drag the pegman to the map to activate Street View, then look for the clock icon in the top-left corner. Click the down arrow next to this to open a panel showing archive Street View imagery of that location, which has been updated over the years. Drag the slider to one of the dots to jump to that point in time, then click the image to display the past view full-size in the main browser window. Some of the imagery dates back to 2008, when the Street View cars started capturing the UK, and it lines up perfectly with the most recent shots.

🕐 Compare living costs then and now

Remember when you could buy a pint of beer for a quid, or a house for £20,000? But then wages were lower back then, and it was all pounds, shillings and pence, so how can you compare? Well, you could take a look at The Year You Were Born (bit.ly/living435), an online tool from interior-design company Hillary, which shows you living costs for any year from the last century, helpfully adjusted for inflation. Its figures include the cost of a car and fuel; the average house price and mortgage rate; and the average salary and cost of a weekly shop. Flick the 'Compare to today' switch to see if a specific outgoing is cheaper or dearer today, along with other interesting information such as the highest-grossing film, the English football champions and notable news events.

Discover if you'd have been better or worse off back in the Seventies

Rediscover the music of your youth

If, like us, you find today's pop music a bland, uninspired, auto-tuned, nerve-shredding racket, you'll love Spotify's new Your Time Capsule feature. As we explained in last issue's What's New Online, this generates a personalised playlist from songs in your library that it deduces you would have been listening to when you were a teenager.

Spotify's selection comprises at least 30 tracks and lasts for around two hours, and we found its choices to be mostly bang-on and delightfully nostalgic. As for how the streaming service knows your age, this may have slipped your mind but when you first started listening to Spotify, you will have either provided your date of birth or signed up through Facebook and granted it access to your profile.

Your Time Capsule can be found in the Made For You section of the Spotify app, in the Web Player at timecapsule.spotify.com and by searching the service for your time capsule.

Spotify's Your Time Capsule feature plays hits from your school disco

See how the web looked 10 years ago

Some websites never seem to change (we're looking at you, Reddit), but others are constantly evolving to reflect the latest technology and design trends. You can find out how 15 popular sites looked in November 2007 by visiting Ten Years Ago (tenyearsago.io). Click a logo such as YouTube, BBC or IMDb to jump back a decade from today.

For a more thorough exploration of the past, head to the amazing Wayback Machine (web.archive.org), which powers Ten Years Ago and now has more than 306 billion pages saved in its archive. Just search for a URL and select a date to view the site as it appeared back then. Note that some images and design elements may be missing from older snapshots.

Here's how the BBC homepage looked in October 2007 – very blue!

Play number-one songs from any year

Lots of websites tell you what song was number one on the day you were born – 'If' by Telly Savalas, since you're asking – but Birthday Jams (www.birthdayjams.com) goes a little further. It lets you

Is your birthday song cooler than Kojak's spoken-word version of 'If'?

search for any date from 1953 to 2010, to see what was topping the hit parade on that day in both the UK and US (and the American alternative and dance charts). What's more, it displays a YouTube video for the song, for your instant audio gratification (or mortification, as the case may be), and lets you share it on social media.

View historic photos of your community

It's always fascinating to look at old black-and-white and sepia photos of your area, if only to marvel at the lack of traffic or to try to spot someone not wearing a hat. Historypin (www.historypin.org) brings together historic images and personal stories from communities around the world, but particularly in the UK (where the site originates). Search for a town, city or county to see where relevant archive content has been pinned on the map, either in the form of individual photos and videos or collections of local material. Ingeniously, pictures are superimposed on Street View imagery of the exact locations they were taken.

If you'd rather look down on the past from above, the brilliant Britain From Above (britainfromabove.org.uk) has more than 96,000 aerial photos and videos of England, Scotland and Wales, from the years 1919 to 1953. ■

Historypin superimposes old-time photos on their current locations

TURN OFF FACEBOOK'S 'ON THIS DAY'

Although it goes against the spirit of this feature, we're not fans of Facebook's On This Day notifications, which tell you when you have "memories" to share of a post you made or were tagged in on this day in the past. Sometimes such memories can be notable but more often they document unremarkable events such as eating chips or watching a film with someone you no longer like.

To control your On This Day notifications, go to facebook.com/onthisday, select Preferences and specify if there are certain people and date ranges you don't want to be reminded of. To banish the memories altogether, choose Notifications and select None. Alternatively, choose Highlights to only see memories involving your top friends.

Why remind yourself of what appears to be drunken gibberish?

Best free Android launchers

If you don't like your Android device's home screen, change it by installing a launcher to add new features and customisation options. **Edward Munn** checks out six of the best

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Microsoft Launcher | bit.ly/microsoftl435 | ★★★★★

FEATURES ★★★★★ PERFORMANCE ★★★★☆ EASE OF USE ★★★★☆

WebUser
GOLD AWARD

What we liked:

The new Microsoft Launcher brings the familiarity of Windows 10 to your Android phone. The launcher's standout feature is its Feed tool, which displays all your important information at a glance. Swipe right from the main home screen and you'll find cards for People, 'Frequently used apps', Calendar, News and everything else you might think of using on a daily basis. There's also a handy 'Recent activities' card, showing your latest photographs, messages, phone calls and more.

You can arrange your favourite apps and widgets on the home screen in any order you like, and there's a search bar at the top for finding apps and contacts, and for searching the web. The app drawer also contains handy shortcuts to new and recently used apps, providing another route to quickly finding what you want.

Microsoft Launcher's look and feel can be customised in various ways. For starters, it automatically selects an attractive new Bing wallpaper every day, and you can also change the theme and app icons. There are options to enable vertical scrolling (rather than swiping left to right) on the home screens, and it lets you display unread counts and hide any apps you don't use.

Microsoft has managed to ensure that Launcher not only looks like Windows 10 but also offers integration between your phone and PC. Long-press photos or documents from the Recent Activities window, for example, and you can open them instantly on your Windows 10 PC.

The launcher is also one of the fastest we tested and supports a wide range of gestures to help you get around your phone even more quickly.

How it can be improved:

The design of Windows 10 doesn't appeal to everyone and it can sometimes look quite jarring when viewed alongside the Material Design of Google's Android apps. Somewhat inevitably, Microsoft Launcher pushes you towards using Bing rather than Google as your default search tool.

OUR VERDICT

Microsoft Launcher's all-round performance, usability and features make it the best free launcher you can get. It's faster than Evie and offers loads more features than the free version of Nova, making it a shoo-in for our Gold Award.

Nova Launcher | bit.ly/nova435 | ★★★★☆
FEATURES ★★★★☆ PERFORMANCE ★★★★★ EASE OF USE ★★★★☆

WebUser SILVER AWARD

What we liked: Nova Launcher is a long-time *Web User* favourite and we love how it lets you fully customise the look of your home screen and app drawer.

Import the layout from your current launcher and you can choose to display any number of icons on the home screen, up to a 12x12 grid; change their size and appearance; and even remove their labels.

Unlike other launchers, Nova lets you position apps and widgets halfway between grid cells, and there are handy options to display a permanent search bar on the home screen and add multiple pages to the dock, so you have everything you need at your fingertips.

A home-screen lock ensures you don't accidently delete icons or widgets, and Nova's handy Night Mode helps to reduce eye strain when you use your phone after dark.

Performance is also top-notch: it's just about the fastest launcher we've ever seen, and you can make it even speedier by adjusting its settings for scroll speed and animation speed.

How it can be improved: Many of Nova Launcher's best features – including gestures, unread counts and the option to hide apps – are only available if you upgrade to the premium version for a one-off cost of £3.99.

OUR VERDICT
Nova Launcher offers a level of customisation unmatched by its rivals. Coupled with its slick performance, it'll give any Android device a new lease of life.

Evie Launcher | bit.ly/evie435 | ★★★★☆
FEATURES ★★★★☆ PERFORMANCE ★★★☆☆ EASE OF USE ★★★★★

WebUser BRONZE AWARD

What we liked: What we love most about Evie Launcher is its common-sense design. The menus are carefully thought out and the launcher's main functions are simple and intuitive: swiping down on the home screen opens its search facility; swiping up opens the app drawer.

Like Nova, Evie offers an impressive selection of customisation options that let you change the appearance of the home screen, app drawer and dock. Unlike Nova, it doesn't charge you anything to use gestures (swiping up with two fingers launches Google Now and double-tapping locks your phone), display unread counts and hide apps that you don't want others to see.

As with our other award winners, Evie comes with the option to back up your home screen so you can easily restore your configuration to a new phone.

How it can be improved: The only thing we really didn't like about Evie was that it was noticeably slower than our other award winners. The widgets menu, in particular, was sluggish to load, which put us off wanting to use it as our default launcher.

OUR VERDICT
Evie would have been a strong candidate for our Gold Award if only its performance had lived up to its brilliant design, impressive range of features (all available for free) and exceptional ease of use. However, it was noticeably slower than its rivals.

BEST OF THE REST

Google Now Launcher
bit.ly/now435
Google Now Launcher does exactly what it says on the tin and brings Google Now to your home screen, where you can view it with a simple swipe to the right. It's a great choice if you want to make your phone or tablet run quickly and look like the standard version of Android that Google uses on its phones, but it has far fewer tools and customisation options than our award winners.
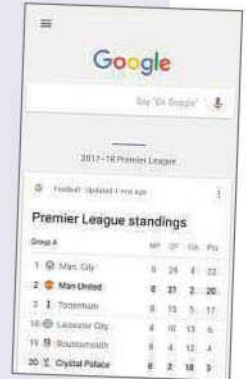
Yahoo Aviate Launcher
bit.ly/aviate435
If you want a launcher that will automatically organise everything for you, Aviate is as good as it gets. Swipe left and you'll find 'collections' of apps including Productivity, Entertainment, Social, Music and Photography. Swiping right displays a page of handy cards containing news, weather, calendar events and more. Our only criticism is that Aviate lacks many basic customisation options, so you're largely stuck with what it gives you.

Action Launcher
bit.ly/action435
This versatile launcher brings many of Android Oreo's features to your device including adaptive icons, notification dots and Google Now integration. Like Nova Launcher, it also gives you heaps of customisation options. However, it's not obvious until you install the launcher that many features aren't included in the free version. It also frequently pesters you to upgrade to Action Launcher Plus at a cost of £4.49.

Capture and edit screenshots and record your activity in iOS 11

Apple's latest major update to iOS lets you record your screen and edit screenshots as soon as you take them. Here's what you need to know

Apple iOS 11: bit.ly/appios435 | 🕐 **10 mins** | **iOS 11**

The latest version of Apple's mobile operating system adds a host of useful features including a new screenshot editor and screen-recording tool. While the method for taking a screenshot on your device remains the same – hold down the Home and Sleep/Wake buttons simultaneously – you can now easily edit the capture immediately after. The new screen-recording tool lets you make a video of whatever you're doing on screen and even add optional narration. It's very easy to use, although you'll need to enable the feature as it's not available by default. In this Workshop, we look at how to master both new tools.

MAGNIFIER
The Magnifier puts a floating bubble on screen, which zooms an area and stays there permanently

1 When you take a screenshot in iOS 11, a thumbnail of the capture appears in the bottom-left corner. **1** This stays on screen for a couple of seconds, but you can dismiss it immediately by swiping it to the left. Tapping the thumbnail takes you to the new screen editor.

2 You can use the handles around the screenshot **1** to crop out any areas you don't require. You can write or draw on the image using a pen, marker or pencil. **2** To select a writing implement, just tap the one you want and start drawing.

3 To change the ink colour, tap one of the coloured dots. **1** You can pick from white, black, blue, green, yellow and red. If you make a mistake while drawing, you can rub out your work using the eraser tool **2** or undo/redo the last action using the button in the bottom-left of the screen. **3**

4 The Select tool **1** lets you draw around a shape or some text and move it elsewhere on your screenshot. **2** Tapping the plus sign **3** brings up a menu containing more tools – Text, Signature and Magnifier **4** – and a selection of shapes – square, circle, speech bubble and arrow. **4**

5 Select a shape and it will be added to your screenshot. **1** Use the blue handles **2** to move and resize it. The green handles **3** let you change an angle, such as bending an arrow. You can change the shape's outline colour **4** and thickness, **5** or fill in the shape completely.

MULTIPLE SCREENS
If you take more than one screenshot at a time, they'll all appear in the editor – just scroll to the side to switch to the next image

TEXT
If you select the Text option, you can change the colour and typeface – choose between Helvetica, Georgia and Noteworthy – and change the size and position

ARROW
You can change the type of arrow used on screen – choose whether it should have none, one or two arrowheads

Great for OS maps

6 To record on-screen activity – maybe to demonstrate a particular task or to show off your gaming skills – you need to add the Screen Recording feature to iOS 11's Control Centre. Open Settings, go to Control Centre and tap Customise Controls. Scroll down and tap the green plus sign next to Screen Recording. **1**

7 When you're ready to record some activity, swipe up from the bottom of the screen to display the new Control Centre. You'll see the Screen Recording icon at the bottom. **1** Lightly press down on it to begin recording. A three-second countdown gives you the chance to minimise the Control Centre.
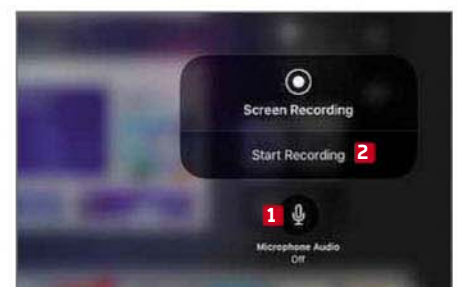
8 If you press and hold the button for longer, you'll have the option to turn Microphone Audio on or off **1** and start recording. **2** Press Stop Recording when done. Your captures will be saved to the Camera Roll, like everything else. Open Photos, find the video and tap Play to watch it.

Take control of your Windows restore points

**Restore Point Creator: bit.ly/rpcr435** | ⏱ **20 mins** | 🪟 **Windows Vista, 7, 8, 10**

Windows has a built-in tool for rolling your computer back to its previous state if you happen to install something that causes your PC to crash. While it's no substitute for a full backup, System Restore works by creating a series of 'restore points' – snapshots of your system (including system files, installed applications, Registry and system settings) at particular points in time. When something goes wrong, you choose the point you'd like to go back to and your PC should work again. The problem is that the System Restore software is basic, cumbersome and tricky to configure.

Restore Point Creator lets you manage your restore points via a simple interface that's much easier to use and has many more options than Windows' own tool. In this Workshop, we show you how to use it.
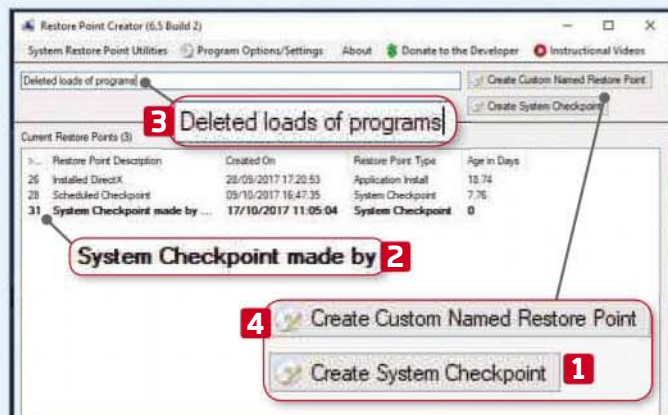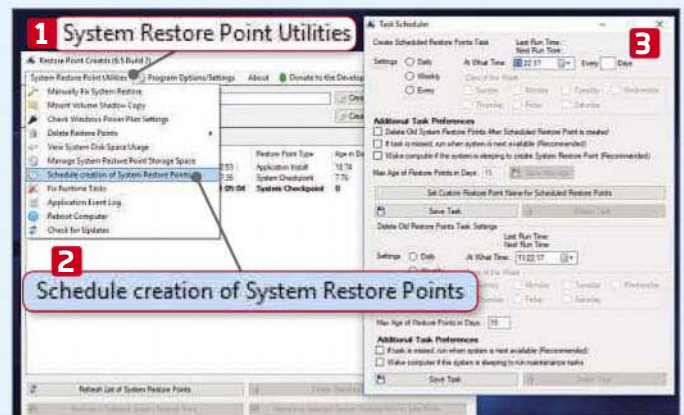
1 The simplest way to create a new restore point is to click the Create System Checkpoint button. **1** This creates a standard point with an automatically generated name. **2** If you'd rather name the restore point yourself, perhaps referring to an action you've just performed, type it into the box **3** and click Create Custom Named Restore Point. **4**

2 The program can schedule the creation of restore points for you. Click System Restore Point Utilities, **1** then select 'Schedule creation of System Restore Points' **2** from the menu. This opens a complicated-looking scheduler Window, **3** the settings for which will feed into Windows' standard Task Scheduler.
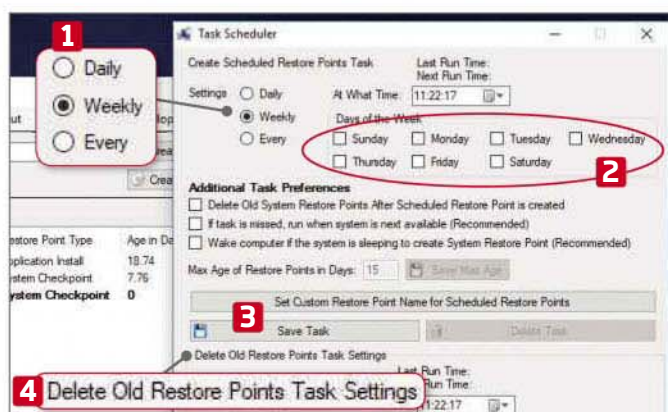
3 You can choose whether to create restore points daily, weekly or at a specific repeating time (Every). **1** Choose your options and fill in the relevant settings: for example, the days of the week if you've chosen Weekly. **2** Press Save Task or choose a custom name. **3** You can also schedule when you want tasks to be deleted. **4**
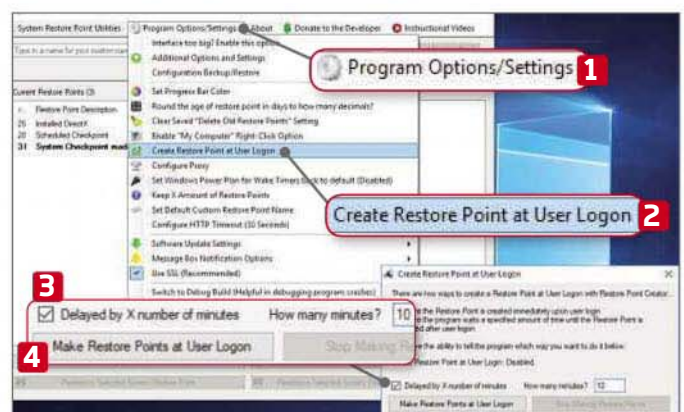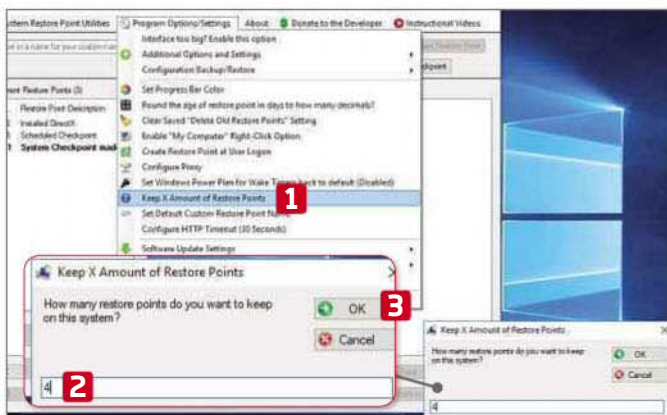
4 You can set the software to create a restore point every time you turn on your PC or log into Windows. Click 'Program Options/Settings' **1** and choose 'Create Restore Point at User Logon' from the menu. **2** Set your PC to wait a few minutes **3** before creating the restore point, so it doesn't slow your startup. Click 'Make Restore Point at User Logon'. **4**
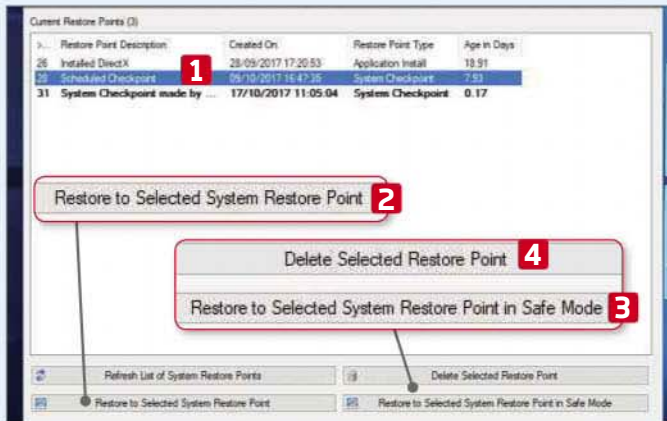
5 To roll back your PC, click a restore point to highlight it in the main window. **1** The basic option is to choose 'Restore to Selected System Restore Point'. **2** If this doesn't work, try restoring it in Safe Mode. **3** There's also an option to delete an old restore point manually, if you no longer need it. **4**
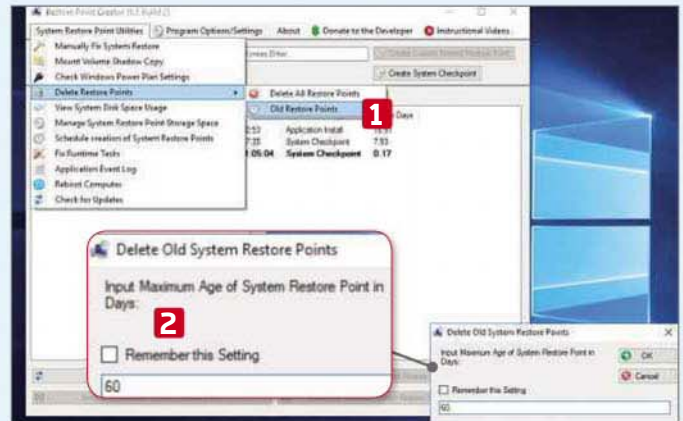

6 If you want to delete more than one or two of your old restore points, perhaps to free up some hard-drive space, click to open the System Restore Point Utilities menu and choose Delete Restore Points, then Old Restore Points. **1** You'll be asked to set the number of days that have to pass before a point is classed as 'old'. **2**


7 Rather than wait for your restore points to reach a certain age before they are deleted, you can set the software to delete the oldest one when a specific number of restore points is reached. From the 'Programs Options/Settings' menu, click 'Keep X Amount of Restore Points', **1** type the number in the box **2** and click OK. **3**
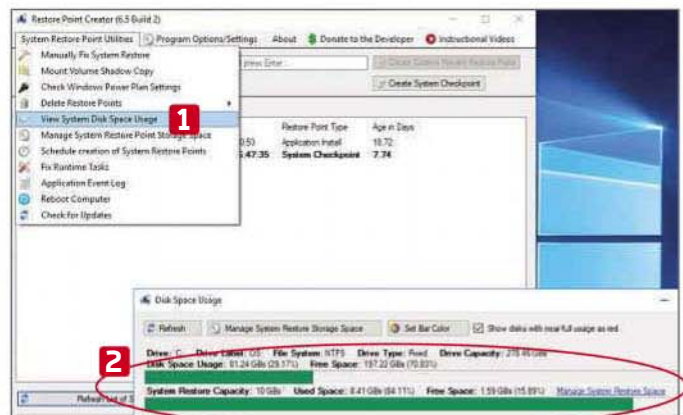
8 Restore Point Creator lets you change the amount of space reserved for restore points. From the System Restore Point Utilities menu, click View System Disk Space Usage. **1** If any bars look full, **2** you probably don't have enough space to store more points, which may result in older ones being deleted without your knowledge or consent.
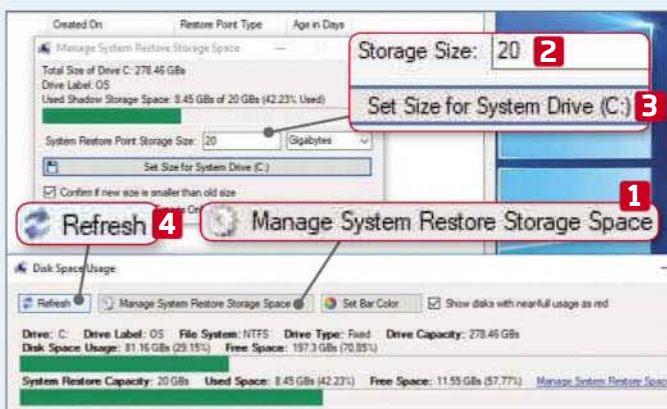
9 If this is the case, click the button to Manage System Restore Storage Space. **1** Click the number next to System Restore Point Storage Size **2** and change it to the size you require. Click 'Set Size for System Drive'. **3** Click Refresh **4** to update the changes.
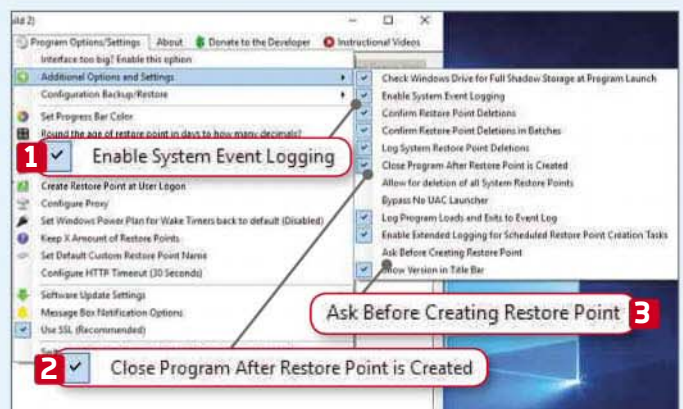
10 There are a few other settings that are worth exploring to get your restore system just right. From 'Program Options/Settings', click 'Additional Options and Settings'. Here, you can turn off logging, **1** leave the program open after the creation of restore points **2** and have it ask before you create automated restore points. **3**

Protect your privacy with a software-free VPN

Your devices already have VPN software built in so you don't have to install separate apps or software to make your connection private. By signing up for a VPN and using its direct connection settings, you can be up and running with any device in minutes.

In this Workshop, we show you how to use the free VPN hide.me on Windows 10, Android and iOS.

**hide.me: hide.me** | 🕐 **10 mins** | 🪟 **Windows 10** 🤖 **Android** 🍎 **iOS**
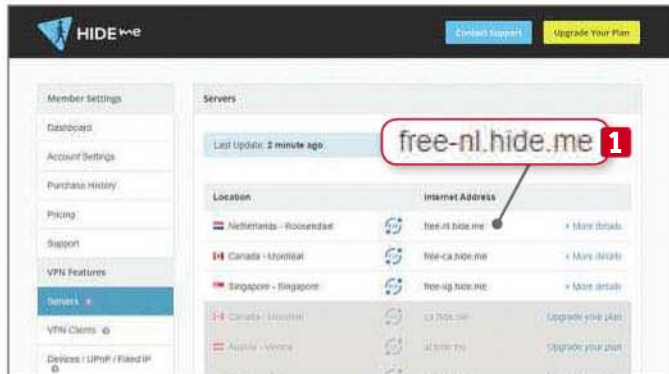
1 Launch your browser and, if you don't yet have an account, go to hide.me and sign up for a free one. Sign in and go to bit.ly/hmse435. Choose the location of the server you want to connect to and make a note of its address, such as free-nl.hide.me. **1**

2 In Windows 10, open the Settings app (Windows+i) and click 'Network & Internet'. Select VPN and click 'Add a VPN connection'. Under 'VPN provider', choose 'Windows (built-in)'. **1** Type hide.me into 'Connection name' **2** and, in the next box, type the server address you chose in Step 1. **3**

3 In 'VPN type' choose IKEv2; in 'Type of sign-in info', select 'Username and password'; then type your hide.me login details into the boxes below. Tick 'Remember my sign-in info' and click the Save button. The hide.me VPN appears in the connections list. **1** Click the Connect button **2** to activate it.
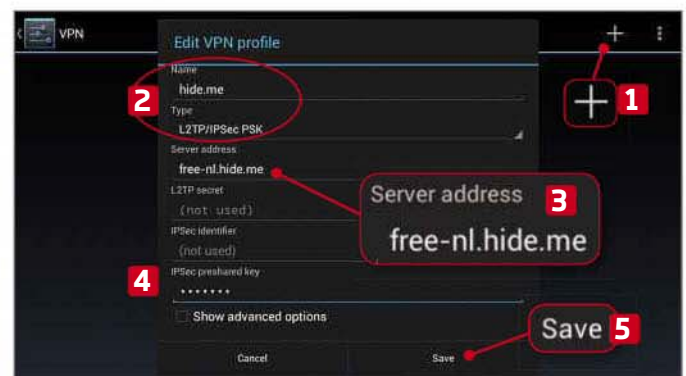
4 On Android, go to Settings, 'Wireless & networks' and tap More, then VPN. Tap the plus icon **1** and make hide.me the name, 'L2TP/IPSec PSK' the type, **2** add the server address **3** and make hide.io the 'IPSec preshared key'. **4** Tap Save, **5** then the network and enter your login details.
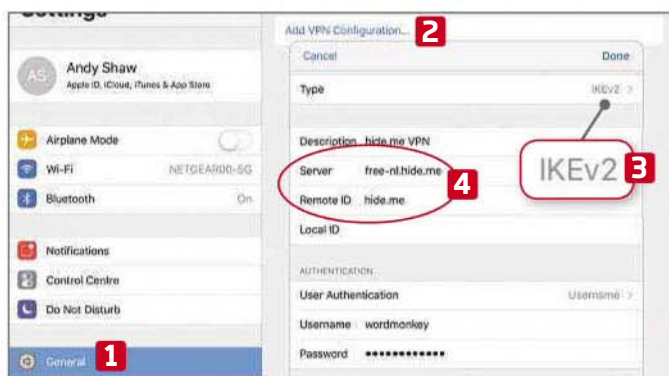
5 On an iOS device, go to Settings and the General tab. **1** Tap VPN, then Add VPN Configuration. **2** The type should already be set to IKEv2 but if it isn't, change it. **3** Add the server from Step 1 in the Server field and type hide.me into Remote ID. **4**

6 Add your Username and Password, then tap Done. Under VPN Configurations, change the Status switch to On. **1** You'll notice that a tiny VPN icon appears in the top-left corner **2** to remind you of the method of your connection.

Upscale lo-res images with no loss in quality

Reshade lets you 'upscale' images to 2,000% of their original size, without the ususal deterioration in quality that results in unsightly jagged edges and artefacts. It's a fast, lightweight tool with lots of options to fine-tune your enlargement. Even better, it doesn't come packaged with any junk and it's totally free to use – despite once selling for more than £100.

Reshade.com: reshade.com | ⏱ **10 mins** | 🪟 **Windows XP, Vista, 7, 8, 10**
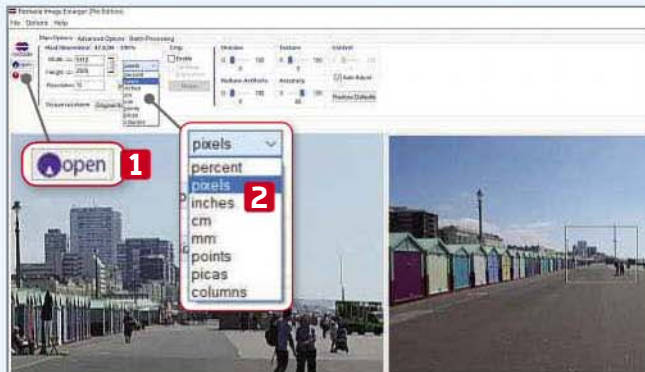
1 Download, install and run Reshade. Maximise the app to full screen, then click Open **1** to find and open the image you want to upscale. From the Main Options tab, use the drop-down menu to select the units you want to use to resize the image, **2** such as pixels, inches or centimetres.
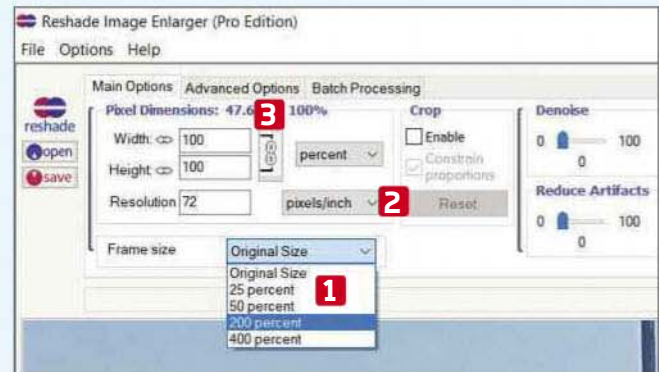
2 The Frame Size menu offers a range of preset sizes **1** and you can change the image resolution in pixels per inch or pixels per cm. **2** By default, image dimensions are locked so that one length increases proportionally to the other. Click the chain icon to unlock image dimensions. **3**
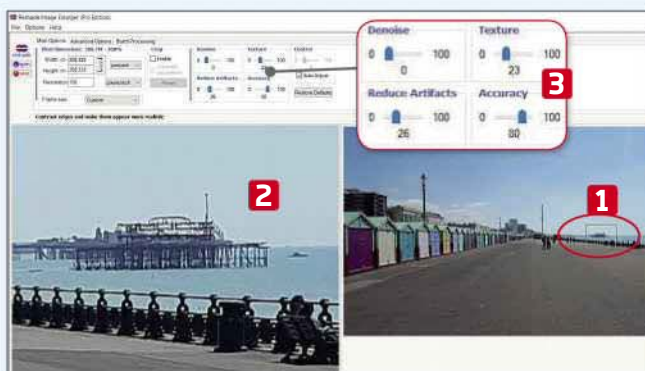
3 Move the selection box on the original image **1** to preview how that section will appear in the new version when displayed at full size. **2** There are sliders for Denoise, Texture, Reduce Artifacts and Accuracy **3** that let you adjust the appearance of the final image.

4 The strength of edges within the image is selected automatically by the tool but you can untick Auto Adjust **1** and use the slider to control this manually. To crop the image, tick Enable **2** then pick the area you want to crop to by moving the markers with your mouse. **3**
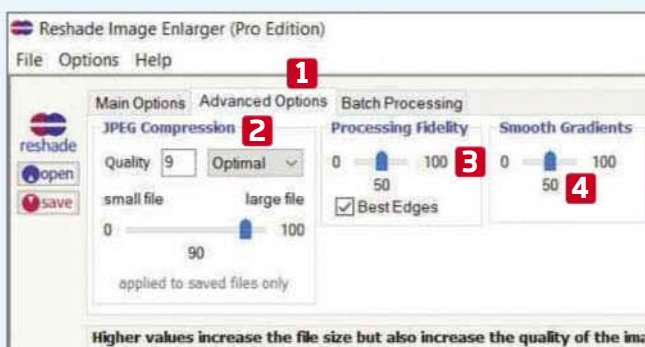
5 Next, click the Advanced Options tab. **1** Here, you can choose the level of compression **2** and quality of the processing. **3** Note that larger values will take longer to process and produce larger files. To smooth out edges, use the Smooth Gradients **4** slider.
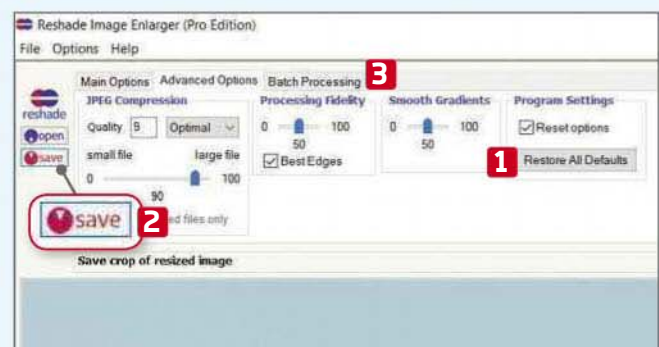
6 Click Restore All Defaults **1** at any time to reset the tool back to its original settings. Once you're happy with the image preview, click Save **2** and choose where you want to save the new file. To process multiple images at once, use the Batch Processing tab. **3**

✚ Get more practical advice at **forum.webuser.co.uk**

Weekend Project

Get to grips with some serious PC DIY to boost your computer's performance

How to...

Access your printer from anywhere

If your printer is switched on, you don't need to be near the PC it's connected to. **Wayne Williams** shows you how to print remotely

The shift to the cloud and the proliferation of portable devices means there's less need to print everything on paper, but there are still times when you need a hard copy, whether it's a contract you need to sign or a photo for a frame. This used to entail working from the PC that was physically connected to your printer, but many printers now come configured to let you print from any device in your home, and over the internet when you're away. If your printer doesn't come with this built-in hardware, you can still set it up to print from any device, from wherever you are. In this Weekend Project, we show you how.

Adapting an old wired printer

Many modern printers come with built-in Wi-Fi, which means you can connect to the device remotely and print from anywhere. They often include apps that make it easier to print from a mobile phone or tablet. If yours doesn't, there are a couple of things you can do.

The first is to add a wireless print server. This is a piece of hardware that plugs into your printer's USB port, providing it with the missing Wi-Fi capabilities. You can pick one up for around £50 (or cheaper) but before you do, it's worth considering that the price of a new wireless printer can be even less, so it might be wiser to simply replace your outdated printer. Alternatively,

Transform a wired printer into a wireless one by installing a Wireless Print Server like this one from TP-Link
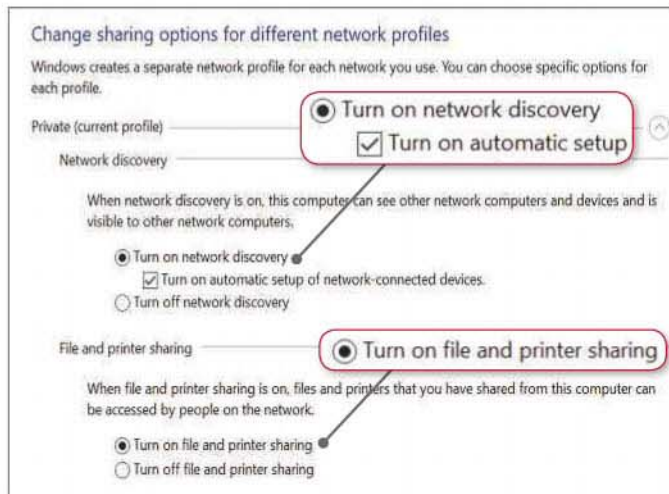
Make sure 'Network discovery' and 'File and printer sharing' are switched on
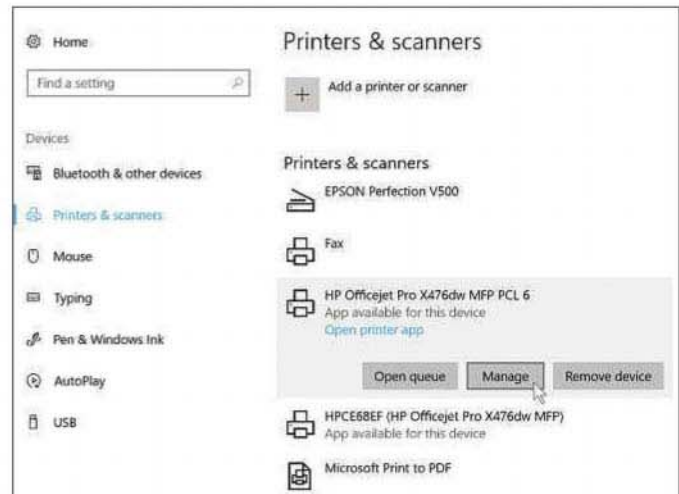
Windows 10 makes it easy to manage printer sharing over a network

if your router has a USB port (as some high-end ones do), you can connect the printer to it and share it over your Wi-Fi.

The other option is to share an existing wired printer over your home network, allowing other computers, tablets and smartphones to access it wirelessly.

In Windows 10, go to Settings (Windows+i). Click 'Network & Internet', then click 'Sharing options'. This opens the Advanced Sharing Settings screen. If you're using an older version of Windows, go to Start, Control Panel, 'Network and Internet', 'Network and Sharing Center' and click the 'Change

The PrinterShare app lets you connect to your remote printer in a variety of ways

advanced sharing settings' link on the left.

Make sure 'Network discovery' and 'File and printer sharing' are enabled. Turn off 'Password protected sharing' and click the 'Save changes' button at the bottom. You may need to sign out of Windows and sign back in again, or restart your PC, to enable the changes.

Once that's done, in Windows 10, open Settings and click Devices. Select 'Printers & scanners' on the left, and select your printer. Click Manage, then click 'Printer properties'. In older versions of Windows, click Start and select 'Devices and

Printers'. Double-click the one you want to make available, then double-click 'Customise your printer'.

Click the Sharing tab and click Change Sharing Options. Tick 'Share this printer' and either give the device a name or accept the default. You can choose if you want to render print jobs on the remote, connected device.

You may need to install some drivers if you're going to be connecting to the printer using a computer running a different version of Windows. There's an Additional Drivers box you can click for this. Finally, apply and OK the action, then log off and back on again, or restart your PC.

Since this method requires accessing the printer via your main computer, you'll need to make sure that the PC is switched on to send a job to your connected printer.

MINI WORKSHOP | Print from an iPad using Printer Pro

1 In this Workshop, we're going to print from an iPad directly to a printer that's connected to a Windows PC. Start by downloading Printer Pro for Desktop (bit.ly/pripro435). It's available for both Windows and Mac. Install and run it, then open it from the notification area and make a note of the IP address. **1**

2 Install and run the app on your iPad. You'll be greeted with an 'Add your printer' screen. Tap the Add Printer button. If your printer is in the list (it probably won't be), select it. If not, tap 'Not in the list'. You can connect to the printer directly through the Desktop App **1** or via IP Printing. **2**

3 The Windows Firewall may block the connection to the PC software, so for ease we'll select IP Printing. In the box, type the IP address **1** shown in the PC software's window using the number strip, **2** then tap Next Step. **3** The connection should be made and you'll be invited to print a test page.

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	Provider	Package name	Monthly price	Contract length	Broadband speed	Allowance	First-year cost*
1	**TalkTalk** For Everyone	**TalkTalk: Broadband**	**£27.00** (£19.95 for 12 months)	**12** months	**17Mbps** max speed	∞ unlimited	**CHEAPEST** **£239.40**
2	sky	**Sky: Broadband**	**£28.99** (£20.00 for 12 months)	**12** months	**17Mbps** max speed	∞ unlimited	**£240.00**
3	EE	**EE: Broadband**	**£28.50** (£21.00 for 18 months)	**18** months	**17Mbps** max speed	∞ unlimited *	**£252.00**
4	Virgin media	**Virgin: Broadband**	**£40.00** (£27.00 for 12 months)	**12** months	**50Mbps** max speed	∞ unlimited *	**£324.00**

Terms & Conditions apply - see ISP sites for details
* Fair-usage or restriction policy applies.

Data supplied by www.broadbandgenie.co.uk. Correct as of 19 October 2017.

Ofcom
Broadband Genie's helpline is powered by Simplify Digital, the Ofcom-accredited switching service

Use the Sharing tab in the Printer Properties box to share your device
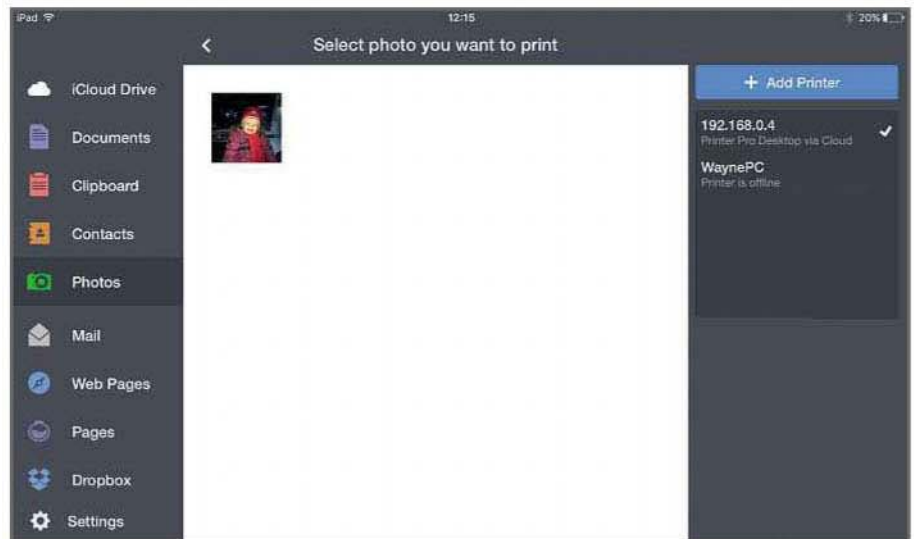
The Printer Pro iPad app lets you choose what to print – just select one of the options from the sidebar

Now you're ready to set up your other computers, tablets and smartphones. To print from another computer, make sure it's on the same network, then type `printer` in the search box. Open 'Printers & scanners' and click 'Add a printer or scanner'. Windows 10 will automatically search for any compatible devices. With older versions of Windows, you'll need to select 'Add a network, wireless or Bluetooth printer'. Select the printer when found, click Next and follow the steps to finish setting up the printer.

Print from mobile devices

Printing from an Android device is trickier. You can connect your phone or tablet to your computer using a USB OTG (On The Go) cable, or use an app such as PrinterShare (bit.ly/prsh435) instead. There is a free version of this app but you need to pay £2.99 for the premium version to unlock all the features.

The app can connect to remote printers in various ways, including Nearby Wi-Fi, Nearby Bluetooth, Direct USB Connected, Google Cloud Print and PrinterShare Remote. You need to create a free account for the last option.

Google Cloud Print (bit.ly/goocp435) lets you print from an Android phone or tablet direct to any networked printer from anywhere in the world. It's designed with 'Cloud Ready' printers in mind but will also work with older models. You don't need to install Google Cloud Print on your Android device because it now comes as part of the mobile operating system.

Although it's an Android feature, third-party apps such as Quick Print (bit.ly/qup435) let you print to Google Cloud Print devices from iPhones or iPads. We show you how to use it in our Mini Workshop below.

iOS devices (iPhones and iPads) use a technology called AirPrint to connect to remote printers. Your printer may be compatible with this (newer ones usually are) but if not, you can install Printer Pro (bit.ly/prpr435) on your PC, then connect to it using the free Printer Pro app (bit.ly/prpro435). We show you how to use it in our Mini Workshop on page 59. ■

MINI WORKSHOP | Print files using Google Cloud Print

1 Open Chrome on your PC and go to bit.ly/goocp435. Log in with your Google account details (this should be the account you use on Android). If you have a Cloud Ready printer, click that option. If you don't (and you probably won't), select 'Add printers' **1** instead.
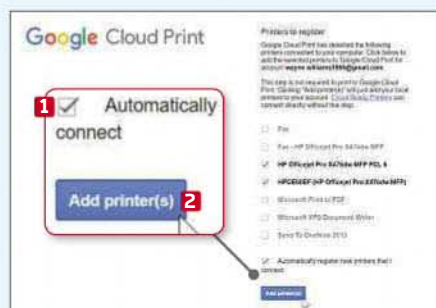
2 Cloud Print will check for connected printers and show them in a list. This may include Fax features and PDF printers. Untick any you don't want remote access to. Leave 'Automatically register new printers that I connect' **1** ticked. Click 'Add printer(s)' **2** to add the selected local devices to your account.
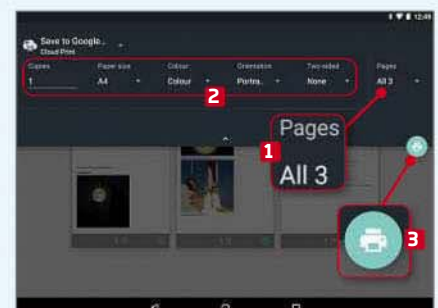
3 Open Chrome on your Android device and navigate to a page to print (a web page or a Google Doc, for example). Open the menu and select Print. Your printer should be listed. Select it and choose the pages to print. **1** You can also adjust other settings. **2** Tap the Print button. **3**

NEXT ISSUE **How To...** Build the website you never got around to

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Web User Masterclass

Our experts crawl deep inside the new **Fall Creators Update** to let you know which of its new hidden tools are worth exploring

Get more from Cortana

Cortana's settings have moved out of the app and into Settings, where they're easier to access. The assistant now has a whole section to its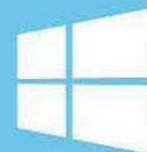elf. Open Settings (Windows+i) and click Cortana. If you're having trouble speaking to Cortana, use the link at the top to check that the microphone is working properly. This runs a Speech troubleshooter to fix any problems.

You can also switch the 'Hey, Cortana' voice activation on or off. There's an option to switch Cortana's listening on or off with a keyboard shortcut, and a few other settings, too.

Cortana can even perform actions within Settings, so you can say things like "Open lock screen settings", "Turn on battery saver", "Turn on quiet hours" and so on. This saves you having to hunt for options in the Settings app.

VERDICT: QUITE USEFUL ✓✓✓
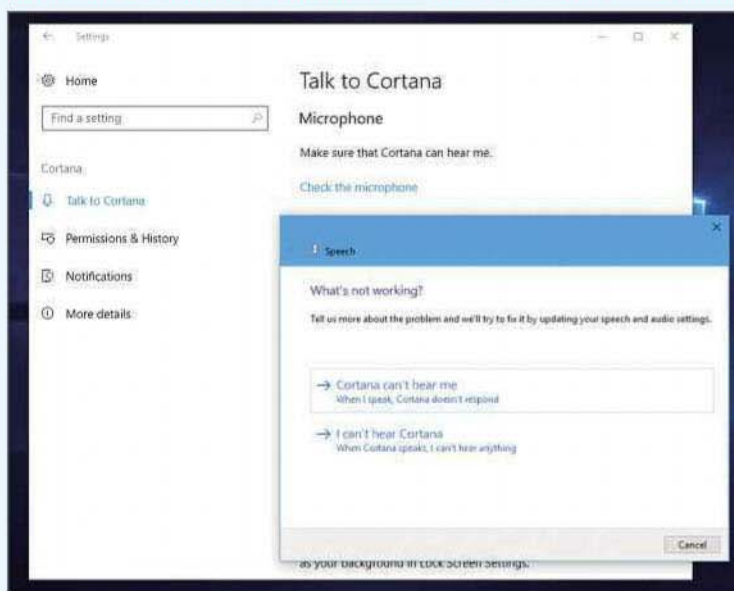
Cortana's settings have moved from the app to the main Settings tool

Configure Windows Update

Windows Update has had a huge makeover and now offers lots of new tools that weren't available in previous versions of Windows 10. These are fairly well hidden, though. Open the Settings app (Windows+i) and click 'Update & security'. Select Windows Update on the left and then click 'Advanced options' in the 'Update settings' section.

In the next window, click Delivery Optimisation and, in the one after that, click 'Advanced options'. A slider at the top controls how much bandwidth Windows can use when downloading updates in the background. The range is 5% to 100%. Setting a low number stops Windows Update hogging your internet connection so that web browsing and other online activities won't suffer while downloading updates.

> If you see words that `look like they've been typed in a typewriter`, follow the instructions and type them exactly as they appear, paying close attention to spaces and punctuation.
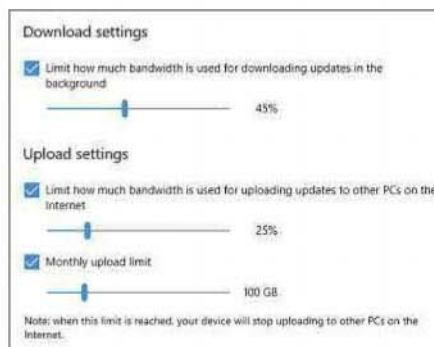
New tools give you more control over how much bandwidth Windows Update uses

On the previous Settings page, there's an option to allow Windows Update to share updates with other PCs. If you enable it, you can choose how much bandwidth Windows can use to do this, and set a monthly upload limit. Drag the bandwidth slider to the left to stop Windows Update using too much of your internet connection, so it won't slow down web browsing or video streaming. If your ISP limits the amount of data you have every month, drag the 'Monthly upload limit' to the left to stop Windows Update overdoing it when sending updates to other computers.

VERDICT: ESSENTIAL ✓✓✓✓✓

Check update statistics

Some Windows updates are huge, which can be a problem if your ISP imposes a monthly data limit. To see how much data Windows Update has used, go to the Settings app and click 'Update & security', select Windows Update on the left and click 'Activity monitor' in the 'Update settings' section. Here, you'll find Download and Upload Statistics. Download covers all the updates that have been downloaded to your PC, so you can see how much data Windows has downloaded from Microsoft, other PCs on your network and computers on the internet. Upload shows how much data was uploaded when sharing Windows Update files with other computers, both on your local network and online.
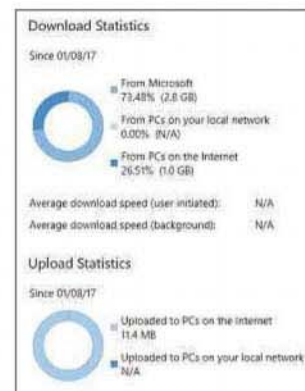
See how much data Windows Update has been transferring

VERDICT: QUITE USEFUL ✓✓✓

Save hard-drive space with Files on Demand

If your PC has a small hard drive and you're short of space, the new 'Files on Demand' tool is a great way to free up some room. This option stores files online in OneDrive instead of on your PC. Click the up arrow in the notification area to show the hidden icons, then right-click the OneDrive cloud icon and select Settings. Open the Settings tab and tick the box next to 'Save space and download files as you use them'.

Now open an Explorer window, right-click OneDrive in the sidebar and click 'Clear space'. Windows uploads everything in the OneDrive folder, deletes the files on the hard drive and replaces them with icons that take up almost no space. Clicking a file opens it as before, although there's a slight delay as it's downloaded. Use 'Clear space' whenever you need a bit more room.

VERDICT: QUITE USEFUL ✓✓✓

Try new power options

With each new version of Windows 10, Microsoft moves more of the Control Panel's tools to the Settings app. The Fall Creators Update brings several changes to the battery and power usage settings. Power Options in the Control Panel previously offered at least three power plans: 'Power saving', 'High performance' and Balanced. In the Fall Creators Update, this has fallen to one.

You can recreate the missing plans using the 'Create a power plan' link or configure every option manually by clicking 'Change plan settings', then 'Change advanced power settings'. However, there is a simpler alternative.

Click the battery icon in the taskbar's notification area and you'll see a slider with 'Best battery life' at one end and 'Best performance' at the other. Just drag the slider according to your needs. It's simple and it works, with no need to fiddle with advanced settings.

Click the battery icon then 'Battery settings' to open the Settings app with the Battery section already selected.

VERDICT: ESSENTIAL ✓✓✓✓✓

The old power options have been replaced by this Action Centre panel

---

Protect essential folders

The Fall Creators Update includes a new tool in Windows Defender that lets you block access to certain folders, such as those containing your files. The idea is to stop malware or ransomware encrypting them and locking you out.

Right-click the Windows Defender icon in the pop-up panel of hidden icons at the right side of the taskbar and select Open. Click 'Virus & threat protection', then 'Virus & threat protection settings'. Turn on 'Controlled folder access', which is about halfway down.

Here you'll see two links. Clicking 'Protected folders' shows you which folders are protected and lets you add and remove folders from the list. 'Allow an app through controlled folders' lets you choose which apps can access protected folders.

When we tried this tool, it blocked every app from accessing basic folders such as Documents, Pictures and Videos. Allowing an app didn't work. We suspect the 'allow' option applies only to apps from the Windows Store. Every standard program we tried was blocked, so we turned off 'Controlled folder access' about 10 minutes after turning it on.

VERDICT: WHY DID THEY BOTHER? ✗

Multi-tasking movie

Many of Windows 10's new features and changes are designed to make the operating system easier to use. For example, if you're not sure what virtual desktops are, go to Settings, System, Multi-tasking and you can see a video clip under 'Virtual desktops' that shows how they are used and why you might want them.

VERDICT: QUITE USEFUL ✓✓✓

Battery settings for playing video

Previously in Settings/System/Battery, there used to be a setting for watching films and videos on battery power. This gave you a choice between 'Optimise for battery life' and 'Optimise for video quality'.
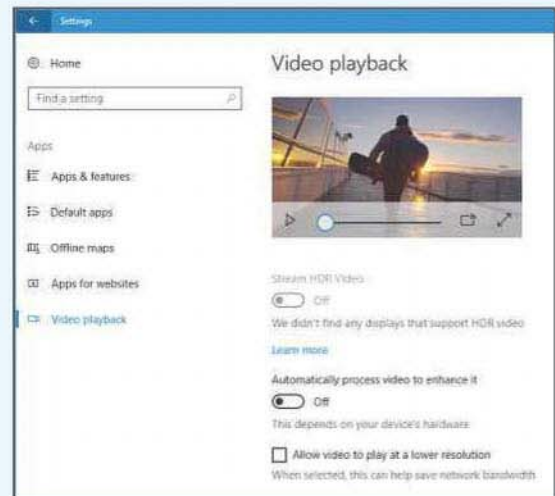
You can configure different video playback settings for when your laptop is using mains or battery power

Unfortunately, you can't have both at the same time because high-quality video requires more processing and battery power.

This two-option menu has been replaced with a link that opens a whole new section. The two settings are still there but many more have been added. If you're using a high-resolution screen, for example, you can choose whether or not to stream HDR video. There is an option to process video automatically to enhance it and a tickbox to allow video to play at a lower resolution when on mains power or battery.

These features are made even more useful by the video preview, which lets you experiment with settings as a video plays and see the difference each makes. You can then choose the extent to which you want to reduce video quality and save battery power.

VERDICT: ESSENTIAL ✓✓✓✓✓

Cortana privacy options

There's a Privacy section in Settings, but now Cortana's settings offer a new Permissions & History section, too. This provides links to change what Cortana knows about you in the cloud and to manage what Cortana can access on the computer and other services.

Three safe-search filter settings let you filter adult content from web searches, and there's a Cloud Search on/off button. You can also enable or disable your search history, both on the PC and on other PCs and devices. There are several other options, too.

VERDICT: QUITE USEFUL ✓✓✓

Ask the Expert

Roland Waddilove, computer programmer and PC journalist since 1981, answers all your technical questions. Email us for help at webuser@dennis.co.uk

GENERAL PC

Administrate the Command Prompt

Q Thank you for answering my cry for help in Ask the Expert, Issue 432 (bit.ly/webuser432). Unfortunately, when I tried to follow the instructions, I couldn't even get beyond the first step. You told me to right-click the Command Prompt as soon as it appears and select 'Run as administrator.' The trouble is, this option doesn't exist.

If I then try typing `chkdsk c: /f`, Windows tells me I don't have sufficient privileges, so I can't get any further. I'm running Windows 10 Pro with Creators Update applied. I was delighted that you answered my original plea for help but now I'm even more desperate. How can I solve this latest addition to the problem?

Colin Smedley, via email

Command Prompt must be 'Run as administrator' to use certain functions

A You have to select 'Run as administrator' before you run Command Prompt, not afterwards, which is probably why you're having difficulties. In any version of Windows, find Command Prompt in the Start menu and, before you left-click to run it, right-click it to display a sub-menu. When this appears, left-click the option to 'Run as administrator'. You will now be allowed to perform admin tasks that are otherwise locked down.

GENERAL PC

Unstick a Windows update

Q I'm not very happy with the September Windows 10 update (KB4040724). The process has failed after three attempts and stops at 3%. This is particularly frustrating because I'm using a mobile data connection and these update attempts have used up 1GB of my allowance so far.

Robert Cull, via email

A KB4040724 contains a few bug fixes but nothing new, so unless you are having Windows 10 problems, you won't miss it. If you want to go ahead and install it anyway, download it from the Microsoft Update Catalog at bit.ly/msuc435 and save it to your hard drive. There are two versions – one for x86 and one for x64-based PCs (or in other words, 32- and 64-bit versions of Windows). Once you've downloaded the update, run it from the Downloads folder. Some people have reported that the update gets stuck at 3% but then starts again on its own after 10 or 15 minutes. You may just have to be patient. If the update still won't complete, open Settings, go to 'Update & security', select Troubleshoot and click Windows Update.

If a Windows update gets stuck, try downloading it from the Update Catalog

HARDWARE

Unsilence laptop speakers on battery power

Q I have a Lenovo IdeaPad Z570 running Windows 7 Professional. My problem is that if I start the laptop without the power lead plugged in, the laptop produces no sound at all, even if I later plug in the power cable. I can get round the problem by restarting the PC with the power lead connected but this is time consuming.

I've had to put up with the problem for several months and I assume it must be due to a power-saving feature but I've looked for a setting that unmutes the sound when on battery power (like the one that changes screen brightness) and I can't find one. Even the Sound Troubleshooter can't identify the problem. Can you help?

Chris Somerville, via email

A We have seen computers where the sound appears to be enabled but is actually switched off until you adjust the volume. Try increasing or decreasing it to see if the sound returns.

If not, it may be a power-saving feature, so open the Control Panel, then open Power Options. Click 'Show additional plans' if necessary and select 'High performance'. Click 'Change plan settings' and then, on the next screen, 'Change advanced power settings'.

Alternatively, when the sound isn't working, right-click the speaker icon in the notification area at the right of the taskbar and select 'Playback devices'. Make sure the speakers are selected and set as the default device. If they're not, select Speakers and click Set Default.

There are two more buttons in this Window: Configure and Properties.

Configure the sound properties and test that everything is working

Click Configure and follow the steps to set up the speakers. There are Test buttons along the way, which you can use to see if your changes have had any effect. When you have finished, click Properties and check each tab. There are some Test buttons there, too.

GENERAL PC
Fix inapplicable updates

Q Since early August, my computer has been trying to install Microsoft's KB4023057 and KB4038782 updates but they have failed every time. I tried to download them through Windows Help but was told that they don't apply to my ASUS 1607 laptop. If they're not applicable when I download them, why is Windows trying to install them?
Brian Oxford, via email

A It sounds as if Windows Update has developed a fault, so resetting it may solve the problem. Type `control panel` in the taskbar search box and select it in the results when it appears. Set 'View by' to 'Small icons' and click Troubleshooting. Click 'View all' on the left, then run Background Intelligent Transfer Service, Internet Connections, Windows Store Apps and Windows Update. Open the Start menu and, from Administrative Tools, choose Disk Clean-up. Click the 'Clean up system files' button, select everything and click OK to clean. Restart Windows and if Windows Update still isn't working, repeat the process.

If this doesn't work, right-click the Start button and select 'Command Prompt (Admin)'. Enter these two commands one at a time, pressing Enter after each one:

```
DISM.exe /Online /Cleanup-
image /scanhealth
DISM.exe /Online /Cleanup-
image /Restorehealth
```

WEBSITE
Resolve a PayPal claim

Q I opened a case with PayPal over a dispute with a seller but PayPal has since changed its website, and now I don't know how to take it further to make a claim. I've searched its Help section but I can't see how to proceed.
Robert Taylor, via email

A Log into PayPal. The Resolution Centre is in both the Tools and More menus, but you have to be logged in. Here, you can see open and closed cases, and there's a button at the bottom that you can click to report
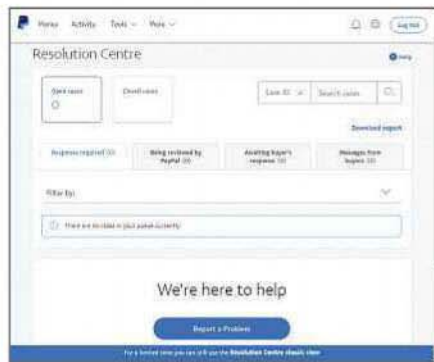
Go to the Resolution Centre to sort out problems with PayPal transactions

a problem. Click it and select the transaction you want to dispute, then click Continue. Follow any instructions that appear on the screen.

If you reach an agreement with the other party, you can close the dispute, but if you're not happy, you can escalate the dispute to a claim, which is more serious. To do this, select View next to the claim in the Resolution Centre and click 'Escalate this dispute to a PayPal claim' near the bottom of the page. Follow any instructions displayed, then click 'Escalate to a Claim'.

You have to wait a week after a transaction before you can open a dispute. You then have a further three weeks either to come to an agreement and close the dispute or to escalate it.

If you do nothing, the case is closed and can't be reopened. When a dispute is escalated to a claim, PayPal tries to respond within a month. This means the process could go on for nearly two months, so be patient.

MOBILE
Move from Windows Phone to Android

Q I have a Windows 10 phone but I want to switch to Android. How difficult will it be to transfer my data?
Andrew Reece, via email

A Google has made this process relatively straightforward but you need to set up each app individually. Thankfully, Google has also created a handy guide that takes you step by step through each part of the process. You can find it at bit.ly/winp435.

INTERNET
Clear your web-search history

Q I generally use Google to search the web but I sometimes use Bing, too. I understand that both search engines store details of every search you make. Can you tell me how to delete this information? I got totally confused when I tried.
Dave Quinn, via email

A To clear your Google search history, log into any Google service and click your profile picture in the top-right corner, followed by the My Account button. Click 'Personal info & privacy', then click Go To Activity Controls. Turn off Web & App Activity and clear the tick from the box next to 'Include Chrome browsing history'. This stops the search engine recording your activities.

Next, return to 'Personal info & privacy' and click Go To My Activity. Select 'Delete activity by' from the menu on the left. On the next page, choose 'All time' under 'Delete by date'. Click Search from the list of options at the bottom, then Delete.

Log into your Google account to delete your search history

Bing offers similar features but the menus are different. To clear your searches, go to Bing (www.bing.com) and log into your Microsoft account. Click the menu button in the top-right corner and select Search History, then 'Manage my search history'. This takes you to the Privacy Dashboard. Select the Search tab to see your Bing search history. Click the 'Clear search history' button, then click Clear.

Following these steps clears the information stored by Google and Bing, but don't forget that browsers also store browsing history on your computer. In Chrome, go to the menu and select History, then History again and click 'Clear browsing history'.

This fortnight Roland has added smart lights to his office and can now control them from anywhere in the world

Your Top Tips

Our pick of the best advice from our readers. To get help or offer it to others, visit forum.webuser.co.uk

TOP TIP

Mug winner

SECURITY

Ditch your Android antivirus app

Did you know that Google Play now checks the security of apps you've installed, even those you download from other sources? To check if your device is clean, run Google Play and open its main menu, then select 'My apps & games'. At the top of the page, under 'No problems found', you can see when your apps were last scanned. Tapping the Refresh button runs the scan again.

Tap the window to get a detailed summary of what 'Play Protect' does – for example, it explains that you'll be notified as soon as it finds any security risks. Swipe up and you'll see an option to 'Improve harmful app detection', which can be manually enabled.

I've now ditched my antivirus app – which used to drive me mad with constant notifications about my phone's performance – because Google Play has got me covered!
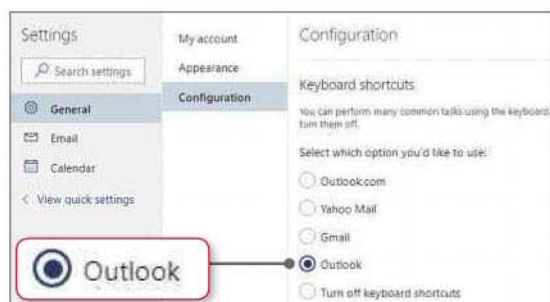
Ed Wright, via email
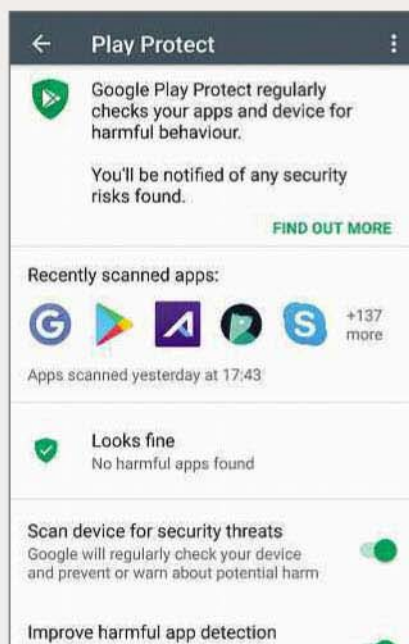
Play Protect scans your Android device for malware

EMAIL
Make Outlook.com share shortcuts

Most email programs and webmail tools have keyboard shortcuts, which let you jump to the next message, or delete or archive the email you're looking at. However, I've discovered that Outlook .com can use keyboard shortcuts from

Outlook.com email can use keyboard shortcuts from other email systems

other services. On the website, click the gear icon at the top, then 'View full settings' at the bottom of the panel. Select General in the first column, then Configuration in the second. You can select Outlook.com, Yahoo Mail, Gmail or Outlook keyboard shortcuts. For example, if you use, Gmail and Outlook webmail, it means you can use the same keyboard shortcuts for both services, instead of having to learn two different sets.

I think this is brilliant, because the less my brain has to remember, the better! I should add that I am using the beta version of Outlook.com and this tip may not work in the standard version. I flicked the 'Try the beta' switch at the top of the inbox to use it.

Peter Kington, via email

GENERAL PC
Disable automatic brightness control

If you find Windows 10's automatic brightness control annoying, you can disable it. Open Control Panel and choose Power Options, then click 'Change plan settings' next to your current plan. Select 'Change advanced power settings', then scroll down until you get to the Display section and click to expand it. Click the plus sign to expand 'Dimmed display brightness'. Change the settings to values for 'On battery' and 'Plugged in' to 100%, then click Apply. At the top of this window, you'll see an option that lets you change the 'Advanced settings' for other power plans, too.

Dude111, Web User Forums
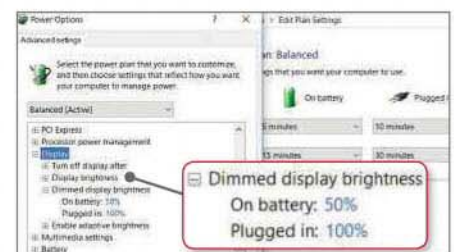
Stop Windows 10 from automatically reducing your display's brightness

GENERAL PC
Order quick-action buttons

When you click the icon at the right of the taskbar's notification area in Windows 10, the Action Centre panel opens. Down at the bottom is a collection of buttons. Click Expand to see them all or Collapse to show just the top row. You can change the order of these buttons and put your favourites into the top row, so you can still see them when the main list is collapsed.

Open Settings (Windows+i) and type quick into the search box. Click 'Choose your quick actions'. The quick-action buttons are shown in a grid, as they are in Action Centre. However, you can click

Rearrange the buttons in Action Centre by dragging the tiles

and drag these buttons around. Drag your favourites to the top row. Open Action Centre and you'll see the buttons in the order you chose.

Callum Hughes, via email

SOFTWARE
Clear clipboard items from Ditto

I use Ditto (ditto-cp.sourceforge.net) to save multiple clipboard items. You can set it to clear items after a certain time but I often have so many saved that I have to clear them earlier. To delete individual items, right-click the appropriate text and select Delete.

For multiple items, hold down Shift while clicking to highlight the items, then right-click the selection and click Delete.

FratPark, Web User Forums

EMAIL
Get all your mail in Gmail

If you have several email accounts, you don't need to check each one for new mail. Instead, you can just set up Gmail to collect all your messages and show them in your Gmail inbox, which is much more efficient.

With one email account I have, there is an option in the settings to forward messages to another email account. I added my Gmail address and now I can see those emails in Gmail. It's worth checking the settings in your other email accounts to see if they have a forwarding option.

With my other email accounts, I have added them to Gmail directly. Select Settings on the gear menu and click 'Accounts and Import'. In the section called 'Check email from other accounts', click 'Add an email account'. A small
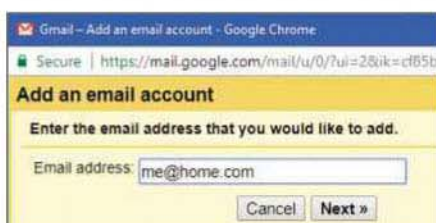
Add other email accounts to Gmail or just forward new messages as they arrive

window opens with a step-by-step guide to walk you through the process.

Sorry to be vague but I can't tell you exactly what information to put in. You'll have to visit your email provider's Help pages or use Google to search for your email's settings. If you're with BT, for example, search for 'BT email settings'; the first result shows the information that Gmail needs. Add all your email accounts to get all your email in Gmail.

Andy Wilson, via email

WEBSITES
Create a free travel plan

If you're planning a trip where you'll be doing a lot of moving from one location to another, and you need a firm itinerary in place, Inspirock (www.inspirock.com) is an invaluable tool. Visit the site, then enter your destinations and the duration of your trip. You can then click the down arrow next to Activities to specify the types of activities you want to do, such as 'culture', 'outdoors', 'beaches' and more.

Click 'See your plan' and the site automatically adds suggested activities to a 'Day by day' itinerary. Clicking an activity lets you learn more about it and find the appropriate links to book tickets, or you can click 'Remove from my plan' to delete it. When you do the latter, a 'Free time' flag appears in the timetable and you can click 'Add activities' to browse from a range of other options you might prefer.

Even if you don't stick to the itinerary religiously, the site is still a handy tool for creating a visual overview of your trip and finding activities that you can fit into

a specific time slot. Best of all, the site is optimised for mobile devices, so you can check your itinerary easily on the go.

Liam Nicholls, via email

APPS
Play your favourite radio stations instantly

I love that BBC iPlayer Radio (bit.ly/bbcradio435) lets me listen to live radio on the train, but its interface is a bit clunky – it can take a few swipes and taps to find what you're looking for and start playing a new station. Thankfully, I've discovered that you can install widgets for your favourite radio stations, so you can start playing them directly from the Android home screen.

To add a widget, long-press the home screen, tap Widgets, then the BBC iPlayer Radio. Drag the widget to where you want it and select a radio station, such as Radio 5 Live. You'll see an icon for that station. Tapping it starts it playing and tapping it again stops it.

You can repeat the above process to add further stations – I've got Radio 5 Live, Radio 6 Music and Radio Wiltshire on my home screen.

Bradley Wallis, via email

Add home screen widgets for BBC radio stations

BLUNDER OF THE FORTNIGHT

APPS
Never write down another sum

Whenever I used the calculator on my Samsung phone for complex calculations, I would make a note of any answers so that I could come back to them later or use them in another calculation. However, only the other day I realised that it has a History button that you can tap to reveal a list of your previous 10 calculations.

Tapping a previous calculation enters its sum into the calculator so that you can use that figure in a new calculation. For example, if you want to see how many times the answer from your previous calculation goes into 1000, you type 1000÷ and then tap History

and select the previous calculation.

As far as I can tell, Google's Calculator app (bit.ly/calculator435) also has a History function, but you might need to long-press items to copy them into a new calculation.

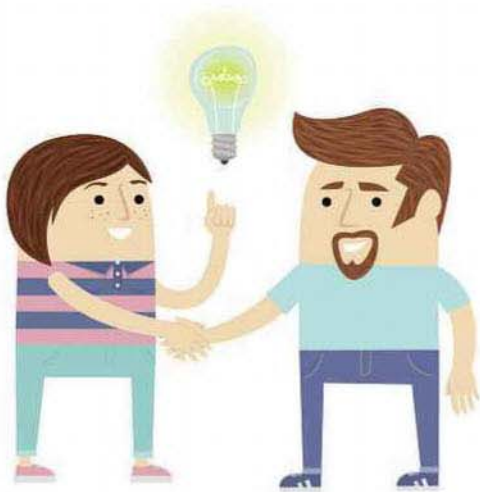**Sam Burke, via email**

Tap the History button to find your previous calculations

Have you managed to fix a PC-related disaster? If so, please send your story to webuser@dennis.co.uk

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Send your tips to webuser@dennis.co.uk — win a Web User mug!

Readers' Helpdesk

Our pick of the best solutions posted on our reader forums. Visit forum.webuser.co.uk – it's friendly and free!

What's the easiest way to check my PC for errors?

Q Is there a diagnostic tool in Windows 10 that I can use to check for errors?

um_please, Web User Forums

A It depends on what you want to check, but you can type `Security and Maintenance` into the Start menu, run the program, then click 'View reliability history' to see if you can find any errors logged there. You can also type `Event Viewer` into the Start menu and check its logs for errors.

There are several commands you could run from the Command Prompt, too. Type `cmd` in the Start menu, right-click Command Prompt and select 'Run as administrator'. Then type

You can run a number of diagnostics tests directly from Command Prompt

`sfc /scanow` and press Enter, which finds and replaces corrupted system files. You can also type `dism /online /cleanup-image /restorehealth`, which checks for similar problems but goes a bit deeper.

Lastly, `chkdsk /f C:` will scan your C: drive for physical hard-drive errors and repair them where possible.

Stewart40 and Cantrel, Web User Forums

SOFTWARE

Can I make my old scanner work with Windows 7?

Q My Canon Lide 30 scanner lists Windows XP as the last version of the operating system that it supports. I would like to connect it to a Windows 7 PC. Is this possible?

alex2527, Web User Forums

A Have you contacted Canon to see if it has a workaround or compatibility patch? Otherwise, you could try installing VueScan (www.hamrick.com), but this costs $40 (around £30) once the 30-day free trial is over.

It may sound drastic but a cheaper longer-term solution might be to simply replace the Canon Lide with a second-hand scanner that works with Windows 7. You'll probably be able to find one that costs less than VueScan. In fact, you can get a new all-in-one printer and scanner for less than £30, such as this HP printer, which costs £20 from Argos: bit.ly/argos435. Maybe it's time to say goodbye to your trusty old scanner!

Cantrel, sneakybeaky, lizzygraham and calimanco, Web User Forums

You can buy a new all-in-one printer for as little as £20

GENERAL PC

How do I remove entries from the right-click menu?

Q About a year ago, I uninstalled Soda PDF (www.sodapdf.com) because I didn't like it. However, I can't get it off my right-click menu. It's not causing
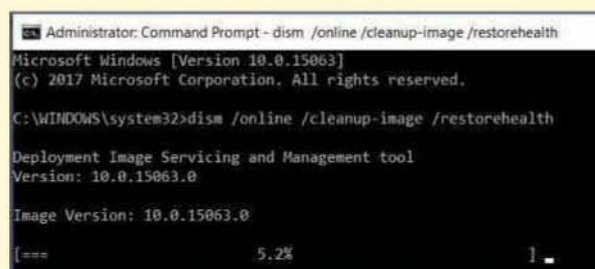
any problems but it winds me up just seeing it there!

The Shadow, Web User Forums

A Open the Registry Editor as an Administrator by typing `regedit` in the Start menu, then right-clicking it and selecting 'Run as administrator'. Next, back up the Registry by clicking File, then Export. Click Edit, then Find and type `soda` in the box. Click Find Next and repeat this until you've removed each related Registry entry.

Another safer option that doesn't involve tinkering with the Registry is to install CCleaner (bit.ly/ccle435) and click

Tools, Startup and Context Menu to use its tool to delete the entries in question. Despite the recent CCleaner security scare, it should be perfectly safe now that it has been patched.

The portable version of Glary Utilities (www.glarysoft.com) also includes a tool that lets you edit right-click menus.

calimanco, kevinf80 and jak, Web User Forums
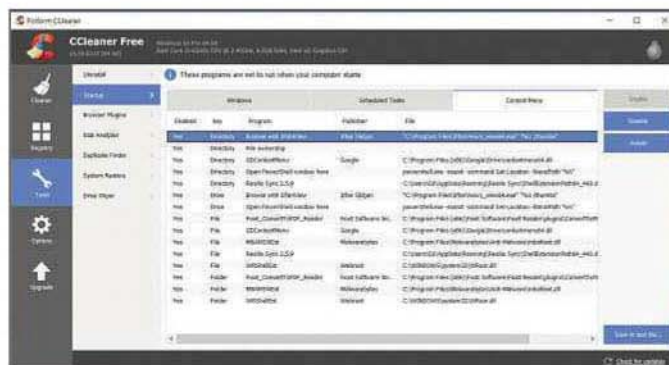
CCleaner lets you remove and disable items in the context menu

Inbox

You can let us know your views via:
webuser@dennis.co.uk, www.facebook.com/webusermagazine, www.twitter.com/webusermagazine and forum.webuser.co.uk

Star Email

Mug winner

Get with the 21st century, grandpa!

I refer to Barry Collins' column in Issue 433 (bit.ly/webuser433) titled 'Stop your children phubbing you'. I could not disagree more with his comments about getting kids to put down their phones.

For starters, grandpa has to accept the fact that the 20th century is dead and gone. Smartphones and everything they offer are now the norm and there is no return to the past. Either accept change voluntarily or it'll sweep you away like the tide.

Honestly: who in his right mind wants to have a long conversation with their grandparents, especially those who are still living in the stone age? If grandpa forcibly takes their phones away, what will the kids do? Watch TV? Play with other kids? These are just other ways of "phubbing".

If the kids really need to have an important conversation with grandpa, trust me – they will voluntarily put their phones away.

Forcibly taking away their smartphones or restricting their use is ineffective and counterproductive.

Knowing that grandpa will take their phones away will make them even more reluctant to visit, let alone talk to him. With respect to all those other restrictions you mentioned, such as blocking children's mobile devices and imposing a prison-style lights out, you underestimate the kids' resourcefulness and knowledge of technology. They'll easily find workarounds and, before you know it, you'll be involved in an endless cat-and-mouse game.

Grandpa's best bet is to accept that this is the 21st century, get a smartphone and learn how to use every facet of it. His grandchildren will make excellent teachers, and his desire to have conversations with them will be fulfilled.

Humbert, San Antonio, USA

Router security is as important as speed

I frequently see features in magazines and online about the best routers you can buy. However, I have not seen any articles about the most secure routers. I know that a study was done on insecure routers and that the review was blocked from being published by a court injunction.

However, what is stopping a comparison review of routers that are actively tackling cybersecurity, such as the Norton Core and Asus DSL-AC68U to name but two? After all, we lock our front doors and windows, so why not the front door to our computers?

Yes, speed tests are important and we all want a sporty model, but why ignore security? With all the Internet of Things and router hacking, and zombie computers and botnets, why not review routers that have tried to tackle the issue of cybersecurity?

I'm not talking about manually searching interfaces to alter settings such as disabling WPS and UPnP and so forth; I'm talking about how secure they are out of the box for people who are less tech-savvy.

Lee Davis, via email

Physical shortcomings are not genetic

Further to the discussion in Inbox 433 about mouse manipulation, many people excuse left-handedness as being genetically responsible for certain physical shortcomings when actually their problem is of their own making.

So much of what we can do as adults is a mechanically acquired skill, usually a result of what and how we learned as young children; if we start early enough, we can perform actions with either hand. Think of piano-playing. It is a matter of

Quiz Answers: Issue 434

1 *Auto Express*
2 *Radio Times*
3 *Ideal Home*
4 *BBC Gardener's World*
5 *Reader's Digest*
6 *Web User*

WINNER!
Well done to Chris Telford who wins a *Web User* mug

WORD PUZZLE

Firmware

> "Fetch yourself a stiff drink, take a deep breath and try to take in the following line"

convenience for the accumulation of a skill that we may need to concentrate on one hand, which could be either one. If injury permanently interferes, people soon learn to use the opposite hand. The same applies to legs and feet. I happen to write with my left hand but use my right for a mouse.

Quoting genetics is especially misguided with regard to myopia. Most commonly, it is a result of pseudo myopia, a strain symptom (too much close-up work compared with outdoors activity), followed by progressive myopia, a lens-created stimulus from wearing corrective lenses. The condition can actually be reversed, given time and effort. Anyone doubting the biology can refer to the website Natural Myopia Control (endmyopia.org).

Terry Sims, via email

Letting off steam about Issue 434

Regarding several points in Issue 434 (bit.ly/webuser434): why would I spend £179 on an Apple TV (Product Test, page 24) when I have an Amazon Fire TV box that cost £79 and can buy the Fire TV stick for less than £40? Even more so when you say you have to pay for an Amazon or Netflix account to stream 4K content. I get this on my Amazon box for nowt. I pay for some films, that's all.

As for your news story about Firefox Quantum, I have used Firefox for years. I am not bothered about a few seconds' loading time, either way. I do not understand this fixation with two seconds' faster loading. What are you going to do with the spare time?

With regard to Mr Hopkins' reply to my letter about Wi-Fi kettles, he is missing the point. You still need to fill your kettle as well as pouring the water into a teapot or a cup with a teabag in it. Is it so hard to walk to your kitchen to put a kettle on from another room? Unless, of course, you have a badly designed townhouse where the kitchen is downstairs. Maybe he needs several kettles, another fridge for milk and cups everywhere.

Martin Fletcher, Thorpe Hesley

Why shouldn't app developers sell out?

I'm not quite sure what Barry's point is in his column in Issue 434, 'Much to-do about nothing'. Why shouldn't the small developers of mobile apps earn money from their hard work by selling their products to large companies?

It takes a lot of time, money and effort to create, perfect and promote an app, and because most Android and iOS users expect to get all their apps for free, there isn't a lot of profit to be made by going through the usual app-store route. The only effective ways to monetise apps are through adverts or by making certain features only available in premium versions or as in-app purchases – methods that the majority of users hate and moan about in app-reviews sections.

If a big company such as Microsoft or Google offers to buy an app that's become popular but isn't making its developer any money, I really don't see what the problem is. Surely everybody wins, from the app creator to the 'tech giant' that's bought it, to the end user who gets the app for free.

Adam Timmons, via email

Autoplaying videos drive me mad

Thank you for your feature in Issue 434 about stopping autoplaying videos, especially those with sound. This new 'trend' has been driving me mad and yet it seems that more and more websites are starting to foist autoplaying on us.

I've even found that on some sites, a video player opens in a pop-up window and is impossible to get rid of. The window just reopens if you close it and clicking the Pause button does nothing – the video just keeps on playing!

Does anyone who suffers these annoyances think: "Hmm, if this video is playing automatically, I might as well sit all the way through it"? I very much doubt it! Most of us scramble to stop them as soon as they start, so why are Facebook and Google so insistent on hammering us with them?

Hopefully, someone can come up with

Corrections and clarifications

In Ask the Expert in Issue 434, there is a question under the heading 'Get a VPN for free'. In the reply it says: "One of the best free VPNs is the one built into the Chrome browser". However, going by the screenshot and the other info given, I think the browser referred to is Opera, not Chrome!

Madeline, Web User Forums

Web User says: Well spotted, you are of course quite right: Opera offers a free, built-in VPN, whereas Chrome doesn't. We apologise for this error.

In his Homepage intro in Issue 434, Robert Irvine says that WhatsApp was "bought by Google" three years ago. I expect Mark Zuckerberg will be very surprised by this news as it was actually Facebook that bought WhatsApp in 2014!

Colin Pence, via email

Robert Irvine says: How embarrassing, you are of course correct: Facebook, not Google, is the owner of WhatsApp. I apologise for this other unfortunate error!

a browser extension that will block all these autoplaying videos for good. I'm sure it would prove very popular!

Helen Gannett, via email

Music map is all over the place

I was keen to check out the 'UK music map' that you recommended in your What's New Online section in Issue 434 (bit.ly/ukmusic434), but whoever put it together seems to have a very shaky grasp of geography. To my knowledge, Joy Division were from Manchester, not Blackpool; Wet Wet Wet were formed in Clydebank, not Berwick-upon-Tweed; and Black Sabbath are proud Brummies, not soft lads from Northampton! It was still an interesting map, though: I learned that Lulu is £1m richer than Susan Boyle!

Jack Williams, via email

Yahoo got me in trouble with eBay

Your Star Email in Issue 434 provides some sensible advice about staying safe on eBay, although "if it looks too good to be true, it probably is" applies to everything in life, not just websites.

I've only had one bad experience on eBay, in which I inadvertently angered a seller who thought I was refusing to reply to their emails and deliberately not paying up for the item I had bought (it was a Nintendo Game Boy Advance, as I recall). As their correspondence with me became more impatient, and they even threatened to report me to eBay, it occurred to me that perhaps they weren't actually receiving the emails I sent.

I tried using a different email address to my Yahoo one and suggested that my previous messages may have been ending up in the seller's Spam folder. Lo and behold, I received a reply, that – while not exactly apologetic – accepted my explanation and we were able to proceed with the transaction. Needless to say, I soon stopped using my Yahoo Mail address for fear the same thing would happen again.

Neil Vincent, via email

What you say...

AOL IS CLOSING THE AIM INSTANT-MESSAGING SERVICE. DID YOU EVER USE IT?

I remember using it before discovering MSN Messenger – another instant-messaging service I haven't used for years. Facebook and Twitter replaced those for me.

Martin Phillp

Think the last time I used it must have been 2009. I used to use it but things have moved on.

Justin Lawes

It was the first messenger I used about 15 years ago.

Chris Cole

Cracking memories of random messages from total strangers asking how big my boobs were!

Joanne Evans

So last century...

Wolf Simpson

HOW WORRIED ARE YOU ABOUT ROBOTS TAKING YOUR JOB?

Not at all. If you're working in a creative job you're okay. If you can't beat them, join and work on them.

goldmaster @imthegoldmaster

A robot is welcome to my job – especially as that's what my boss seems to think I am.

Karl Robson

Checkout operators shouldn't be worried. Self-scan checkouts are a nightmare.

Simon Mellor @Simon9Hops

Hey, more leisure time!

Mike Jones

They have already taken jobs – look in Tesco or Sainsbury's.

Mark James Gregory

MICROSOFT HAS GIVEN UP DEVELOPING WINDOWS PHONE. DID YOU USE ONE?

I've used some sort of Microsoft phone for more than 10 years and won't use anything else until forced. It's stable and works consistently.

Tinathread @Tinathread

I had one but hated it. All those damn squares were really annoying.

Lori @gadgetgal16.

Yes I used one. They're very well built, especially Nokia Windows 10 phones. The only problem is there are hardly any big-name games available.

Phil Graham

I liked the camera, but limited choice of apps rendered it boring. I prefer Android, especially HTC and Samsung.

Liz F Lambeth

I have the Nokia Lumia 1520. It's nice, but the lack of apps makes the phone hard to love.

*Omar @Omar__ebrahim_*

DO YOU THINK YOU'RE BEING RIPPED OFF BY MOBILE NETWORKS AFTER YOU'VE PAID OFF YOUR PHONE?

No, I go SIM-free for £30 a month with unlimited calls, texts, data and 100 international minutes. Just pick the right plan!

Jonathan Egan @jonathan_egan

I always make a note in my diary when the contract expires. I have a SIM-only plan. Suits me fine.

Popaleena @popaleena

Definitely. A percentage of the line rental goes towards the cost of the phone. They buy the phones in bulk, but that discount is never passed on to the customer.

Brian Brown

⚠️ Page 404

Barry Collins despairs at Ofcom's failure to make dishonest ISPs obey the rules

Don't rip up the rulebook, rip up Ofcom

If insanity means doing the same thing over and again and hoping for a different result, then telecoms regulator Ofcom must be absolutely off its rocker.

Earlier this month, Ofcom published the fourth revision of its Broadband Code of Practice – Bad COP, for short. A whole nine years after it first promised to make broadband providers clean up their act and deliver the speeds they were advertising, this latest rewrite of the rulebook will "impose tougher requirements on internet providers". Which isn't hard, because the last set of rules were so weak they were practically homeopathic.

The headline act in this latest set of rules is Ofcom letting customers leave their contract if their actual speeds fall below a stated minimum. Except Ofcom has tried this before – originally in 2010, when it said customers should be released from contracts if their speeds fall "significantly below" what was promised.

What counted as "significantly below"? Fetch yourself a stiff drink, take a deep breath and try to get your head around the following line from the 2010 Code:

"If asked to explain further or asked to define 'significantly below', the ISP should provide information on the access line speed achieved by the bottom 10th percentile (or above) of the ISP's similar customers ('the minimum guaranteed access line speed') and explain that if the customer's actual access line speed is below the minimum guaranteed access line speed, then it will follow the process set out in the 4th Principle." Got that?

> **Broadband providers show as much respect to the 'voluntary' code as dogs show to lampposts**

No, neither did anyone else, which is why literally nobody was ever released from their contract for poor speeds.

Then Ofcom had two more stabs at Bad COP in 2011 and 2015, when the code was "strengthened" to permit consumers to break their contract if speeds fell below a stated level *and* the provider was unable to improve the line. There was only one problem: providers had an unlimited amount of time to 'try' to resolve the problem before offering customers the right to exit. Honestly, you couldn't make it up.

Ofcom claims its new Code has tightened these loopholes, giving providers only a month to fix the line and also letting customers walk free if they have mobile phones and TV as part of the same package. But even if the rules are stronger, will the broadband providers obey them? Not if past evidence was anything to go by.

For example, the old Code forced ISPs to tell customers to contact them if the speed received is significantly below the estimate given. This was mandatory. So how many actually did, according to Ofcom's own mystery-shopper exercise this year? One in five.

Likewise, only two in five mystery shoppers were told that actual speeds may be lower than what they were sold. The broadband providers show as much respect to the 'voluntary' code as dogs show to lampposts.

Ofcom has failed to bring the broadband providers to heel for almost a decade. Not a single provider has been punished for failing to adhere to the code, despite the widespread abuse noted above. We don't need another new set of rules, we need a new regulator.

➕ Do you agree? Let us know at webuser@dennis.co.uk

WebUser

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