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Issue 504

WebUser

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Issue 504

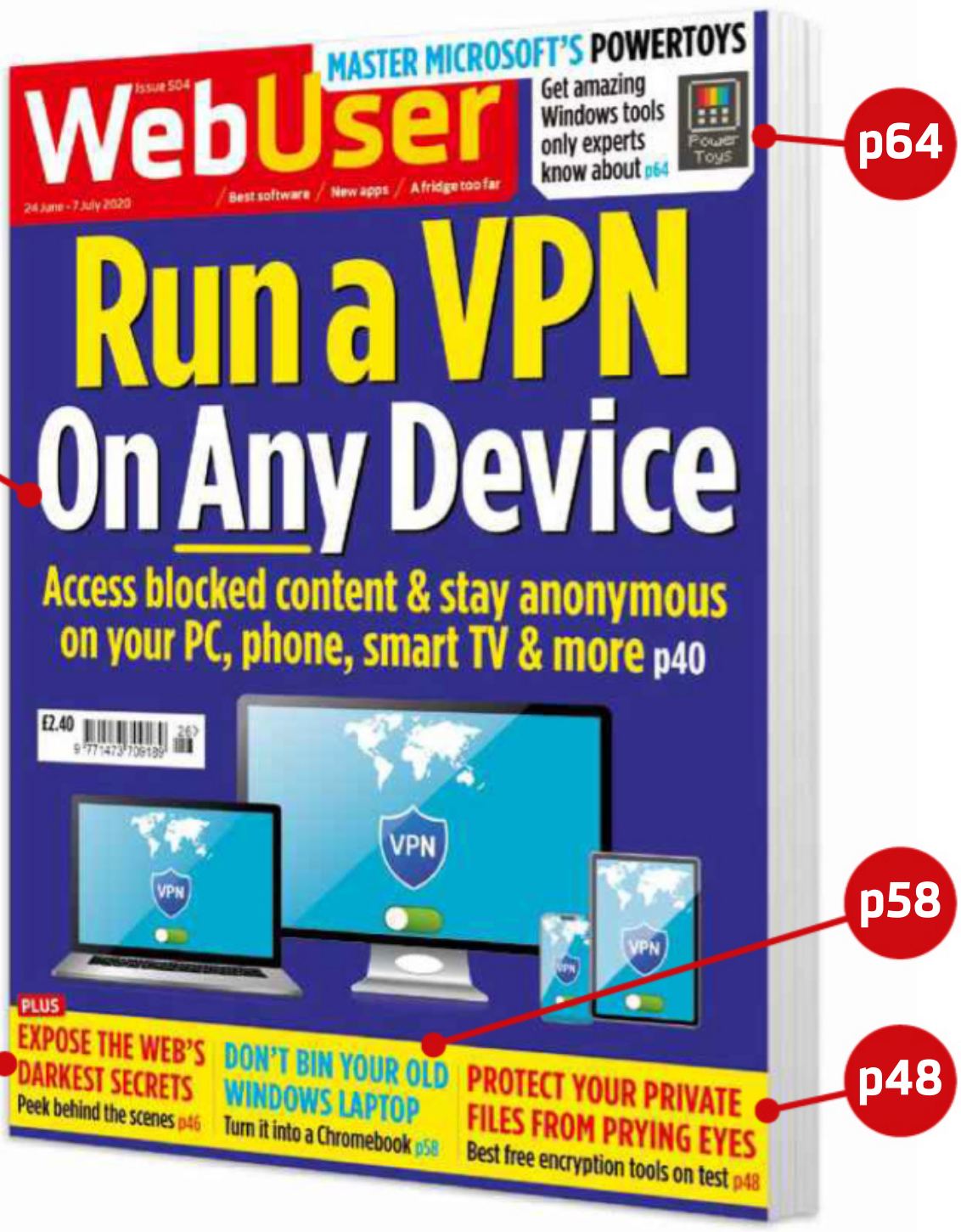
Lift your lockdown restrictions

One of the few upsides to the coronavirus lockdown (other than saving lives and protecting the NHS) is that it has encouraged us to try new things: from video chatting and cake baking to hair cutting and hoovering (speaking personally). Many more people have started using virtual private networks, too, either to help them work from home or to stave off boredom, a trend that could make VPNs the fidget spinners of 2020.

In this issue's cover feature, we explain how to enhance your VPN experience by extending the anonymity and freedom it offers to devices other than your desktop computer. This means you can stay private while browsing the web on your phone or tablet, secure your Wi-Fi network against hackers, stream content unavailable in the UK on your smart TV and much more. We recommend the best free and paid VPNs, and reveal the difference between TCP and UDP (which has nothing to do with liquid antiseptic).

Robert Irvine, Editor
editor@webuser.co.uk
#webuser





abc Average sales, Jan-Dec 2019, 24,266 copies per issue

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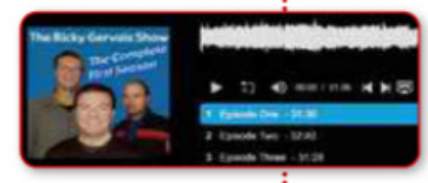
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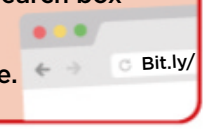
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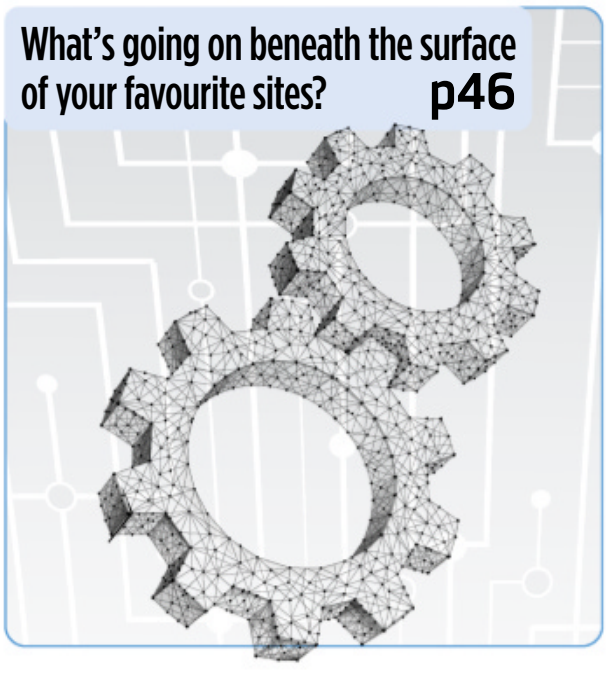
Run a VPN On Any Device



COVER FEATURE

Protect your anonymity and access blocked content on your PC, TV, phone and more

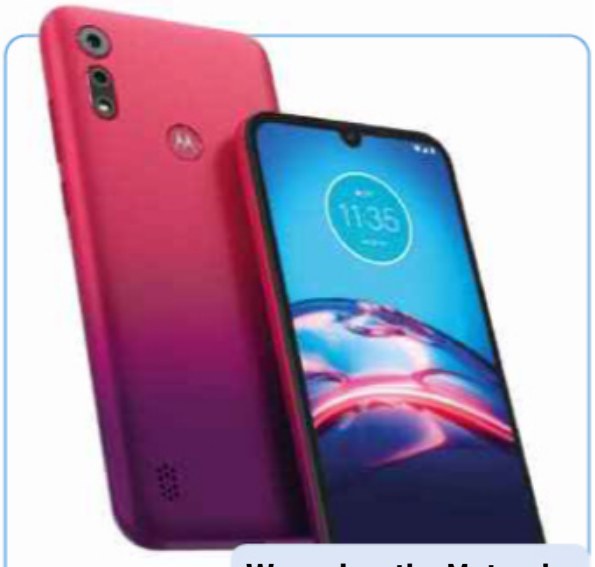
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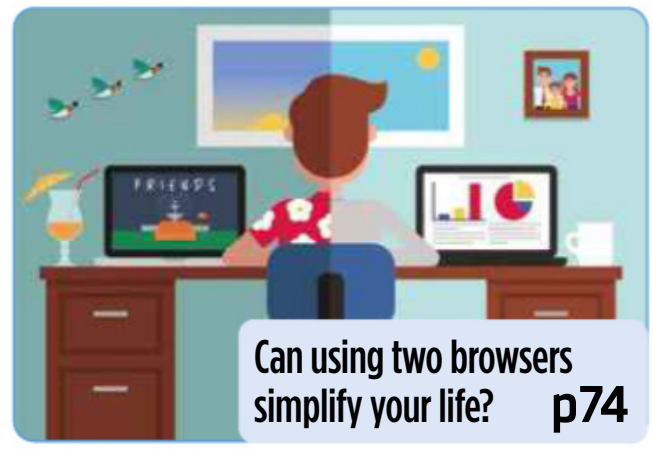
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Editor Robert Irvine
Technical & Reviews Editor Andy Shaw
Features Writer Steve Clark
Art Editor Laurence Hallam
Production Editor Miki Berenyi
Contributors Wayne Williams, Jane Hoskyn, Jonathan Parkyn, David Crookes, Roland Waddilove, Nicole Kobie, Barry Collins, Gareth Beach
Editorial email: editor@webuser.co.uk

ADVERTISING
Tel: 0203 890 3824
Group Advertising Director Andrea Mason
Deputy Advertising Manager Rebecca New
Senior Sales Executive Ashley Wood

ADVERTISING PRODUCTION
Group Production Manager
Stephen Catherall, 0203 890 4050
Production Manager
Mike Hills, michael_hills@dennis.co.uk

MARKETING
Marketing Manager Rachel Hare
Marketing Production Manager Gemma Hills

MANAGEMENT
Group Editor Daniel Booth
Managing Director Dharmesh Mistry
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Commercial and Retail Director David Barker
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SYNDICATION AND LICENSING
Tel: 0203 890 4027
Endorsement Licensing Manager Ryan Chambers
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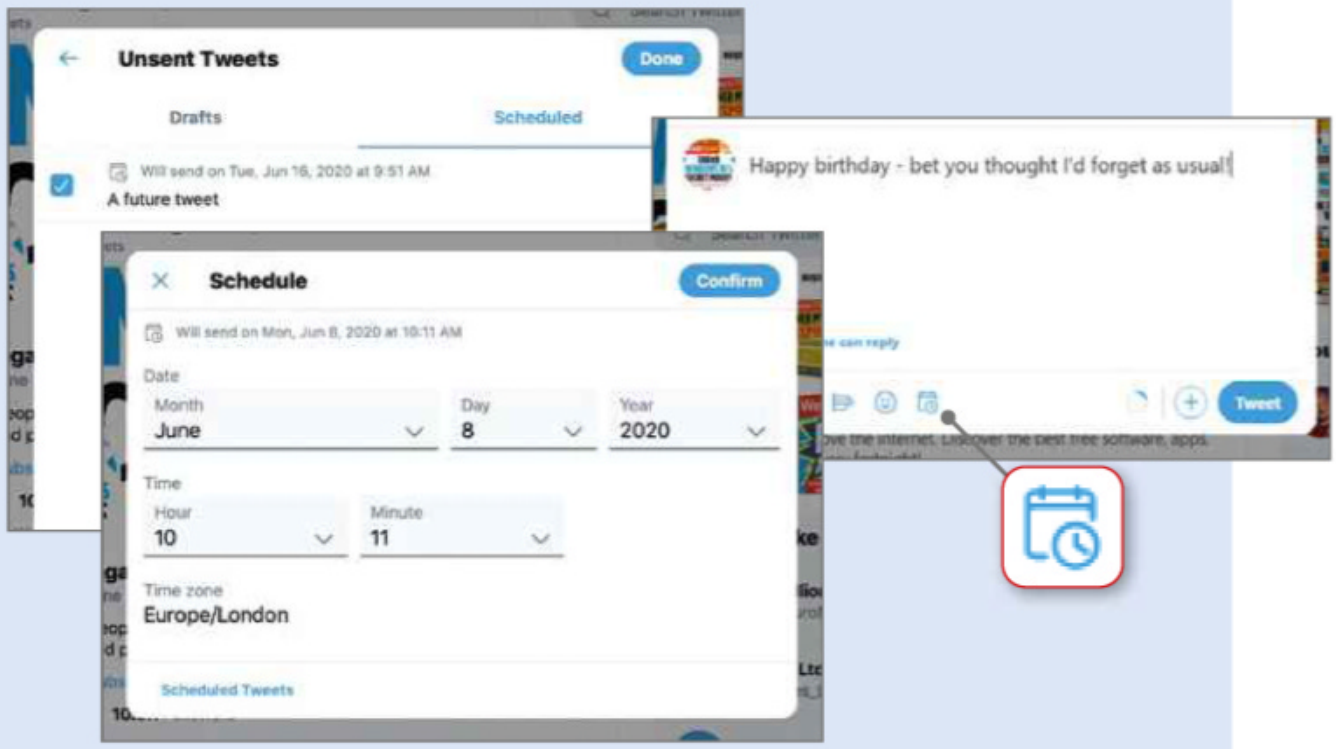
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WEB USER
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What's New Online

Schedule tweets and save drafts



Rather than set yourself a reminder or use a third-party scheduling app, you can now post tweets at a specific time and date on the website version of Twitter. This is useful if, for example, you want to comment on a special occasion, make an announcement or post something while you're on holiday (whenever that becomes possible again). It also means you can write a tweet while it's on your mind, then make it viewable when it will have the most impact.

To schedule a tweet, open Twitter's compose window and select the new calendar icon. Use the drop-down options to set a date and time up to 18 months in the future before selecting Confirm and clicking Schedule. The tweet will be stored until it's time to post, but if you need to make changes, simply open another compose window. This time, click Unsent Tweets and either alter the content or tweak the schedule. Click Edit for an option to select and delete the tweet.

It's also now possible to create draft tweets on the Twitter website, a feature that's already available in the Android and iOS apps. Again, compose a tweet but this time click X and select Save. As with scheduled tweets, these posts can be viewed and altered by clicking Unsent Tweets.

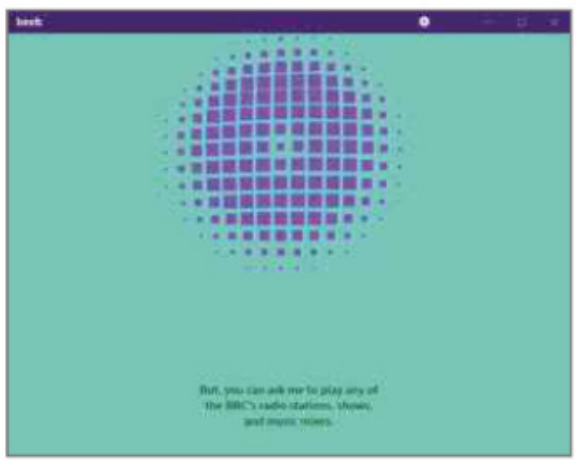
www.twitter.com

Talk to the BBC's new voice assistant

bit.ly/bbcvoice504

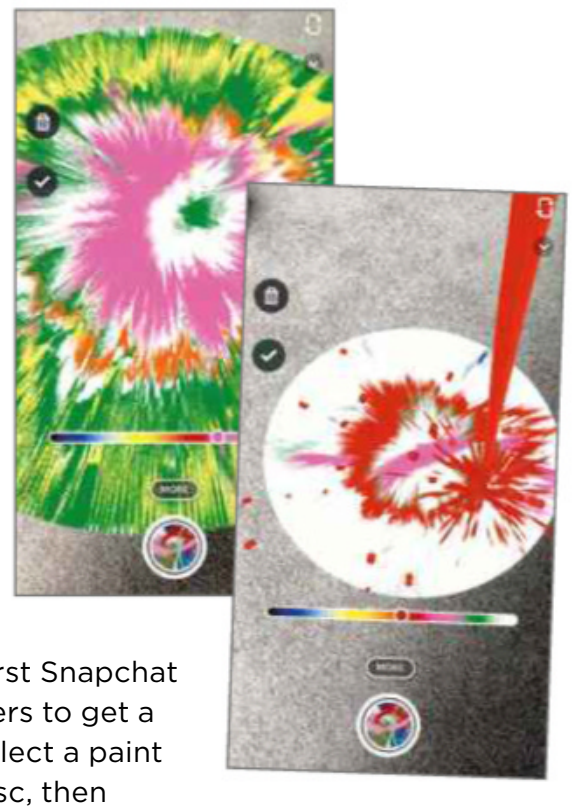
The BBC is hoping to take on Alexa and Siri with an early build of its new in-house voice assistant, called Beeb. The beta version lets you ask for live and on-demand radio, as well as BBC podcasts, news, weather and music mixes. You can also request jokes from the broadcaster's comedy writers and hear facts read by *QI* panel-show presenter Sandi Toksvig.

Unfortunately, setting up Beeb is a bit of a faff. First, you need to sign up for Microsoft's Windows Insider programme and update Windows to the latest Insider build. You'll then be able to download Beeb from the Windows Store and sign in with the same BBC account you use for iPlayer and Sounds.



This also means Beeb is not available for macOS or Linux users, but the BBC is still trying to be inclusive: the development team has been working on Beeb's ability to recognise regional accents, and the voice is based on a northern actor.

Create a Damien Hirst spin painting



www.snapchat.com

Artist Damien Hirst experimented with spin art for the first time in 1992, splashing paint on a spinning circular surface to create an original modern artwork. Now, you can follow in his footsteps from the comfort of your own home and produce your own creations – without making a mess – thanks to the magic of augmented reality.

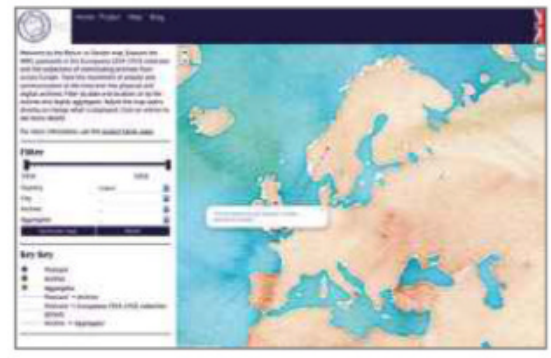
Activate the new Damien Hirst Snapchat lens and you can use two fingers to get a digital canvas into position. Select a paint colour and tap the spinning disc, then create your drawings, choosing different hues for your creative endeavour. Once done, you'll have a virtual painting that you can either share to Snapchat's Our Story feature to be seen by others or ditch and try again. By tapping More, you can also make a donation to Partners In Health to support its COVID-19 relief efforts.

We pick the 10 best things you must do on the web this fortnight

View postcards sent during WWI

returntosendermap.eu

Many postcards were sent by troops during the First World War and this map not only lets you view the images that appeared on them but the messages written on the back. Drawn from the Europeana 1914-1918 archive, you can also see where the postcards were sent to and from, and filter them by country, city, year and other criteria.



Read a free JK Rowling story

www.theickabog.com



JK Rowling has made a children's story she wrote many years ago available to read online for free. The *Harry Potter* author says the previously unseen novel, *The Ickabog*, had been stored in her attic but she decided to give kids a lockdown treat by rewriting various parts before unveiling the book, one chapter at a time, on the web. The story is being earmarked for a printed release in November and 34 young budding artists have a chance to appear in it by submitting Ickabog illustrations. The most suitable will be picked after 17 July and some of the entries are already viewable on the website.

Give your apps a retro look

iconrewind.co



Google adopted a minimalist flat design with Android 4 in 2011, and Apple followed suit two years later. But do you prefer a more 3D look? If so, visit Icon Rewind to add a set of retro app logos to your home screen by tapping and following the brief instructions to create a shortcut. The tool works for both iOS and Android, giving you options for many popular apps including YouTube, eBay, Amazon, Spotify, Netflix, PayPal and Gmail. Provided that the relevant app is installed, tapping its old icon will launch it via your browser. Icons are also easily removed.

Share your location with a Plus code

www.google.co.uk/maps

Google Plus codes let you share address-less locations, similar to What3words (what3words.com), which makes them great for developing countries as well as in emergency situations. You can now generate codes in Google Maps on Android by tapping the blue-dot locator and noting the six-digit code at the top of the screen. Alternatively, visit plus.codes/map to get codes for specific locations.



NEW VOICE COMMANDS

Have your thoughts read

Can artificial intelligence read your mind? Say "Speak to Mentalist Show" and put your brain to the test with a few experiments spread across 12 rounds.

Sync your smart lights

If you own a Philips Hue Play HDMI Sync Box, say "Hey Siri, start syncing my lights" to match it with your TV viewing. It also works with Google Assistant and Alexa.

Use Alexa as an intercom

If you have Alexa devices, say "Alexa, drop in on all devices". If you're registered for Calling and Messaging and have permission, you can start an audio intercom.

Delete multiple Facebook posts at once

www.facebook.com

Facebook's Manage Activity feature lets you delete multiple old posts in one go, to easily remove potentially embarrassing content from the social network. The option will be available on mobile devices first.

Embed timestamps in YouTube videos

www.youtube.com

Make your YouTube videos easier to navigate by using timestamps to create chapters. Starting at 0:00, add a minimum of three chapters of 10 seconds or longer by writing the timestamps in the description.

Measure Dark Web exposure

www.immuniweb.com/radar

Enter a domain name and this online tool checks if data gathered by the website is being offered on the Dark Web. It looks for potential phishing campaigns, domain squatting and trademark infringement using deep-learning AI technology, too.

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Need to Know

Streaming services pull TV shows over racist material

What happened?

Amid Black Lives Matter protests in the US and UK, streaming services have started editing or removing films and episodes of TV shows that include racist dialogue or actors in blackface.

An episode of *Fawlty Towers*, 'The Germans', was pulled from the UKTV streaming service because a character uses racial slurs – not because of scenes that show John Cleese's character saying "don't mention the war" while goose-stepping in front of German visitors. The dialogue had previously been edited out of versions streamed by other TV services, and UKTV said it plans to reinstate the episode with a warning "to highlight potentially offensive content and language".

Cleese said the decision to remove rather than edit the episode was "stupid" because it was always intended to mock racism rather than endorse it. Indeed, the actor said the "huge swell of anger" against discrimination was "very good".

Little Britain was removed from several services including Netflix and iPlayer, with a BBC spokesperson saying "times have changed". The show ran from 2003 to 2007 and featured actors in blackface. The show's stars, Matt Lucas and David Walliams, have issued apologies, stating that they have "both spoken publicly in recent years of our regret that we played characters of other races. Once again we want to make it clear that it was wrong and we are very sorry."





Lucas and Walliams have apologised for their portrayal of ethnic characters

Netflix also dropped *The Mighty Boosh* and *The League of Gentlemen* for featuring actors in blackface. Channel 4 has removed *Bo' Selecta!* for its impersonations of black celebrities, with Leigh Francis saying he was "deeply sorry" for his use of blackface. Ant and Dec, meanwhile, apologised for "impersonating people of colour" on *Saturday Night Takeaway*, saying the segments had been taken offline.

In the US, HBO Max removed *Gone with the Wind*, the 1939 Oscar winner that has been frequently criticised for its racist portrayals. However, the film is set to return to the service unedited, but with a discussion of its "historical context and a denouncement of those very depictions," the company said.

How will it affect you?

All the removed shows are still available on DVD or to download for anyone who wishes to view them, but not necessarily on the streaming service of your choice. Programmes disappear from streaming platforms all the time – indeed, there are websites that track recent additions and highlight what disappears every month. The most newsworthy aspect here is the reason why the shows were removed and whether it constitutes censorship or a sensible, long-overdue move.

If the removal of those shows leaves you at a loose end for something to watch, Netflix has curated a list of shows and films under a Black Lives Matter category that pulls together a range of content, from documentaries about the LA riots to the new Spike Lee movie, *Da 5 Bloods*.

What do we think?

Times change, and the web changes with them. It's worth noting that the removals were not at the request of activists, who haven't demanded such action, but were led by the streaming services themselves. While it may seem, as some online commentators have said, that removing such content is editing history or against free speech, it's merely a much needed spring cleaning. What's remarkable isn't that this is happening now, amid Black Lives Matter protests, but that it didn't happen sooner.

Indeed, some shows were pulled well before now. While *Little Britain* remained online, another Lucas and Walliams show, *Come Fly With Me*, hasn't been available since 2011 because of its dubious impersonations of black people. And 'The Germans' episode of *Fawlty Towers* has been edited on plenty of platforms before now.

TV shows and films come and go on streaming services for all sorts of reasons, usually because the rights owners find a better offer. Netflix and co aren't a guaranteed library of every film or show that's ever existed, and content that ages as badly as these examples will naturally be phased out to make way for better, less offensive material.

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

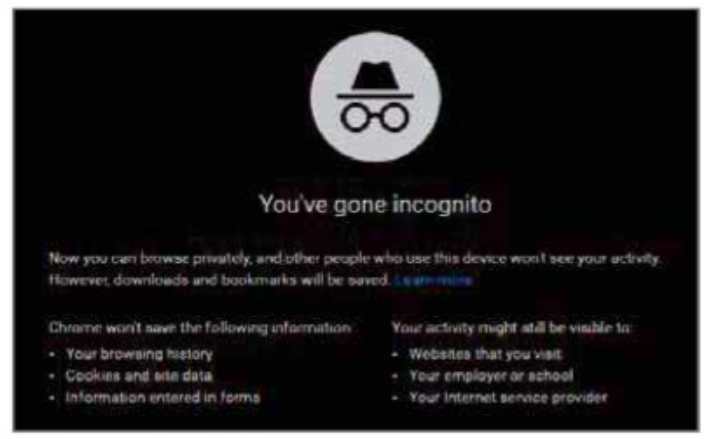
Google faces lawsuit over Incognito tracking

What happened?

Chrome users who switch to Incognito mode do so because they want to stop anyone tracking their browsing history. However, your online behaviour isn't completely private in this mode, which has sparked a class-action lawsuit in the US that could cost Google more than $5bn.

Chrome doesn't save your activity or search history to your browser or device in Incognito mode, but Google Analytics and Google Ad Manager can still track your movements around the web.

The lawsuit claims that Google doesn't make this clear enough when you activate Incognito mode. Google disagrees, saying it warns that websites may be able to collect data about your activity. The lawsuit was filed in California and is asking for damages of $5,000 per affected person, which could include everyone who has used the mode since 2016.



How will it affect you?

If you want to browse the web anonymously, you certainly can't trust Chrome's Incognito mode to respect your privacy – you're better off using Tor Browser (www.torproject.org) or a VPN (see our cover feature on page 40) to hide your location and stop anyone tracking you.

Could you receive a payout from this lawsuit? That depends on the success of Boies Schiller Flexner LLP, the legal firm behind it. We'll have to wait and see if the case is picked up by the courts, but if it is, expect Google to make a strident defence.

What do we think?

This is an intriguing case. For Google to win, it must argue successfully that people are well aware that private browsing modes aren't fully private. Even if that's true, it raises the question of why Incognito mode doesn't block all tracking by default. Google certainly has the means to offer users such protection, so why doesn't it? Whether or not anyone makes money out of this lawsuit, we'd like to see an answer to this particular question.

Face-recognition site raises privacy concerns

What happened?

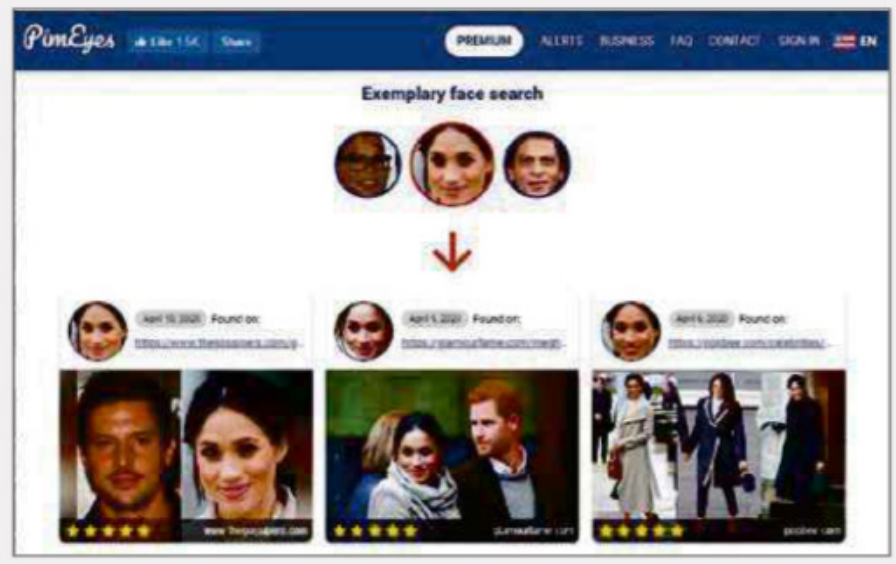
A website that lets users find photos of themselves around the web has raised concerns that it could be used by stalkers or even government agencies as a means of surveillance. PimEyes (pimeyes.com) lets anyone upload a photo for free, then finds images that match it on the web.

Google Images already performs a similar task, but PimEyes uses facial recognition to find other photos the person is in. Users can also pay £9.99 for a premium service, which sends a notification whenever a new photo of a person is uploaded to the web. Its creators say their aim is to help people find out if their pictures are being misused, but some aspects of its system are being used for law enforcement.

The concerns come as IBM and Amazon have said they won't sell their facial recognition technology to police authorities, amid debate about police brutality in the US.

How will it affect you?

The PimEyes website lets you upload a photo of anyone and search for images of that person across the web. It's free to use, but be warned that some of the images it finds are adult in nature. While the privacy concerns are legitimate, PimEyes simply doesn't work very well. When we submitted two images, the first results it returned were correct but the rest were of other people.



What do we think?

Facial recognition technology has serious downsides, whether it works or not. However, despite the many concerns such systems raise, they're already in use by authorities – and that's especially problematic when they're so flawed and inaccurate, particularly in identifying black people. That makes police use of facial recognition doubly concerning given the current debate and protests in the US, UK and elsewhere over racist policing. Governments need to take a serious look at how this technology works, and whether police should be using facial recognition at all.

Smart appliances may expire after two years

What happened?

Manufacturers are keeping customers in the dark about the true lifespan of smart appliances, according to Which. In a recent survey (bit.ly/which504), the consumer rights group reported that 69% of its members believed smart appliances would "last as long, if not longer, than a non-smart equivalent". However, that expectation isn't shared by the companies behind the devices, some of which were unable to promise support beyond two years.

This revelation is likely to anger owners of smart white goods and put off potential buyers. The issue revolves around security updates for connected appliances. According to Which, "when you add software into the mix, these products could have a much shorter life – at least in terms of their full functionality". That could leave seemingly innocent appliances, such as smart fridges and washing machines, at the mercy of hackers.

Which contacted all the major appliance manufacturers, asking how long customers could expect support over the lifetime of the product. Only Miele responded with a firm 10 years. The rest assured Which that updates would continue for "the life of the product".

That may sound promising but it's also incredibly vague. What's more,



household names including Whirlpool, Samsung and LG appear to be in 'neither confirm nor deny' mode.

How will it affect you?

You might upgrade your phone, laptop or even your TV every couple of years, but most people don't replace their fridge or other home appliances nearly so often. On average, white goods tend to be replaced after around 10 years. That lifespan could be slashed if these companies have their way.

In response to questioning, Samsung could only confirm a minimum of two years' support. Beko offered updates up to a maximum of 10 years. If you're someone who already upgrades their tumble dryer every couple of years, this may not alarm you, but for the rest of us, it's important that we find out precisely how long a smart appliance will be supported before we buy it.

What do we think?

It's not unreasonable to expect decent appliances to last at least a decade. "The life of the product" is an utterly meaningless term, and we should be wary of manufacturers dropping support well before that time comes.

Considering the high cost of smart white goods, we wouldn't be surprised if people simply don't bother to upgrade their smart fridge or other appliances after the security updates end. This could leave us with a real-life kitchen nightmare just waiting to happen.

FIRST LOOK

Amazon Kindle Fire HD 8

bit.ly/kindlefire504



The new Amazon Kindle Fire HD 8 is great value. It's no iPad killer (or even a Galaxy Tab slayer) and certainly isn't as attractive as its more expensive rivals, with thick bezels that crowd the 8in screen, but it costs several hundred pounds less.

Like most Kindle updates, The Fire HD 8 is more of an evolution than a revolution. The case is made from the same matte plastic as before, with a sub-par screen resolution of 1280 x 800 pixels, and the Fire OS software is still as restrictive as it has always been.

That's not to say the new Fire HD 8 is identical to previous versions. Amazon has done a stellar job with its hardware upgrade. The device now runs on a MediaTek MT8168 2.0GHz quad-core processor with 2GB RAM, which Amazon reckons makes the Kindle Fire 8 30% faster than its predecessor. As well as the now-standard 32GB model, there's also a 64GB version for the first time.

Amazon has clearly decided that landscape is now the preferred orientation for tablets, and has shifted the cameras, buttons and headphone jack accordingly. There's also a long-awaited USB-C port, which charges the device in around five hours. At the bottom, you'll find a MicroSD slot that increases the tablet's internal storage to up to 1TB. Completing the redesign are the speakers, which now direct sound upwards when the tablet is held in landscape mode. If you're using the Fire HD 8 to binge on Netflix and Prime Video series, this is a welcome improvement.

Although the front and rear cameras have moved, their image quality still leaves a lot to be desired. Frankly, two megapixels is poor, and the tablet captures only 720p video. That said, the Fire HD 8 is a budget tablet that comes in five colours and costs just £90 for the base model with 'special offers' (on-screen adverts). For that low price, it's a fine tablet, but not an essential upgrade.

WHAT'S THE RUMOUR

Is Google releasing an Android TV dongle?

Google's Chromecast has long provided an easy way to turn your television into a smart TV. Now the company is rumoured to be upgrading its device with a more sophisticated Android TV dongle.

The team at website XDA Developers (bit.ly/xda504) has unearthed leaked images that point to a more sophisticated TV streaming device. Codenamed 'Sabrina', the oval dongle appears to be available in three colours: black, white and pastel pink. Insiders believe it will launch under Google's Nest smart home brand.

Judging by the leaked screenshots, which appear to be from an internal marketing video, 'Sabrina' also comes with a remote control. This is a major departure from Chromecast's basic controls, which relied on the viewer's smartphone, and makes the dongle more of a rival to the popular Amazon Fire TV Stick. Rumour has it that, like Amazon's device, the remote will have a built-in microphone for voice control. You'll probably be able to use your phone or smart speaker to control the dongle, too.

Glimpses of Sabrina's interface show a clean carousel design that isn't a million miles away from YouTube – which, naturally, takes pride of place. As with most Android TVs, it looks as if Google's Nest home automation devices are neatly integrated to provide alerts.



Aside from references to support for Dolby Vision, we don't know much about the hardware – and we don't have any idea how much it will cost.

LIKELIHOOD RATING

✓✓✓✓✓

The sources are reliable and the rumours have been around for long enough to suggest that Google really is working on a new streaming dongle. Experts believe it could be released in a matter of months – just in time for a Christmas price war with Amazon. The question is: will 'Sabrina' (if Google retains that name) be powerful enough to compete with Amazon, Apple and existing Android TVs?

WEBOMETER

WE LIKE...

Sony unveils the PlayStation 5



Sony has unveiled its new PlayStation 5 games console, with improved graphics, a redesigned controller and a customised hard drive that significantly reduces load times. The PS5 will go on sale later this year from around £400.

Vivaldi updates its browsers

Vivaldi has updated its desktop browser with a useful new Notes Manager feature, which lets you create, edit and save notes containing both text and images as you browse the web. Developers have also added a dark mode to the Android version of the browser.

WE DON'T LIKE...

Brave accused of tricking users

Privacy-focused web browser Brave faced criticism from users for redirecting search queries for certain terms to its affiliates. Brave's CEO apologised, admitting that "We made a mistake".

More Windows update problems

Two of the latest Windows 10 updates have been found to cause printing problems. As well as creating print spooler errors in some printers, the bugs are also causing problems with tools for saving files as PDFs.

What's new on Kickstarter

Our favourite new project on the crowdfunding site

Blinxi

bit.ly/blinxi504 | From £45



Blinxi promises to make cyclists more visible and predictable on the road. By attaching its thin light strip to a helmet, cyclists, scooter riders and even skateboarders can signal turns to other road users. A remote control on the handlebars emits a bleep when the rider presses the indicator. The light strip supports three modes: solid, flashing and day. There's no app and no other connectivity – just hook it up and start peddling.

A £45 early bird pledge will get you a single Blinxi pack, which includes the light strip, mount, remote and straps.

Stay Safe Online

News about the latest threats and advice from security experts

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

Babylon health app suffers data breach



Patients using a smartphone app developed by private health firm Babylon to book GP appointments were inadvertently given access to videos recorded by other patients. The company admitted that a software error in a new feature caused the data breach. As a result, users were shown other patients' video consultations in the Babylon app when they switched from an audio-only call to a video call.

Babylon lets patients speak to a doctor, therapist or other health specialist via video call, and has more than 2.3 million users in the UK. The company said the breach had affected a "very small group of people", but didn't confirm exactly how many patients' recordings had been shared without consent.

"The problem was identified and resolved quickly," said a Babylon spokesperson. "Of course, we take any security issue, however small, very seriously and have contacted the patients affected to update, apologise to and support where required."
bit.ly/babylon504

WhatsApp exposes users' phone numbers

WhatsApp exposed as many as 300,000 users' phone numbers by making them available in public Google search results, according to security researcher Athul Jayaram. The data was leaked through WhatsApp's 'Click to Chat' feature – a tool that lets users and small businesses generate a unique URL so people can contact them directly – because it doesn't use encryption to hide users' phone numbers. Thanks to the breach, up to 300,000 numbers appeared in Google results if someone searched for "site:wa.me".



Credit: PixieMe / Shutterstock.com

"This feature does not encrypt the phone number in the link and, as a result, if this link is shared anywhere, your phone number is also visible in plain text," said Jayaram. "For example, if you share the link with a friend on Twitter to reach you on WhatsApp, your mobile number is visible in this URL."

Jayaram reported the flaw to WhatsApp through its bug-bounty scheme, but the company said the disclosure didn't qualify for a reward because users chose to make their URLs public. WhatsApp said it has now resolved the issue.
bit.ly/whatsapp504

Security Helpdesk | Your questions answered by security specialists

THIS ISSUE'S EXPERT: Ray Walsh, Digital Privacy Expert at ProPrivacy (proprivacy.com)

Q How worried should Brave users be about the browser tracking them (see Webometer, page 11)?
Steve Padgett, Facebook

A The fact that Brave has put revenue above transparency is problematic, and although Brave's CEO Brendan Eich has stated that the tracking only identifies the firm rather than individual users, it's likely that many users will feel betrayed.

The problem isn't that Brave is attempting to generate revenue, but that it hasn't been open about how it makes its money, and that some degree of tracking is involved – no matter how minimal that might be.

Admittedly, Brave has promised to rectify the situation to ensure that the auto-filling of affiliate links only ever happens with user consent. For privacy advocates who thought they could trust Brave, however, this may be too little too late.

Q Are we likely to see more scams related to the coronavirus contact-tracing app?
Kevin Chase, Facebook

A The government's track and trace system is deeply flawed in its current form, meaning anyone could potentially be scammed by a bogus track and tracer. These scams are a lot harder to spot than you may think. If someone called you and asked for your bank account details, you would dismiss it as an obvious scam. However, a contact-tracing scammer simply has to ask for someone's email address (which is the type of data track and tracers are known to be collecting). They can then send that person an 'email form' to sign, and once the victim clicks it their computer will be infected with malware.

Reports suggest that UK police forces are planning their own contact tracing system rather than using the government's scheme. If even the police don't trust it, why should we?

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



£499.99

Impulse

AMD IMPULSE (RYZ7)

AMD Ryzen 5 2600 - 6 Cores (O.C 4Ghz)
ASUS PRIME B450M-A
CORSAIR 8GB DDR4 3000Mhz
INTEL 512GB M.2 nVME 660P
AMD RX 560 2GB
GAMEMAX Expedition
MICROSOFT Windows 10 or 10 Pro



£599.99

mercury

INTEL i5 MERCURY (COF9)

INTEL Core i5 9600K (O.C 5Ghz)
ASUS PRIME Z390-P
CORSAIR 16GB DDR4 3000Mhz
INTEL 1TB M.2 nVME 660P
INTEL UHD 630 Integrated Graphics
KOLINK Stronghold
MICROSOFT Windows 10 or 10 Pro



£1249.99

NAVÎGATOR

AMD NAVIGATOR (RYZ8)

AMD Ryzen 5 3600X (O.C 4.3Ghz)
ASUS TUF X570-Plus Gaming
CORSAIR 16GB DDR4 3600Mhz - RGB
INTEL 512GB M.2 nVME 660P
SEAGATE 2TB Sata3 HDD
AMD 5700XT 8GB
CORSAIR iCUE 220T RGB White
MICROSOFT Windows 10 or 10 Pro

palicomp

01270 898 104
sales@palicomp.co.uk

*Sales subject to our terms of sale available online - www.palicomp.co.uk - Configuration issues will be advised by phone - any alternatives will also be advised by phone before proceeding with the order. Systems Custom built then are tested 100% prior to dispatch - dispatched via courier for next working day delivery - other delivery options available online. 0% Finance upto 12 months only - terms online - early settlement fee just £29.00 - apply online or phone. Prices inclusive of VAT and free UK mainland shipping. Q-jump cut-off time 15.00pm.

Best New Websites

Site of the Fortnight

ART

RELAUNCH

Munch Museum

www.munchmuseet.no/en

With physical restrictions in place, the Munch Museum in Oslo has sought to showcase its extensive art collection through a series of innovative digital exhibitions. The first is The Experimental Self, examining Edvard Munch's techniques, tools, key moments, mistakes and tests. Focused on photos taken by the artist, it makes light work of navigation and places his art front and centre, displaying explanatory text about a collection or details of a specific work. Elsewhere, you can enjoy delving deeper into Munch's life, exploring a timeline and viewing his rejected paintings. You'll come away screaming with delight!

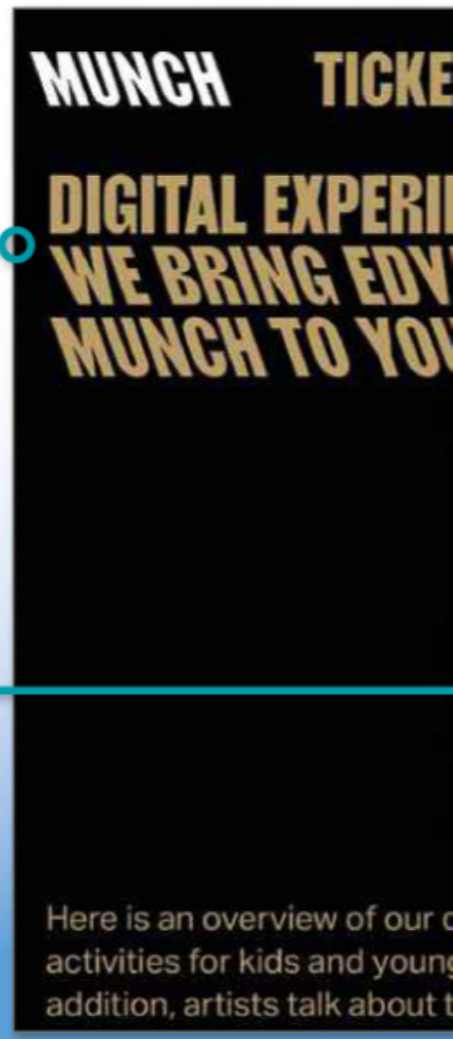
Our rating ★★★★★

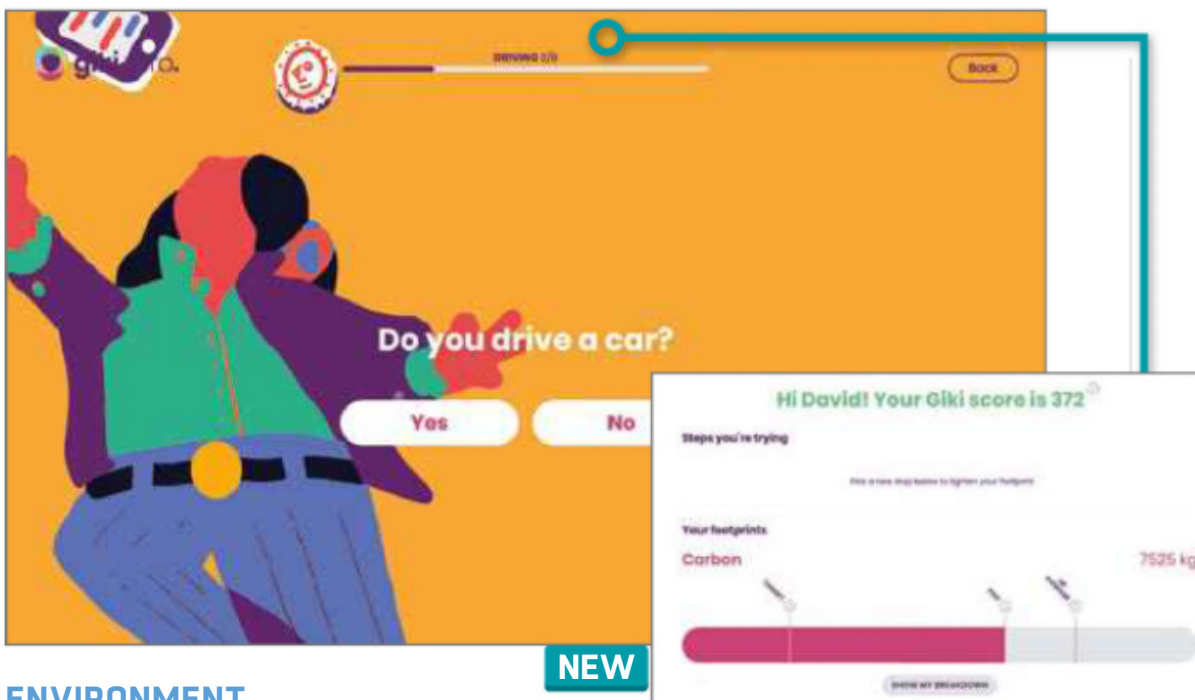


DANCE OF LIFE
Watch videos exploring music inspired by the artist and listen to unique tunes



SELF-PORTRAIT
Learn more about Edward Munch and discover the stories behind his paintings





NEW

ENVIRONMENT

Giki Zero

zero.giki.earth

Answer a few questions on Giki Zero to get an individual assessment of your carbon footprint. It'll then suggest improvements, such as switching from shower gel to soap, with the aim of halving your environmental impact. Where the site excels is in how it achieves this: each step is assessed by how effective and easy it is and, by indicating what you're willing to try (or what you already do), you can effortlessly build up a plan. This is beautifully presented on a clear dashboard where you can mark your progress before viewing your current score. In that sense, it's a gamified process that's accessible and fun. However, it does require you to sign up to access its content.

Our rating ★★★★★



NEW

SPORT

Golf Geeks

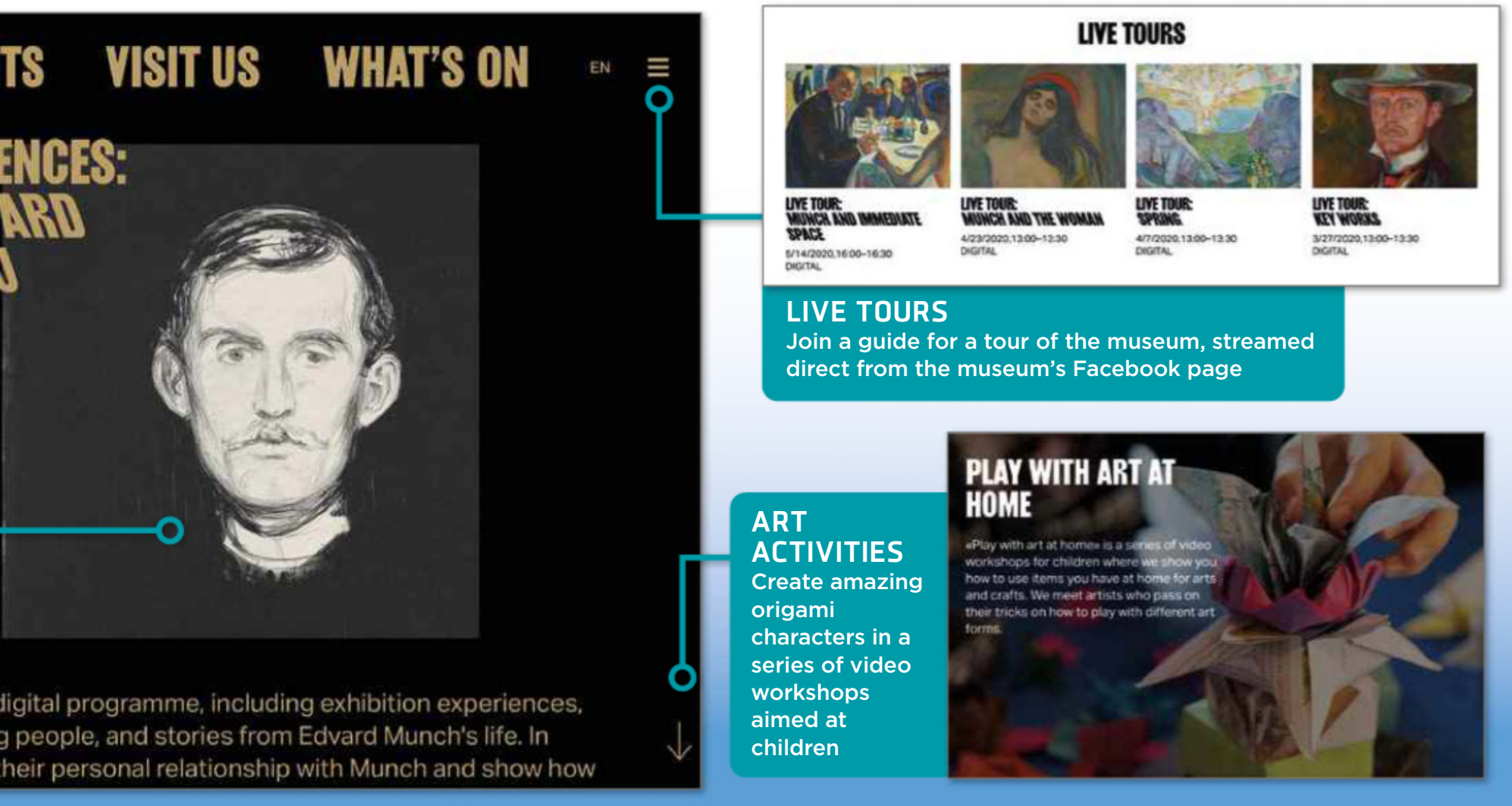
www.golfgeeks.co.uk

Launched by amateur golfer Matt Allison, Golf Geeks specialises in the sale of used clubs and it seems to have got things off to a tee. Along with search filters, a 14-day trial of clubs and promotions, there's a club-condition guide explaining the five grades with a video and, more importantly, a selection of images showing any chips and damage you can expect. We love the site's podcast and the fledgling blog offering advice and tips. The part-exchange process is a little clumsy, though: there's a form to fill in, but you have to email photos of your clubs separately.

Our rating ★★★★☆

Reviews by David Crookes

We review this fortnight's best new and relaunched websites and rate them for content, design and features





NEW

HEALTH

The Heroes of COVID

theheroesofcovid.com

We all applaud the amazing work being done by front-line workers, some of whom have died after contracting the coronavirus. To ensure their efforts are not forgotten, charity Second Genesis has created a site dedicated to such heroes, including volunteers, not only inviting plaudits for people continuing to work in key roles but also creating a virtual memorial for those who have lost their lives. In all cases, friends, family and colleagues are invited to contribute photos, stories, video and audio clips. None had done so at the time of writing, but it's a welcome and important effort.

Our rating ★★★★☆



NEW

ECONOMY

Economics Observatory

bit.ly/economics504

Given the effect of COVID-19 on the economy, this site pools experts from universities and research institutions to answer the burning questions. These are presented on the well-crafted homepage and in an exhaustive list of topics that cover everything from schools and transport to crime and pensions. In all cases, the thorough explanations use scientific data and evidence to back up claims and arguments. Discover who the UK experts for a topic are and click links to find out more. But be warned: it's easy to get distracted by a host of suggested, related questions and topics to consider.

Our rating ★★★★☆



NEW

HOLIDAYS

101 UK Holidays

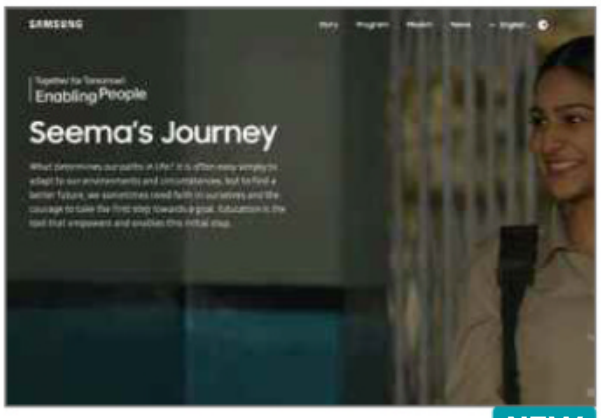
www.101holidays.co.uk/uk

Holidays abroad may be on hold, but easing coronavirus restrictions means you may want to look closer to home for your breaks. This new site from the 101 Holidays team lets you explore UK destinations and activities, and view fun alternative suggestions – a safari in Kent, maybe, or a Scottish coastal road trip. Select what you want to do, your budget and destination, and recommendations instantly appear. But while you can click through to read more about the ideas, the page links take you to recommended tour operators, revealing the primarily financial motivation behind this site.

Our rating ★★★★☆

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

Best New Websites



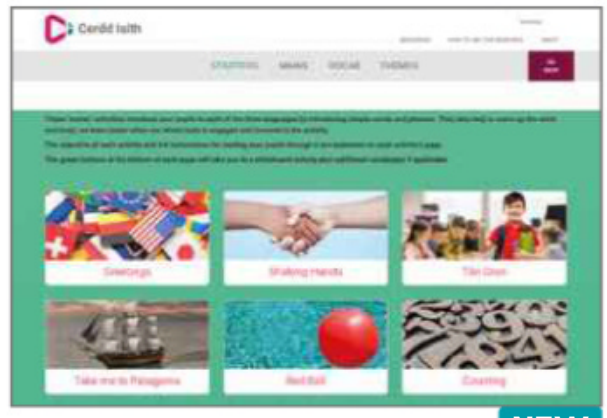
NEW

SOCIAL

Samsung Corporate Citizenship csr.samsung.com

Technology can be empowering, helping to improve lives across the world. Samsung's new website looks to shine a spotlight on individuals using technology in positive ways, whether that's to help rescue teams see more clearly or to aim for solving environmental issues. Stories are told in a series of articles and you can also discover more about Samsung's mission. A news section keeps you up to date with the latest initiatives, and you can read the history of Samsung's corporate citizenship projects. Even so, the overall message is not immediately clear and browsing the site can feel a little unengaging and corporate.

Our rating ★★★☆☆



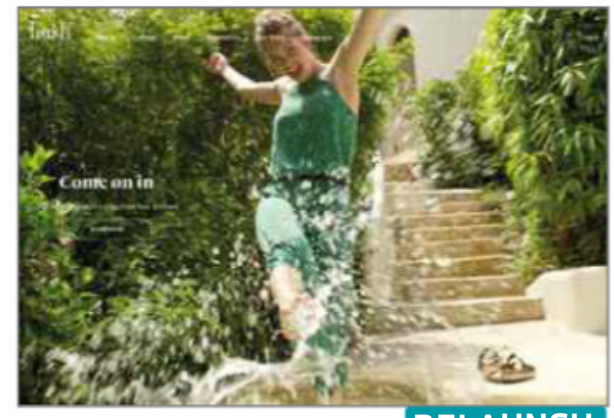
NEW

LANGUAGE

Cerdd Iaith www.listeningtolanguage.com

One of the activities covered by this Welsh, Spanish and English learning tool involves shaking hands. Right now that doesn't seem like a sensible option, but Cerdd Iaith nevertheless remains a fantastic language resource for children aged seven to 11. By harnessing music and drama, the free lessons cut across warm-up exercises, in-depth activities, vocabulary and themes. They also contain a mix of video, sheet music, lyrics and suggestions in a highly polished package that can be used by parents and teachers. Click the speaker icons to hear pronunciations and switch between viewing the site in Welsh and English.

Our rating ★★★★☆



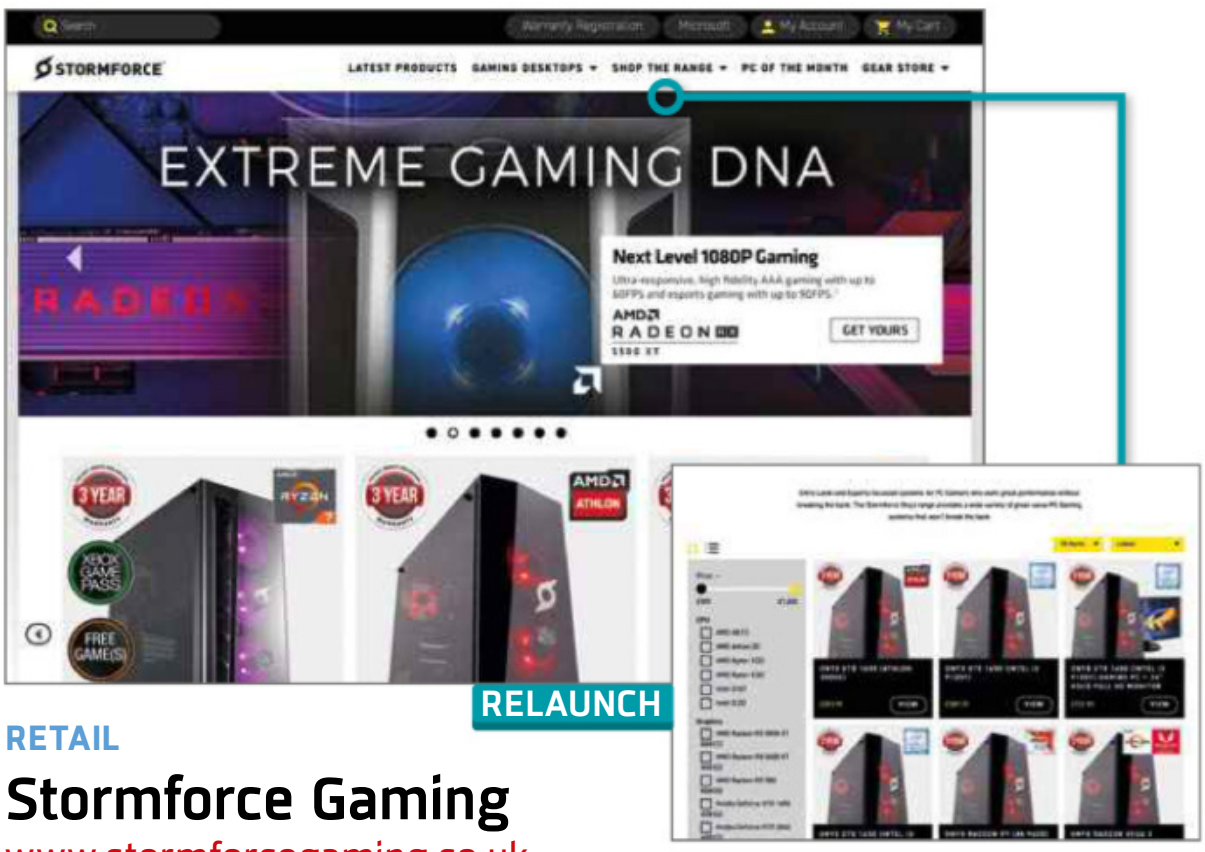
RELAUNCH

RETAIL

Hush www.hush-uk.com

Women's fashion and lifestyle brand Hush's mobile-first redesign is a delight to use on smartphones – pages load lightning fast, images are large and bold, categories are clearly displayed in a side menu and, on iOS, Apple Pay has been added as an option. The desktop site is just as cleanly presented, allowing you to add items to the basket in the required size straight from the results page, or else letting you view more details and products that complete an outfit. The campaigns section is full of beautiful shots showcasing the latest collections and a new e-magazine called Life Etc is promised soon.

Our rating ★★★★★



RELAUNCH

RETAIL

Stormforce Gaming www.stormforcegaming.co.uk

Stormforce, which specialises in high-end desktop PCs for gaming, has a new website that takes its offering to a new level with a cleaner interface that makes it easy to find computers best suited to the type of games you play. Indeed, you can see the ranges most suitable for entry-level, enthusiast and expert users, choose a specific game or even select the resolution of your monitor to view the machines best equipped for your needs. Hover over a computer to instantly see its specifications, and use the filters to narrow results down by price, processor, graphics card, storage and memory. If you still need help, there's a recommended 'PC of the Month' to ponder, too.

Our rating ★★★★★



RELAUNCH

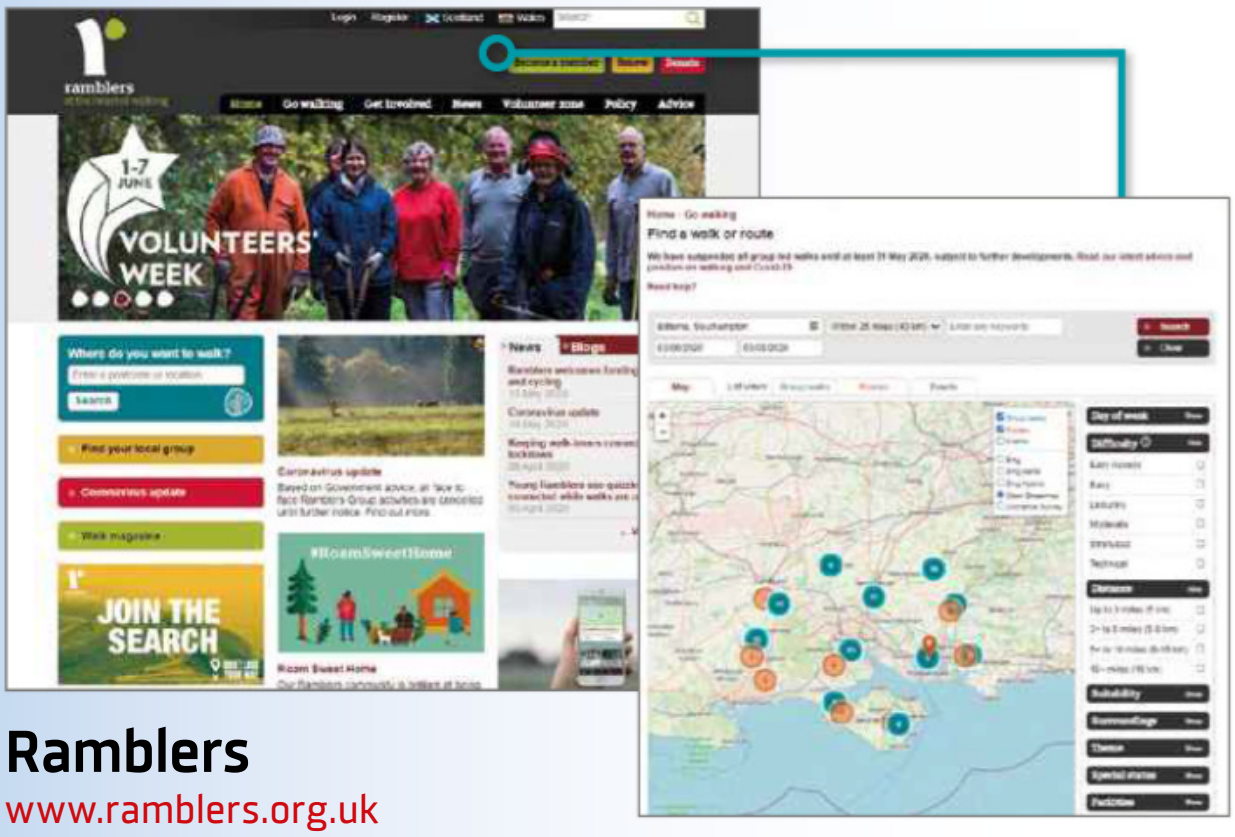
ALCOHOL

Libiamo Wines libiamowines.co.uk

Five years on from its launch and Libiamo Wines has popped the cork on a refreshing site that not only quenches your thirst for a fine bottle but shows you how best to appreciate it. A fun blog looks at wine tasting, wineries and even different types of glass, while guides show you how to open, decant and store your wine. The product pages come complete with tasting notes, recommended food and background on the producers, alongside at-a-glance information on what to expect from each bottle. The level of detail gives the impression you're in good hands and we can only raise a glass to a job well done.

Our rating ★★★★☆

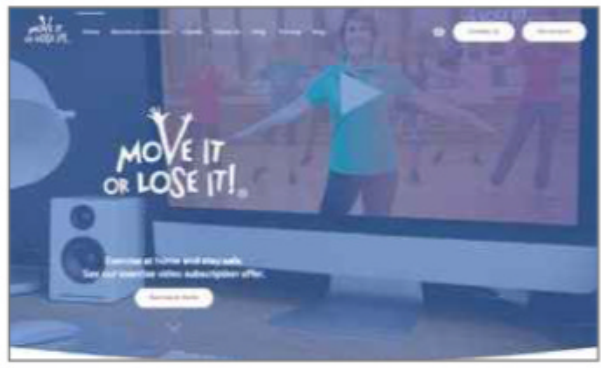
ESSENTIAL BOOKMARKS THIS ISSUE: Top sites for keeping active



Ramblers

www.ramblers.org.uk

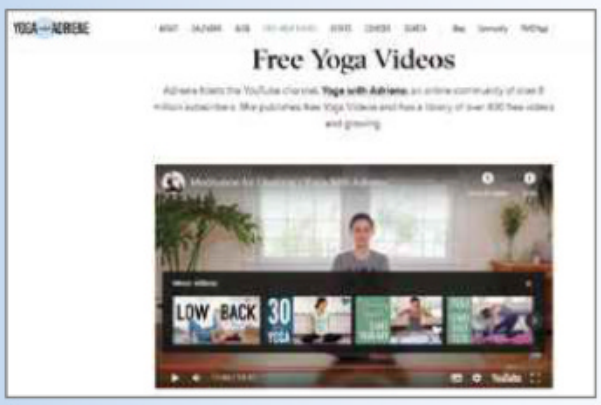
If you're itching to get back outdoors, head to this excellent site from the Ramblers' Association (now just 'Ramblers') and use its route finder to get mapped walking routes for any UK location. You can switch between OpenStreetMap, Ordnance Survey and Bing views, then use filters to see walks of specific distance, difficulty, facilities and more. It's only worth using the Ramblers app (bit.ly/ramapp504) if you're a paid-up member, but our mobile browser on 4G worked well. The site also offers up-to-date info on coronavirus rules and British rights of way; a huge archive of walking routes from events such as ITV's *Britain's Best Walks*; and the #RoamSweetHome initiative invites ideas for meeting step goals at home (say, climbing Everest on your stairs).



Move It Or Lose It

www.moveitorloseit.co.uk

The World Health Organisation recommends 150-plus minutes of moderate-intensity aerobic physical activity per week for everyone over 65. That's hard to stick to at the best of times, so Birmingham-based fitness company Move It Or Lose It is offering a pack of expert advice on exercising at home (bit.ly/moveit504). The site's blog has hundreds of free articles and case studies about exercising as you get older, and subscribing (which costs £4.99 per month) lets you join the group's excellent online exercise classes. These are carefully designed to improve flexibility, aerobic health, balance and strength, and can all be done seated or standing.



Yoga with Adriene

yogawithadriene.com

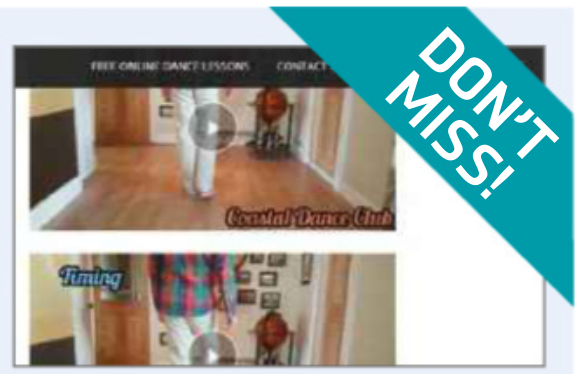
Yoga is the ideal exercise to do at home. You don't need fancy accessories (not even a mat), and one of the world's best teachers for beginners offers lessons completely free via YouTube (bit.ly/yoga504). US yoga guru Adriene Mishler offers sessions for all kinds of people and health conditions, including yoga for back pain and for physically vulnerable adults, all taught in her patient, clear, easy-to-follow style (sometimes with the help of her dog, Benji). Her 500-plus videos are sorted into YouTube playlists (such as 'Yoga for Neck Tension') to help you navigate. They're all linked from the Free Yoga Videos section of her website, where you can download a free printable yoga calendar (bit.ly/yogacal504).



NHS Couch to 5K

bit.ly/couch504

The NHS's nine-week Couch to 5K scheme has given many former couch potatoes the confidence to get outside for a jog. The website offers clear, useful advice and plans for getting moving, whatever your abilities and aims, and assumes nothing beyond a certain amount of willpower. You can also access the large archive of free podcasts, and read expert advice on dealing with sports injuries and improving your strength. Couch To 5K is featured on the NHS's One You hub (bit.ly/oneyou504), a collection of free exercise videos and illustrated guides to building muscle tone and flexibility at home without coming a cropper. And, of course, it's available as a very popular Android and iOS app.



Coastal Dance Club

www.coastaldanceclub.co.uk

Twinkle your toes with dozens of free "gobbledegook-free" dance lessons from Kent-based dance teacher Steven Ford. The videos focus on Ford's legs and feet as he patiently explains the steps, techniques and beats of numerous dances including jive, foxtrot and cha cha cha, and the lessons cater for a range of abilities including complete beginners. All the videos can be viewed full-screen and downloaded for watching anywhere (in the garden, perhaps?), with the music also free to download separately. Elsewhere on the site you'll find health and safety advice, and a newsletter with special offers.

Tell us your favourite sites for keeping active via webuser@webuser.co.uk

Computer active

READER OFFER!

ADD A DISC FOR £6.95!

Buy Windows 10 Home for just £29.99!

In this new Reader Offer, we're selling **Windows 10 Home** for just **£29.99** (1-PC, unlimited lifetime licence)! The normal price is a hefty £119.99, so our deal represents a whopping 75% discount.

To buy **Windows 10 Home**, visit **bit.ly/win10discount** and click the red Buy Now button on the right. If you have any questions about your purchase, please email **editor@computeractive.co.uk**.



Windows 10 Home NOW ONLY £29.99*

*Normally £119.99

Buy it on our Software Store at bit.ly/win10discount

Build a Better Site

Specialist tips, top tools and practical help

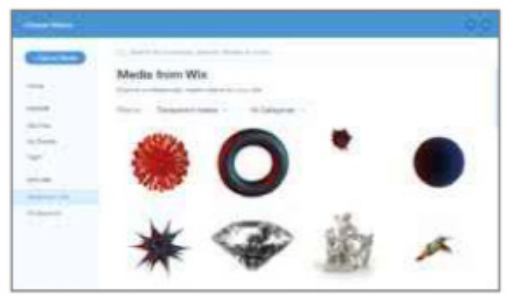
Top Tips of the Fortnight

Get paying subscribers on WordPress.com

If you've paid to upgrade your WordPress.com website from the free hosted version to a more sophisticated plan, you can now earn your money back by using Premium Content blocks. These let you make sections of your site available only to visitors who pay a monthly or yearly subscription. To find out more, and learn how to set it up, visit bit.ly/wpsub504. WordPress.com's paid options start at £3 per month for the Personal plan.

Add transparent video to Wix

Wix (www.wix.com) offers a huge selection of stock photography and video, but some of the gems in its collection are its transparent videos. These short bursts of animation add dynamic content to your page without taking up too much space and, with their



transparent backgrounds, they fit in with any theme. To find something that suits your Wix website, click the Add button and choose Video, then Transparent Video. You'll see a few options, but there are lots more if you scroll down and click the More Transparent Videos link.

Deal of the Fortnight

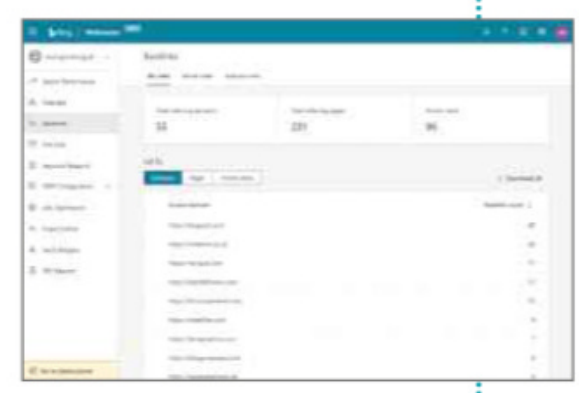
Ionos (www.ionos.co.uk) is giving away '.co.uk' domains for free for the first year. They'll be £10 per year thereafter. Other '.uk' domains are also on offer for £1 for the first year.

Web-building Helpdesk

Q **What's the easiest way to find out which sites link to mine?**

Robin Allen, via email

A Microsoft recently updated the Backlinks tool in its Bing Webmaster suite to make this type of search easier. Try it at bit.ly/bingwm504. You need to sign in with a Microsoft account and follow the instructions to connect it to your site, if you haven't already. You can then see exactly which domains have linked to you and, by clicking 'Anchor texts', see how they describe your link on their page. The new 'Similar sites' option lets you find out who is linking to your rivals' sites instead of yours.



Andy Shaw, Technical & Reviews Editor

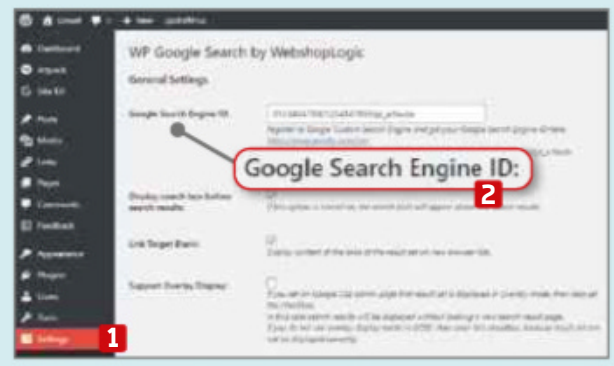
MINI WORKSHOP | Add Google search to your website

Google Custom Search Engine: cse.google.com | 10 mins | Any website

In Issue 502 (bit.ly/webuser502) we showed you how to add a simple WordPress search to your website. Here we show you how to boost the results with Google power. You can use this on non-WordPress sites, too.



1 Create your own Google Custom Search Engine at cse.google.com. Enter the site you want to search, 1 give your search engine a name, 2 then click the Create button. 3 On the next page, click 'Get code'. If you have your own HTML site, copy and paste the code into your site, somewhere between the <body> tags.



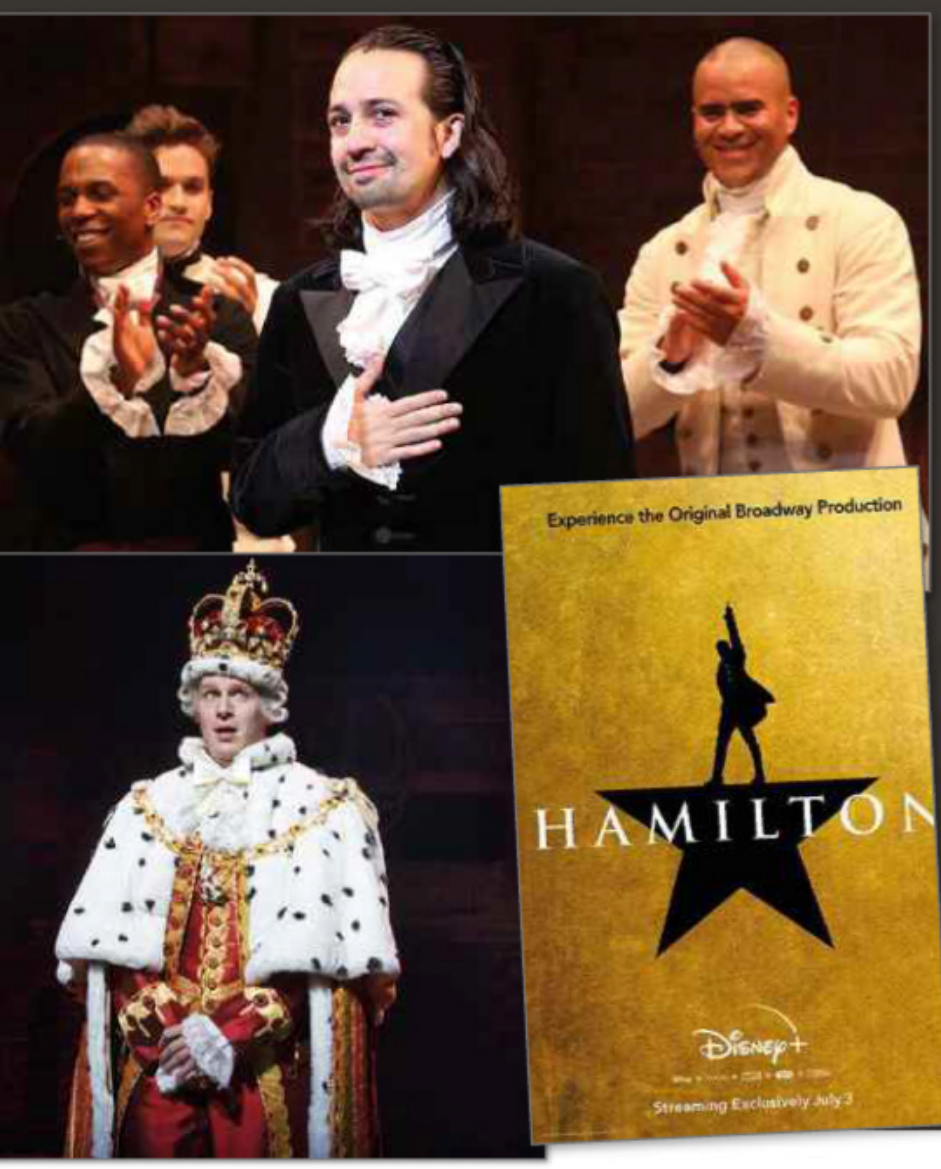
2 WordPress users should copy the letters and numbers from the code after the 'cx=' to the clipboard. From your dashboard, look for the WP Google Search plug-in, then install and activate it. Locate it in the Settings menu 1 and paste the code into the Google Search Engine ID box. 2 Scroll down and click Save Changes.



3 Select Widgets from the Appearance menu. 1 Scroll through the Available Widgets 2 until you find WP Google Search. Select Sidebar from the drop-down menu or choose a different location. You can change the text above the search box 3 or hide it, 4 then click Save. 5 If necessary, remove any existing search boxes.

What To Watch Online

Pick of the fortnight



Watch smash-hit musical *Hamilton* on Disney Plus

From 3 July

Award-winning Broadway and West End musical *Hamilton* has gone from stage to screen much sooner than expected. Fittingly, the hip-hop historical musical is arriving on Disney Plus in time for US Independence Day weekend.

Besides scooping gongs around the globe, Lin-Manuel Miranda's show has inspired numerous spin-offs and parodies. Now a film of the live show, recorded in 2016 with the original Broadway cast including Miranda as Hamilton, is coming to Disney Plus more than a year ahead of schedule.

Disney, which snapped up the rights for $75 million after a studio bidding war, originally planned a cinema release for October 2021, but brought the date forward following the coronavirus lockdown. As Miranda himself announced on Twitter (bit.ly/miranda504), *Hamilton* will be available to stream worldwide via Disney Plus from Friday 3 July.

As well as Miranda, the cast includes Jonathan Groff as George III and Daveed Diggs as Thomas Jefferson. Take what the filmmakers call "the best seat in the house" via Disney Plus, which costs £5.99 per month after a seven-day free trial (www.disneyplus.com), and get a sneak preview at bit.ly/hamilton504.

Watch the best sets from the Glastonbury Festival

25-29 June

The 50th Glastonbury Festival may have been called off due to the coronavirus, but the Beeb's blanket coverage is going nowhere – in fact it's bigger than ever. Over five days, the iPlayer's new pop-up BBC Glastonbury channel lets you choose what to watch from a huge archive of highlights and more than 60 classic performances in full, including David Bowie's set from 2000, Beyoncé in 2011 and Radiohead in 1997. All sets are available to stream on demand from 10am on Thursday 25 June until late Monday 29 June, via bit.ly/glasto504.



Stay on the run with *Hanna*

From 3 July



Esme Creed-Miles returns for a second season of this gritty Prime Original, as the titular teenage assassin running from the CIA. Season 1, which you can still watch on Amazon (with an ultra-HD 4K version at bit.ly/hanna4k504), was based on the 2011 film starring Saoirse Ronan, but Season 2 departs from the original story to explore Hanna's "sister" assassins. It also adds new cast members, including Dermot Mulroney. Eight new episodes come to Amazon Prime at bit.ly/hanna504, where you can watch a teaser trailer for free.

Go behind the scenes of *Frozen 2*

From 26 June/3 July

Coming to Disney Plus on the same day as *Hamilton* is animated movie sequel *Frozen 2*, which arrives on the platform on 3 July at bit.ly/2frozen504. The making of the 2019 film, now the second highest-grossing animation of all time (behind *The Lion King* and ahead of

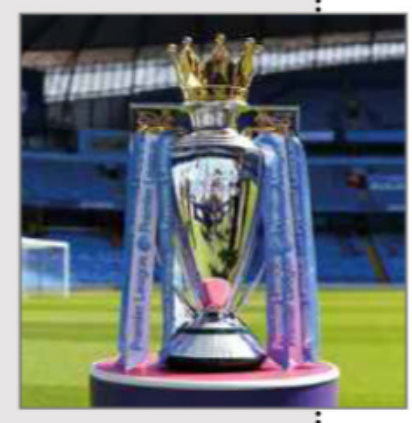


We reveal what's new on Netflix, BBC iPlayer, Amazon Prime Video and other streaming services

Frozen), is documented in a six-part behind-the-scenes show, *Into the Unknown: Making Frozen 2*, which debuts on Disney Plus on 26 June.

Watch the trailer for *Frozen 2* at bit.ly/froztrail504 and a teaser for *Into the Unknown* at bit.ly/unknown504. Disney Plus also has the original 2013 film *Frozen*, at bit.ly/frozen504.

Watch Premier League matches for free



Premier League football is back, although the crowds are at home and watching live online. All this season's remaining games are being broadcast live on TV and streamed online, many for free, including the BBC iPlayer's first ever live Premier League games.

Sky, BT Sport and Amazon were set to split broadcast duties between them, but the BBC has since been handed its share of games, including Norwich v Everton (24 June). Amazon Prime Video has been showing games for free, too: next up is Crystal Palace v Burnley (29 June). Several of Sky's games are free to watch via its Sky Pick channel, which you can stream for free through the FilmOn website at bit.ly/pick504. Most of Sky's remaining matches, and all those on BT Sport, are pay-per-view (with optional "virtual crowd noises"). Get the latest fixtures and TV links at premierleague.com/fixtures.

Catch up with cop shows *APB* and *FBI*

From 24 June/9 July

Now TV is the place to be for crime-fighting acronyms, with short-lived 2017 cop show *APB* arriving on 24 June and a second season of *FBI* streaming from 9 July, when Season 1 will also return.

APB, about a billionaire gadget fan who buys a Chicago police force, lasted only one season in 2017 and wasn't even shown in the UK. Perhaps starved of content following lockdown, however, Fox UK has now picked up the show, which viewers liked far more than critics. Check out the trailer at bit.ly/apb504. *FBI* then returns with weekly episodes via Sky Witness. Watch the trailer at bit.ly/fbishow504. Both shows are included with a Now TV Entertainment Pass.





Watch historical fantasy *Penny Dreadful: City of Angels*

From 1 July

Rory Kinnear and Natalie Dormer lead the cast of this new spin-off from Showtime's hit show *Penny Dreadful*, which ran for three seasons until 2016. The original show saw literary characters such as Dr Frankenstein and Dorian Gray populate Victorian London, but its new spin-off whizzes forward to 1930s California, where we meet characters from Mexican-US folklore and even the Third Reich. Watch the trailer for the new show at bit.ly/penny504.

The original *Penny Dreadful*, which starred Timothy Dalton, Eva Green and Josh Hartnett and was produced by Sam Mendes, remains on Now TV until next spring at bit.ly/pennyd504.

In case you missed it...



The Beeb has also launched a new version of Alan Bennett's *Talking Heads* monologues, with readers including Jodie Comer, Martin Freeman and Imelda Staunton.

All 12 films are available now to stream on demand via the iPlayer.

Now TV has been filling its coffers with HBO shows. Award-garlanded satire *Succession* is about to launch its third season, so seasons 1 and 2 have returned to Now TV to let us all catch up (bit.ly/succession504). HBO's noirish new version of *Perry Mason*, starring Matthew Rhys, is airing weekly – you can see the trailer at bit.ly/mason504. Finally, HBO's first foreign-language mini-series, Italian drama *My Brilliant Friend*, is available now at bit.ly/friend504.

***Good Omens* actors Michael Sheen and David Tennant reunite to play versions of themselves in the six-part comedy *Staged*. In the series, a director sets the stars to work under lockdown, rehearsing a West End play over video chat from their respective homes. Watch now via the BBC iPlayer at bit.ly/staged504.**

Product Test

We test and compare the latest products

BenQ GL2780

Why stick with a cramped laptop screen when you could expand your desktop on to a large 24 or 27in monitor? **Andy Shaw** compares two budget models



Since lockdown, budget monitors have been tricky to get hold of because there's been a surge in people snapping them up to facilitate working from home. We've scoured the web to find and review two affordable monitors that are currently in stock (at least, they were at the time of writing!). They vary slightly in size, and use different screen technologies, but both cost well under £150.

PRODUCT INFO

BenQ GL2780

Price: £129.96
Buy from Ebuyer:
bit.ly/benqeb504

FOR

- ✓ Robust build
- ✓ Better colour accuracy
- ✓ Auto brightness

AGAINST

- ✗ Viewing angles not the best
- ✗ Functional design

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

Screen quality

The BenQ GL2780 is a 27in monitor (that's the actual visible screen size, measured across the diagonal), while the AOC 24B2XH is a smaller, 24in model. Their prices reflect this, with the larger screen costing £129.96 from Ebuyer (www.ebuyer.com) and the smaller model £118.53 from CCL (www.cclonline.com), which had both models available when we checked.

The other key difference between the screens is their built-in technology: the AOC is an IPS screen, whereas the BenQ monitor uses the older TN technology. IPS offers vastly improved viewing angles over TN, but this isn't a problem if you're the only person viewing the screen and are sitting directly in front of it.

> "The BenQ's larger screen has better brightness, contrast and colour accuracy, and includes an impressive range of ports"

Both monitors have a resolution of 1080p (1,920 x 1,080 pixels), but the larger size of the Ben Q means it has a lower pixel density – each individual pixel has more space to cover – and so the image isn't as sharp. However, in our tests, the BenQ's larger TN screen was brighter than the AOC's IPS panel, with a maximum brightness of 326cd/m² (candles per square metre) compared to AOC's 272cd/m². The BenQ's contrast also came top, measuring 1,316:1 to the AOC's 1,122:1, and its colour accuracy was the best of the two.

Design and build

Both screens provide all the standard design features you'd expect to see in an affordable monitor. The BenQ model comes supplied with a desk stand – which you have to attach yourself using a small thumbscrew – along with an HDMI cable and a kettle-type mains lead. Its bezels (the plastic frame around the edge of the screen) are thicker than those on most modern models and the housing is made from plain black plastic at the front with a curved, patterned rear.

Overall, it's practical rather than pretty, but there are some nice touches: the power adapter is housed within the monitor, so there's no dangling power brick to worry about, and you get a cable tidy built into the stand. You can't adjust the height of the monitor but that's not unusual at this price.

The AOC is even more basic. It comes with a stand that only allows a small amount of tilt forwards and backwards, and it's made of lightweight plastic that feels a bit flimsy, so the monitor wobbles a little when you knock the desk or prod at the screen. Like the BenQ, the

VS AOC 24B2XH



> The AOC has a more elegant design and uses IPS technology, which offers vastly improved viewing angles

base needs to be attached to the monitor with a small thumbscrew, but this is an easy job. However, the barely-there bezels along all but the bottom edge make for a more elegant-looking design. The downside is that the power supply isn't built-in, so you need room around your desk for a dangling external adapter.

Ports and features

The BenQ is equipped with an impressive variety of connections, with ports for HDMI, DisplayPort, DVI-D and VGA (D-SUB). This means most laptops and PCs are covered, unless yours only has USB-C ports. Even then, you can solve the problem with a USB-C to HDMI cable – Amazon sells them for around £12.

The AOC is sparse in comparison. You get an HDMI and a VGA port, both situated in the centre of the rear panel, although that's still enough to hook up most laptops.

The BenQ also has 3.5mm inputs and outputs, positioned underneath the monitor in the bottom-left corner, so you can hook up a pair of PC speakers or a headset. The AOC provides a 3.5mm headphone output on the back of the panel.

The BenQ has a couple of other extras, the most notable of which is its automatic-brightness mode. This lowers the intensity of the backlight to match the amount of ambient light in your room. It does this with the help of a small light sensor, which juts out from the bottom of the screen.

Both monitors provide a 75Hz compatibility mode for smooth gameplay at higher frame rates than 60fps, and a blue-light reduction mode, which might be useful if you frequently use the monitor late at night, just before going to bed.

OUR VERDICT

Monitors are selling for premium prices at the moment, as manufacturers try to keep up with demand, so it's best to wait for stocks to replenish before splashing out on a new model. However, even at current prices, both these models offer excellent value for money. They don't come with all the frills and extras that you get with more expensive screens, but they both provide a good-quality image without any fuss.

Choosing between them mostly depends on what size you want. The BenQ GL2780 is a great value 27in screen that will stretch across your desk. For more modest requirements, the AOC 24B2XH is both smaller and cheaper.

PRODUCT INFO

AOC 24B2XH

Price: £118.53
Buy from CCL Computers:
bit.ly/aoc504

FOR

- ✓ Better viewing angles
- ✓ Low price
- ✓ Looks stylish

AGAINST

- ✗ Limited connectivity
- ✗ No height adjustment

★★★★☆

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

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

Motorola Moto E6s

Motorola has a new phone for those on the tightest smartphone budgets. We've put it to the test



Not everyone has the cash to spend on a shiny flagship phone or even a well-appointed mid-range model. That's why phones like the Motorola Moto E6s exist. Brought to you by the king of the budget smartphone, it's the cheapest of a recent slew of Motorola handsets, costing only £99.99.

The phone is basic, but has all the essentials covered. There's a large, almost edge-to-edge 6.1in IPS screen, a 2GHz octa-core Mediatek processor, 2GB of memory and 32GB of storage, which you can upgrade with a microSD card. You get a single 13-megapixel camera on the rear, accompanied by a depth sensor, and a 5-megapixel selfie camera at the front. Nothing fancy, but at this price you'd expect that.

The main corner cut is that it runs Android 9 and not the latest version, Android 10. Less of an issue but possibly important for some is that it doesn't have NFC, so you won't be able to use it to pay at contactless terminals.

Build and screen

The no-frills design consists of an all-plastic rear and a flat, non-branded glass front, surrounded by a 2mm black border at the sides and top, widening to 7mm at the bottom. The front selfie camera is housed in a small semi-circular notch while, on the rear, there's a centrally located fingerprint reader, along with the cameras and single LED flash located in the top-left corner. There's also a 3.5mm headphone jack on the top edge.

The E6s doesn't have the sharpest display but its 1,560 x 720 pixels – stretched across its 6.1in, 19.5:9 aspect ratio screen – is good for the price. In our tests, it produced a respectable sRGB coverage of 85.6%, a solid peak brightness of 423cd/m² and a contrast ratio of 2,051:1.

Performance, battery life and cameras

In use, the E6s feels less slick than more expensive phones. Scrolling and swiping between screens can cause it to stutter, so you need to keep multitasking to a minimum. It's not capable of running the latest games but it's fine for social networking, email and streaming movies. Even the battery life is reasonable, lasting 14 hours and 13 minutes in our rundown test.

The 13-megapixel rear camera takes acceptable images in good light but it doesn't compare well with cameras on phones that cost another £100 or so. However, the software that runs the cameras is simple and adapts well to its surroundings, automatically switching to night mode, for example, in low light. Video is similarly standard for the price, only offering 1080p or 720p at 30fps (frames per second), with no stabilisation in either mode.

> "If you're on a strict budget limit of £100, this phone can't be beaten"

PRODUCT INFO

Motorola Moto E6s

Price: £99.99
Buy from Amazon:
bit.ly/moto504

SPECIFICATIONS

- 2GHz octa-core MediaTek Helio P22 processor
- 32GB of storage (expandable to 256GB with microSD card)
- 2GB of memory
- 6.1in 1,560 x 720 pixels IPS screen
- 3000mAh battery
- 13MP rear camera, 5MP front camera
- Android 9 operating system
- 156 x 73 x 8.5mm

FOR

- ✓ Affordable
- ✓ Attractive design
- ✓ Decent screen

AGAINST

- ✗ Mediocre camera
- ✗ Sluggish performance

OUR VERDICT

★★★★☆

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

The Moto E6s is solidly built and well designed, but it's sluggish in use. It has a reasonable battery life but nothing exceptional. The same can be said for the camera, which is fine in good light but doesn't come close to slightly more expensive rivals.

If you're on a strict budget limit of £100, this phone can't be beaten, but it's worth stretching to a slightly more expensive model if you can afford it.

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

HARDWARE, SOFTWARE & SERVICES

MESH WI-FI SYSTEM



Netgear Orbi RBK50

£299.99 from bit.ly/orbi503
Tested: Issue 503

The Orbi Is a brilliant mesh Wi-Fi package. It's powerful, the units look good and it has a well-designed interface. It's pricey, particularly with the add-ons, but we think it's worth it.

KEY SPECS

Two nodes ■ Tri-band 802.11ac Wi-Fi ■ 2 x 2 MIMO system ■ 4 Ethernet ports ■ Router mode ■ WPS ■ Guest network ■ Parental controls ■ Alexa and Google Assistant voice control ■ 203 x 162 x 79mm ■ One-year return-to-base warranty

EXTERNAL SSD



SanDisk Extreme Pro 500GB

£131.99 from bit.ly/sandisk501
Tested: Issue 501

Robust, fast and reliable, the SanDisk Extreme Pro 500GB outperformed every other SSD in our tests. You pay a bit more per GB but, if you can afford the best, then why settle for less?

KEY SPECS

465GB formatted capacity ■ 28p per usable gigabyte ■ Also available in 1TB and 2TB capacities ■ USB Type-C connection ■ 96 x 50 x 9mm ■ 78g ■ Three-years return-to-base warranty ■ Sturdy and attractive design

FITNESS WATCH



Xiaomi Mi Smart Band 4

£25.98 from bit.ly/xiaomi499
Tested: Issue 499

The Xiaomi Mi Smart Band 4's colourful screen and excellent battery life mean you won't need to charge it more than a couple of times a month. For the low price, it's extraordinarily good value for money.

KEY SPECS

Pedometer ■ Heart-rate monitor ■ Sleep tracking ■ GPS from phone (Android or iOS) ■ Waterproof to depth of 50m ■ 240 x 120 pixels resolution ■ 0.95in AMOLED display ■ 20-days battery life ■ 22.1g ■ One-year return-to-base warranty

INTERNET SECURITY SUITE



Bitdefender Internet Security 2020

£14.99 (1 year, 3 devices) from bit.ly/bitdef497
Tested: Issue 497

This superb security suite's one-stop all-round package can't be beaten. It's lightweight, easy to use, loaded with features and scored 100% for malware protection in our tests.

KEY SPECS

Malicious-website detection ■ Secure browser ■ Browser extension ■ Anti-ransomware ■ Parental controls ■ Firewall ■ Password manager ■ Home-network scanner ■ Secure file deletion ■ File encryption ■ VPN – 200MB of data per day

MONITOR



BenQ BL2780T

£209.97 from bit.ly/benq495
Tested: Issue 495

This BenQ monitor offers impressive screen quality, with excellent contrast and colours, for a reasonable price. It has a good selection of ports and is height adjustable. You can even rotate it by 90 degrees to use in portrait mode.

KEY SPECS

27in screen ■ 1,920 x 1,080 pixels resolution ■ 5 milliseconds response time ■ 1 x DisplayPort, 1 x HDMI, 1 x VGA ports ■ 2 x audio outputs ■ 2 x 2W speakers ■ 547 x 512 x 231mm ■ 7.2kg ■ One-year return-to-base warranty

MINI PC



Raspberry Pi 4 Model B

£34 from bit.ly/pi493
Tested: Issue 493

This latest Raspberry Pi effectively provides a full desktop computer with the footprint of a book of stamps. Its fast processor and quick networking make it snappier than older models, and it can be set up to use with dual monitors.

KEY SPECS

Quad-core 1.5GHz Broadcom BCM2711 processor ■ 1GB memory ■ Broadcom VC6 graphics ■ 2 x Micro HDMI ports ■ 2 x USB 2, 2 x USB 3 ports ■ Gigabit Ethernet, 802.11ac Wi-Fi ■ 86 x 57 x 19mm ■ One-year return-to-base warranty

All prices correct at time of review

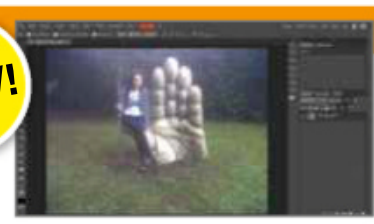
Gold Award winners

The best from our software tests

ONLINE IMAGE EDITOR

Photopea

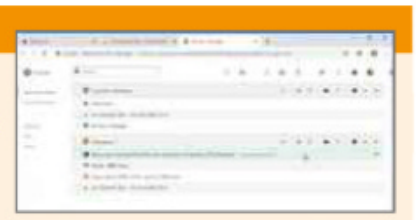
NEW!



Free from www.photopea.com
Tested: Issue 503
Photopea is a stunning photo-editing suite that has all the tools of Photoshop with none of the cost. It's worth taking the time to learn its ways to reap its many rewards.

CHROME TAB MANAGER

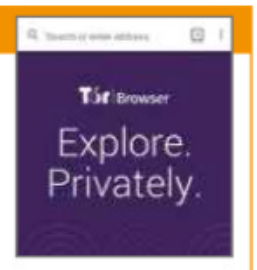
Cluster



Free from bit.ly/cluster502
Tested: Issue 502
Cluster pulls all your Chrome tabs together in one place and offers lots of useful features, such as saving your browsing sessions for later and pausing inactive tabs to save memory.

PRIVATE ANDROID BROWSER

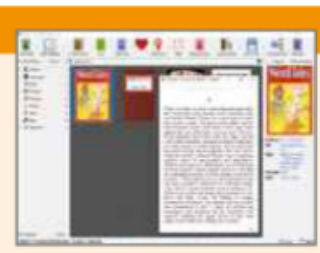
Tor



Free from bit.ly/tor501
Tested: Issue 501
Browsers don't come more secure and private than Tor. It's loaded with useful features and works in the background, automatically encrypting your data.

EBOOK SOFTWARE

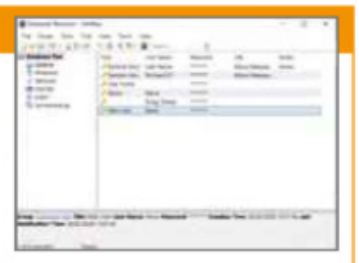
Calibre



Free from calibre-ebook.com
Tested: Issue 500
Calibre can import any ebook file, so whatever format your books are saved in, it can turn them into documents you can read on your PC screen.

PASSWORD MANAGER

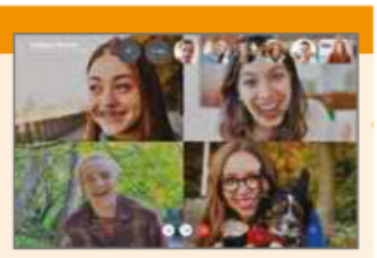
KeePass



Free from keepass.info
Tested: Issue 499
Available in desktop and portable versions, KeePass is a no-nonsense password-management and security tool for both casual and heavy web users.

VIDEO-CHAT APP

Skype



Free from www.skype.com
Tested: Issue 498
Skype is still the best solid all-rounder for video chats. It's easy to find and add contacts, and you can send written messages and make free voice calls.

WebUser

BACK ISSUES DISC 2019



Our **2019 Back Issues Disc** containing all 26 issues from last year is now on sale from Amazon

For more information, visit
bit.ly/webuser2019
or search for 'webuser disc'

You can still buy our 2014-2018 Back Issues Discs
Search for 'webuser disc' on Amazon

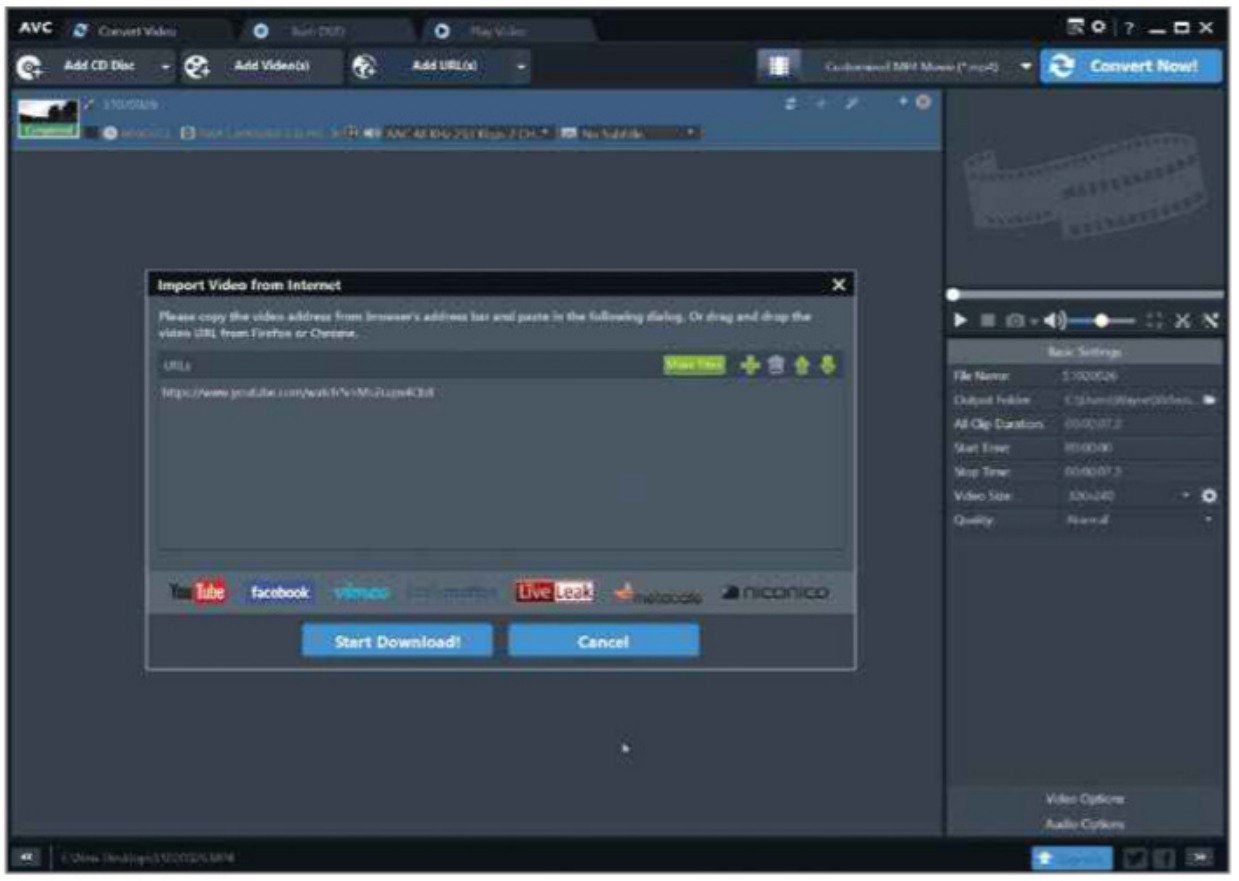


Best Free Software

VIDEO CONVERTER

Any Video Converter Free 7

any-video-converter.com
Min requirements: Windows 7/8.1/10
File size: 66.7MB



Although the brilliant VLC Media Player can handle almost any type of video or audio file, you might occasionally need to convert a movie from one format to another to play it on a specific device, or to download a web video to watch offline or on the go. This is where Any Video Converter (AVC) comes in.

This versatile free program can convert videos between all the major video formats – including MP4, MKV, WMV, AVI, FLV, HTML5 and WEBM – and it can also export them for viewing on popular devices, such as iPads, Apple TV, PlayStation 4, Samsung Galaxy S10 and Kindle Fire HD. It lets you download videos and music from over 100 online sources, most notably YouTube, Facebook, Vevo and Vimeo, and convert them, too.

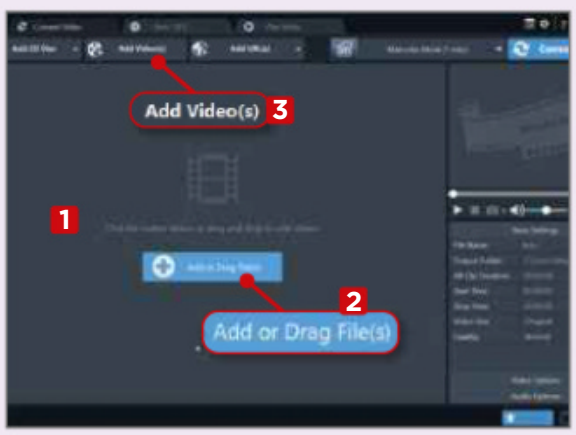


AVC offers various video-editing features and effects, such as the ability to trim and crop clips; resize, rotate and join videos; and add subtitles, watermarks and audio tracks. It can also rip audio from CDs and video files, and burn movies to DVD or AVCHD DVD.

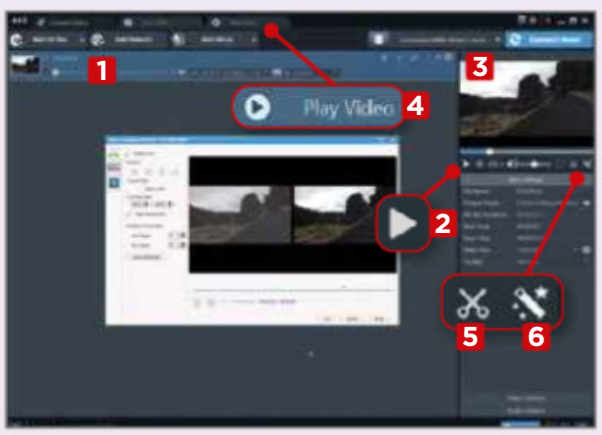
This new version adds support for downloading HD and 4K videos from the web, improves overall performance, and fixes issues with conversions not happening, and CUDA acceleration failing to activate.

If you like the software, you can upgrade to the Pro or Ultimate editions for £38 and £48 respectively. These versions offer faster conversion, support for more formats and advanced features such as screen recording and Blu-ray writing. Both paid-for versions offer free trials, too.

MINI WORKSHOP | Convert videos using Any Video Converter Free



1 To convert videos stored on your hard drive using AVC, simply drag and drop the clip(s) to the main window. 1 Alternatively, you can click the blue button 2 or the Add Video(s) button at the top, 3 and browse for your files that way. The clips will load, ready for editing and converting.

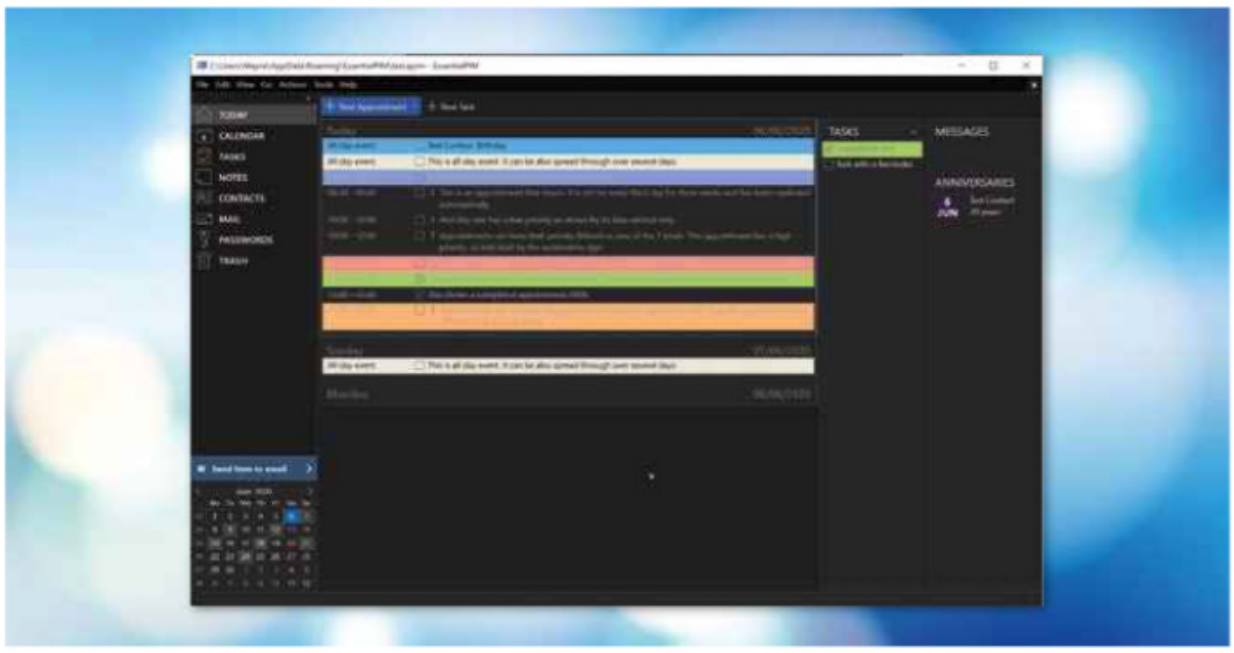


2 Select a video in the queue 1 and click the Play button 2 to preview it. 3 You can view it larger by clicking the Play Video tab 4 at the top. Click the scissors below the preview 5 to trim or cut sections, then click the Add Effects button 6 to further edit your video.



3 When you've finished editing, use the drop-down menu to select a conversion type by device or format. 1 The Basic Settings screen 2 will let you change elements such as file name and output folder, video size and quality. There are also Video Options 3 and Audio Options settings. 4 Click Convert Now 5 to start the conversion.

This fortnight's top new software downloads to help you make the most of your PC, and they're all FREE



PERSONAL-INFORMATION MANAGER

EssentialPIM Free 9

www.essentialpim.com

Min requirements: Windows 7/8.1/10 **File size:** 30.4MB

EssentialPIM is a powerful personal-information manager that helps you keep on top of your contacts, email, calendars, tasks, notes, passwords and more. This latest release gains a new Dark mode, the ability to create important notes and use 'anchors' to place bookmarks inside them, and the option to auto-delete old emails for each mail folder. The free version has a number of limitations compared to the paid-for edition, but it should be good enough for most users' needs.

New Windows 10 App

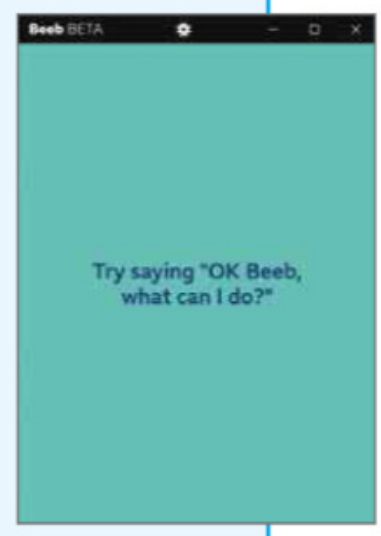
Beeb BETA

bit.ly/beeb504

Min requirements: Windows 10, Windows Insider account

File size: 45MB

As mentioned in What's New Online on page 6, Beeb is the BBC's new voice assistant. It's currency in beta, so missing some features – such as timers – and you need to be a Windows Insider to install it. The assistant's voice has a northern English accent, and the BBC says it has been working hard to ensure the app can understand as many regional accents as possible. You wake it by saying "OK Beeb".





SYSTEM CLEANER

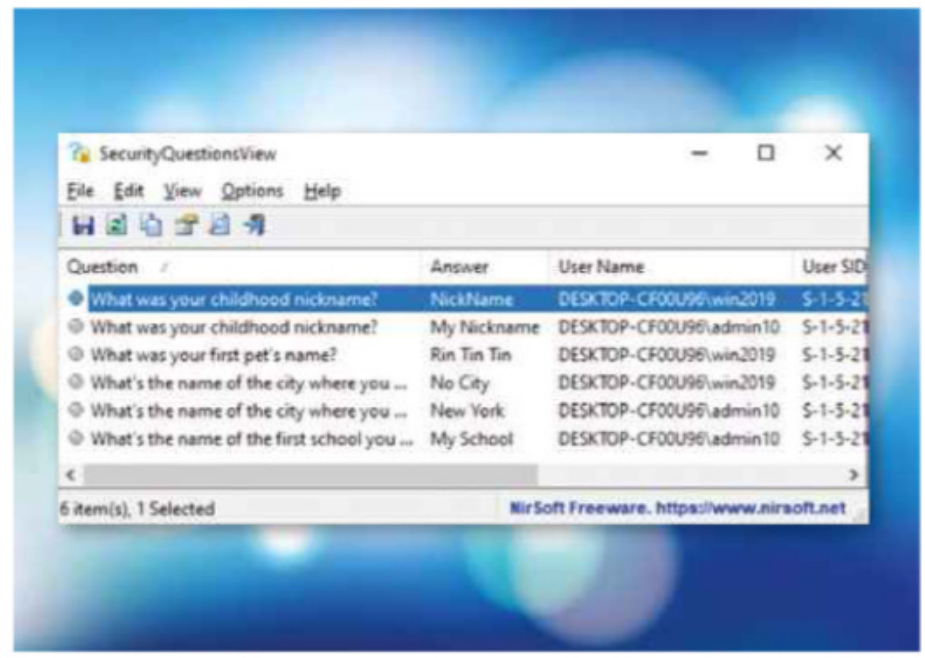
Cleaning Suite 4

bit.ly/csuite504

Min requirements: Windows 7/8.1/10

File size: 5.9MB

Cleaning Suite includes a startup manager, uninstaller, drive cleaner, Registry cleaner and RAM cleaner. Select the module you require from the tabs at the top and choose what you want to remove. This update adds new cleaning functions, optimises the Registry cleaner for 64-bit operating systems and tweaks the program interface, though the green/blue gradient background makes some text a little hard to read.



SECURITY TOOL

SecurityQuestionsView

www.nirsoft.net

Min requirements: Windows 10 (1803 and newer)

File size: 54.5KB

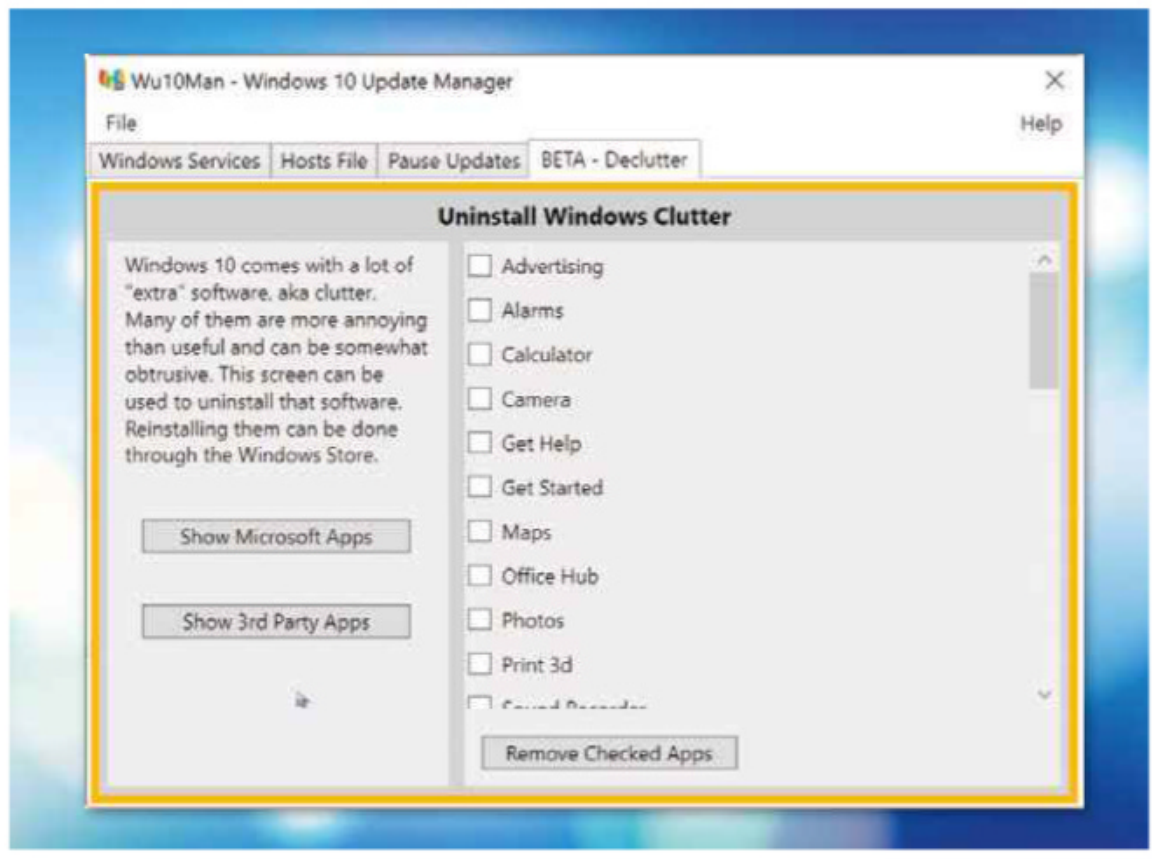
If you set up Windows 10 with a local account password – so you can sign you into a device offline, and without linking to a Microsoft account – you possibly added security questions to help you regain access to your PC should you forget your password. But what if you forget the questions? This new tool from NirSoft scans the Windows Registry and displays all the stored questions and answers (typically three per user).

SYSTEM TOOL

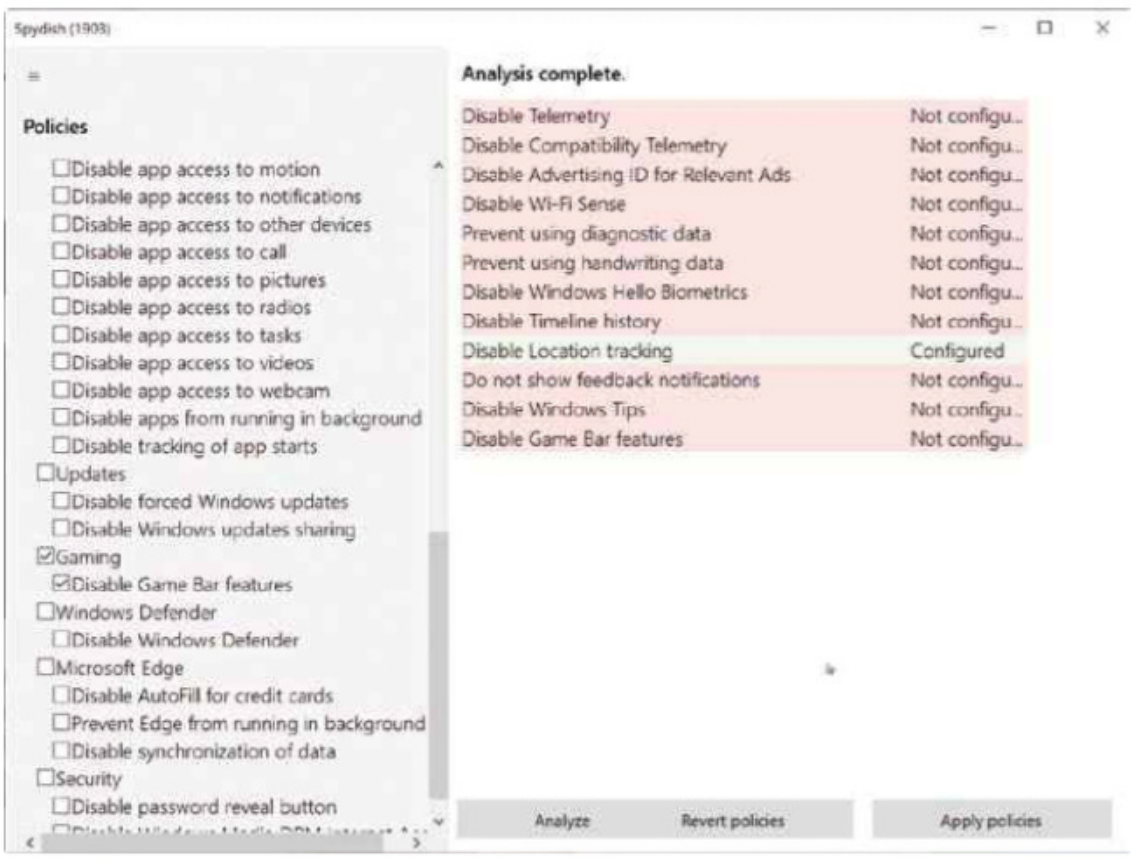
Wu10Man 4

bit.ly/wu10man504

Min requirements: Windows 7/8.1/10
File size: 1.7MB



Newer versions of Windows 10 give you much greater control over when updates are downloaded and installed. The open-source Wu10Man, however, lets you stop updates from happening completely – handy if you know there's a bad update that you want to avoid. The software can block downloads from Windows Update, Windows Modules Installer, Windows Update Medic Service and Windows Remediation Service. This version of Wu10Man adds a declutter option (currently in beta) which can remove unwanted Microsoft apps that come with Windows 10, such as Get Help, Get Started, Photos, Maps, Sticky Notes, Sound Recorder and Camera.



PRIVACY TOOL

Spydish

www.mirinsoft.com

Min requirements: Windows 10
File size: 35KB

Originally created as a personal project, the beta version of Spydish is now available for anyone to test. It checks the status of the main privacy policies in Windows 10 and lets you turn them on or off. Just click the Analyse button and decide the action to take.

You can select other options from the sidebar too, which allow you to remove potentially unwanted features such as Cortana, Wi-Fi Sense and Windows Defender. The program doesn't require installation – just run it with admin privileges, and make your choices.

This is the first release and lets you manage around 50 policies.

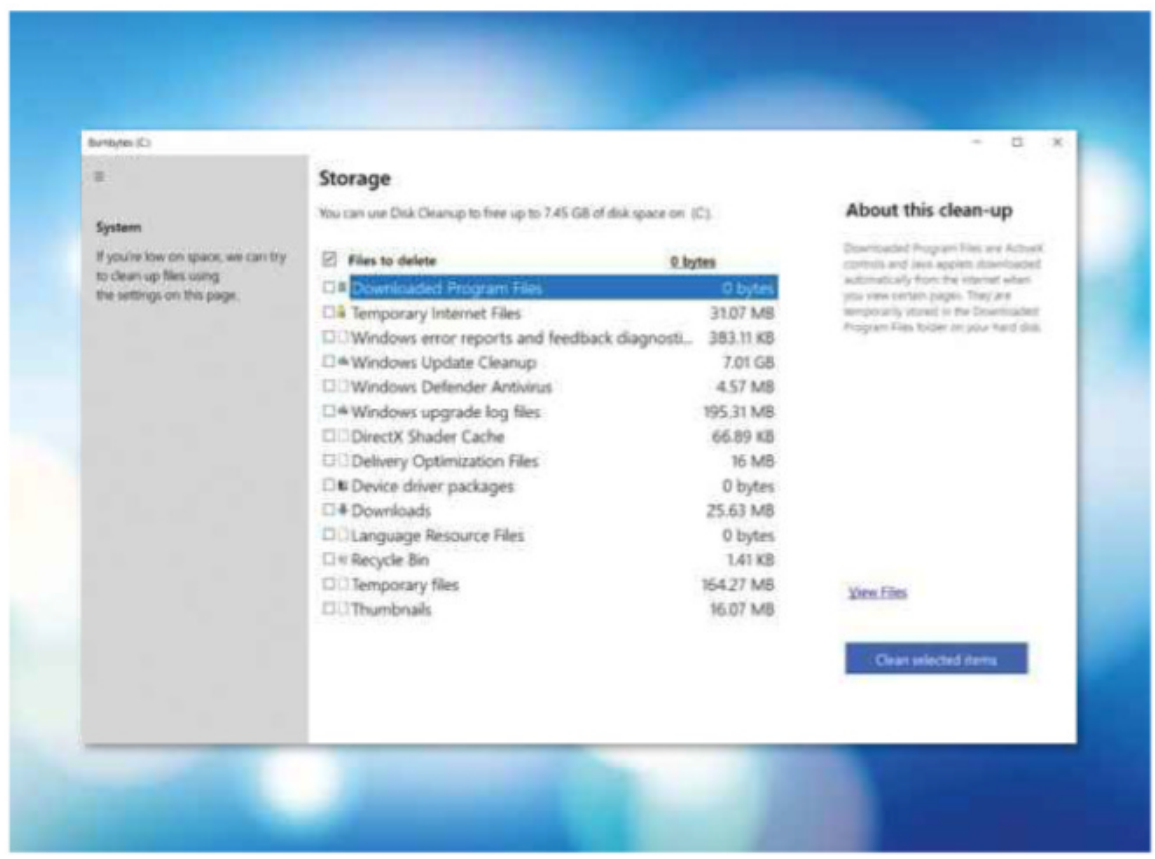
DISK CLEANUP

Burnbytes

www.mirinsoft.com

Min requirements: Windows 7/8.1/10
File size: 44.5MB

Microsoft is planning to retire its Disk Cleanup tool from future versions of Windows 10, replacing it with Storage Sense. The open-source Burnbytes takes Albacore's Managed Disk Cleanup (a clone of Microsoft's tool) and blends it with the Storage Sense design to give users a modern alternative. Just run the software, choose which drive to clean, then decide what junk to remove. This includes downloads, temp files, temporary Windows installation files, thumbnails and the Recycle Bin contents. The interface shows how much space will be reclaimed and this changes as you select items. Click the 'Clean selected items' button to perform the cleanup.





GAME

Six Cats Under

bit.ly/6cats504

Min requirements: Windows 7/8.1/10, macOS or Linux
File size: 36.1MB

In this excellent point-and-click adventure game, you play the ghost of a little old lady who needs to direct her six cats to safety. You do this by using her limited poltergeist powers to interact with items around the home. Each of the cats has a distinct personality. It's charming and quirky, and a lot of fun to complete.

✓ Install this program...

SiSoftware Sandra Lite

www.sisoftware.co.uk

Min requirements: Windows 7/8.1/10
File size: 163MB

SiSoft Sandra is a system analyser-cum-benchmarking and diagnostic tool that's been around since 1997. There are a number of paid-for versions available, which cost from £69.57, but most home users will be more than happy with the surprisingly powerful free Lite edition. This can be run on individual PCs or over a network, and has no ads or nag screens. Sandra includes modules for benchmarks, hardware and software, and a collection of useful testing tools. The latest version introduces benchmarks for artificial intelligence and machine learning, and for testing the performance of your DNS server.



...Not this one ✗

LookInMyPC

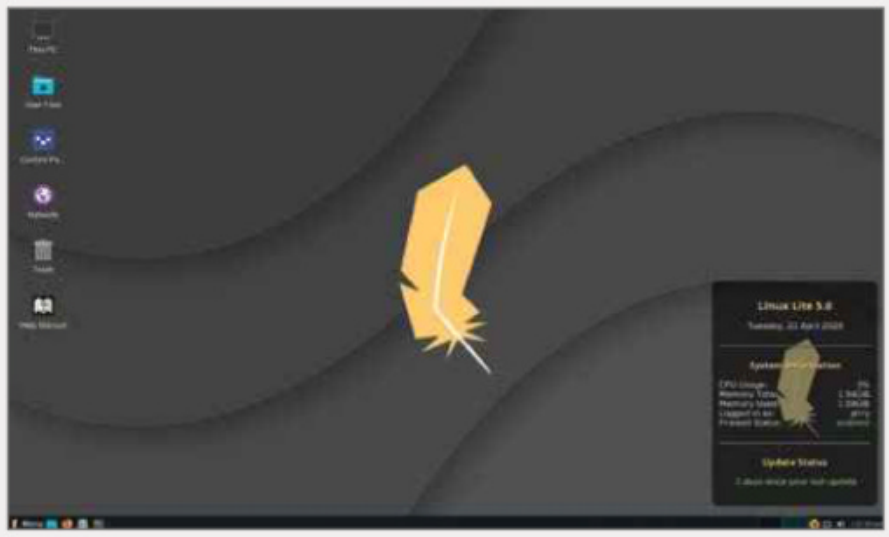
lookinmypc.27labs.com

Min requirements: Windows 7/8.1/10
File size: 1.9MB

LookInMyPC provides detailed diagnostic information about your system and all installed software and hardware, so you can make sure that everything in your computer is working properly. On the downside, it hasn't been updated for several years and costs a pricey $49.95 (about £40), with no free trial or 'lite' version available.



OTHER OPERATING SYSTEMS What's new for Linux and macOS



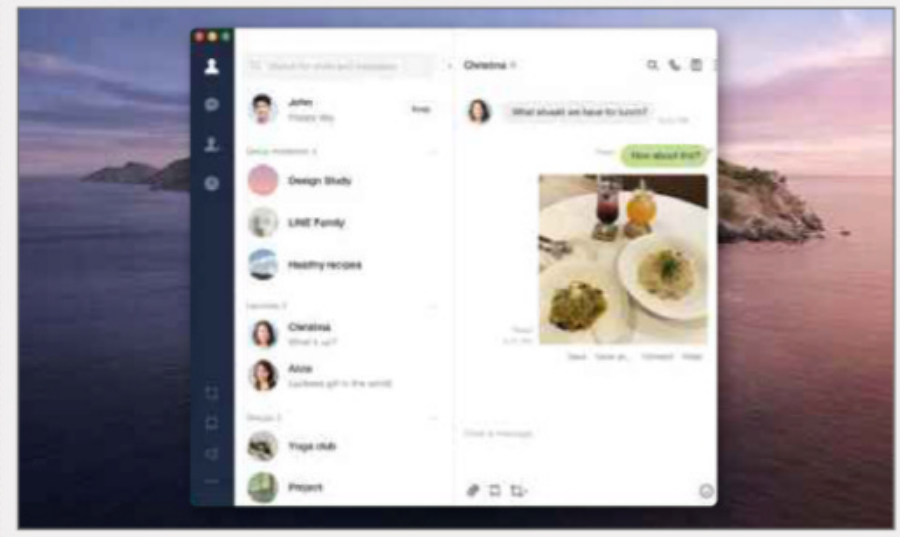
LINUX DISTRO

Linux Lite 5.0 'Emerald'

www.linuxliteos.com

Min requirements: 1GHz processor, 768MB RAM and 8GB storage **File size:** 1.3GB

Linux Lite is a lightweight operating system that's perfect for Windows users looking to make the move to Linux. The interface is similar that of Microsoft's OS, and it comes with the latest version of popular programs including Chromium, LibreOffice, GIMP, Firefox and VLC. Based on Ubuntu 20.04, this version supports UEFI, replaces GUFW with the FireWallID firewall and introduces a new update notifier.



CHAT TOOL

LINE 6

bit.ly/linechat504

Min requirements: macOS, 64-bit processor
File size: 81.2MB

As well as messaging, LINE offers users free voice and video calling, including the ability to share your screen, and send and receive stickers and large files. Messages, calls and shared locations can all be encrypted using LINE's Letter Sealing. There are desktop and mobile versions available, and the app has been updated to make it more stable and easier to use.

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Best New Browser Tools

CHROME

Improve the quality of Google search results

Googlescope (bit.ly/scope504) is a useful new Chrome extension that lets you improve the accuracy of your Google searches without having to type modifiers such as 'site:' into the search field or go into Google's Settings to switch regions.

To get started, click the add-on's toolbar button, select the green '+' icon to add a search term, then use the other icons to refine your search. Going from left to right, these let you search by language, country, time, included words, excluded words, matching words, domain, update time and file type. You can use as many as you like to build up an advanced search, which appears as a spider graph at the top of the extension panel. Click an item in the graph or use its icon to change or delete it, then click Go to perform your search. Just make sure you type a search term, because the extension can't read anything you type straight into Google.

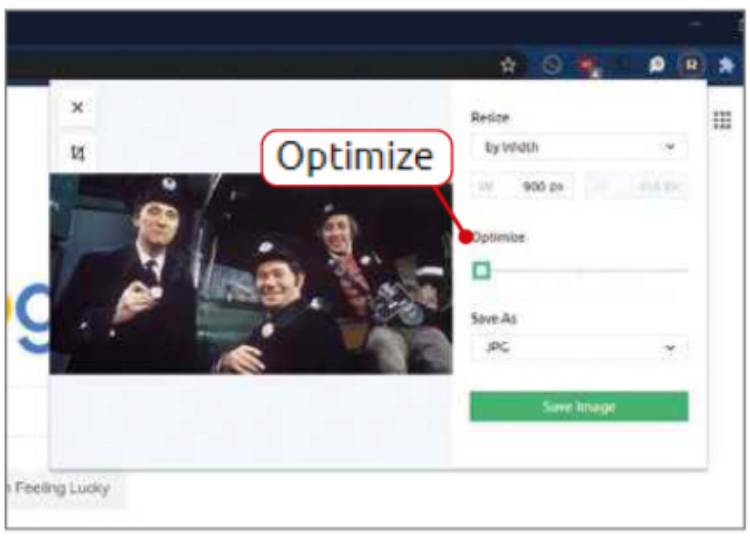


Resize and edit images on the fly

In Issue 503 (bit.ly/webuser503), we looked at the best free online image editors. Resizing App (bit.ly/resize504) didn't quite fit the bill, but it's ideal for making on-the-fly picture adjustments.

With a click of its toolbar button, you can upload an image in any of the common file formats, then customise, crop or resize it. An Optimize option lets you compress the image while maintaining a high picture quality. You can also convert files to JPG, PNG, TIFF, BMP and WEBP formats.

Once you've saved your picture, you have one opportunity to reopen it, but there's no file history, so you need to upload older images again if you want to edit them.





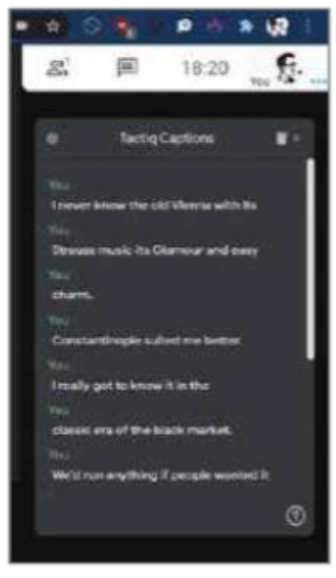
Save and copy your browser tabs

Tabsave (bit.ly/tabsave504) is another extension for saving your open tabs, but unlike rival extensions or your browser's built-in tab-management tools, it doesn't stash them away for later retrieval. Instead, it lists the name and web address of each page in a format you can copy and paste easily.

Click the add-on's toolbar button to see a list of the open tabs in your current window or all your Chrome windows. The list presents each page's title and URL in plain text. To retain this information, either click the Copy button or highlight individual entries and copy them manually. You can then paste them elsewhere and return to them later. It's handy for when you're working on specific projects and don't want to slow down your browser with too many open tabs.

Save Google Meet transcripts

Tactiq (bit.ly/tactiq504) creates live transcripts of Google Meet video chats, so you can focus on what people are saying – or pretend you've been paying attention. The extension loads automatically when you start Google Meet. Make sure closed captions are switched on by clicking Meet's three-dot button and selecting that option. Tactiq runs at the side of the screen, and you can click any line of speech to pin it for later reference. You can also switch on auto-save, and set how often the extension saves transcripts of meetings to your Google Drive account.



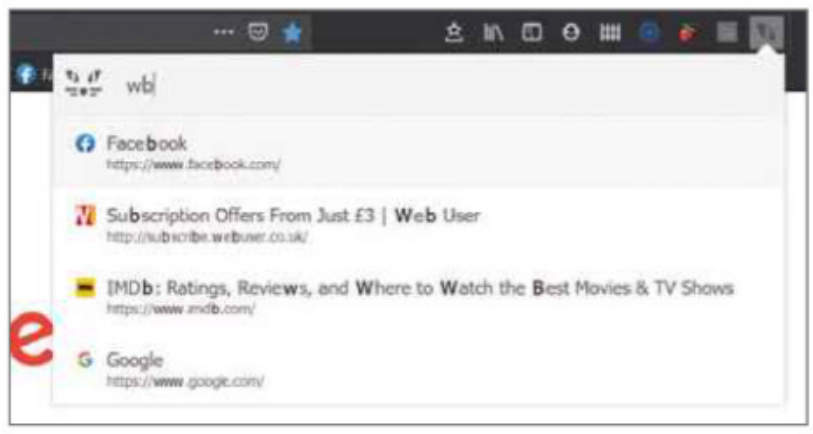
Tactiq relies on Google to capture speech accurately, and its transcripts can be hit and miss at times, so you may need to revisit the document and edit misheard words and typos.

This fortnight's most useful tips and add-ons to help you get the most from Chrome, Firefox, Opera, Edge and more

FIREFOX

Switch and search tabs quickly

The cat-themed Tabby extension (bit.ly/tabby504) lets you "search for the tabs you know are there". Simply type a few letters into its 'searrrch' bar to find and retrieve an open tab.



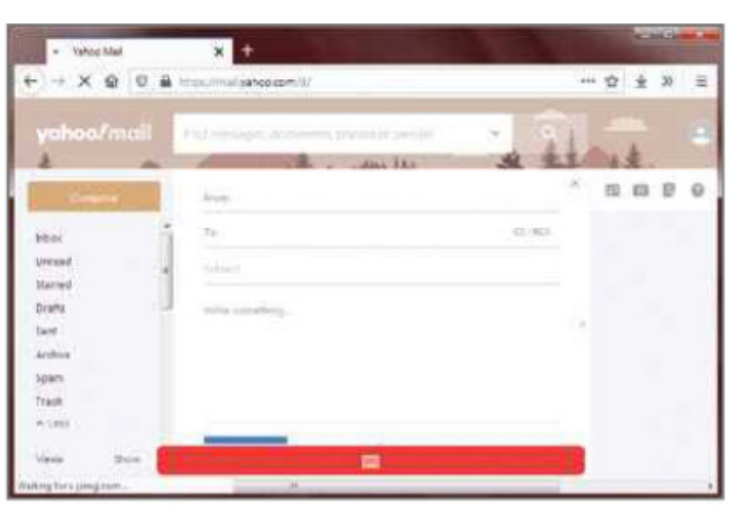
The cat gimmick is exactly that, but Tabby is very useful, not least because it uses 'fuzzy search', which is a nice way of saying it can find what you want even if you can't spell it properly. Tabby makes an educated guess as to what you meant and displays the correct results.

Customisable keyboard shortcuts make the process even faster – by default, press Ctrl+Space in Windows and Linux or ⌥+Space in macOS to activate the tool. Click the extension's toolbar button and select the cat's eye to see additional settings, which include the obligatory dark mode.

Make sure you're not typing for nothing

In Issue 499 (bit.ly/webuser499), we looked at a Microsoft Edge extension called Were You Typing. This helpful tool is based on a very simple idea: far too often we start typing, only to find that the cursor isn't in the text field, so we have to start all over again. To prevent this frustrating situation, Were You Typing warns you when your typing isn't going anywhere. The new Firefox version (bit.ly/typing504) works in the same was as the Edge tool, including an option to disable it by pressing the Esc key. An eye-catching red alert flickers along the bottom of the screen whenever you press a key while no text field is active.

It generally works well, but not on every site we tried – it failed on the Google homepage for example, but worked on the search results page.



Stop scam sites in their tracks

AntiScam (bit.ly/antiscam504) is a helpful security tool that automatically closes any web page containing a scam site as soon as you click the link. A pop-up opens stating that "a page has just been closed automatically because it was a scam".



There are no settings and you can't block (or unblock) specific sites. Just switch AntiScam on by clicking its toolbar button, then let it work in the background, protecting you by blocking access to scam sites as you browse.

The add-on's official Twitter page proudly boasts it has so far blocked 57,514 scam websites. You can also email details of other potentially malicious sites to the development team so it can add them to the AntiScam database.

OTHER BROWSERS

Meet Tor's new security features

Tor remains our favourite browser for ultimate privacy and security, so we're pleased to see a number of changes in the new version, 9.5. Following the lead of mainstream browsers, the updated Tor now uses icons in the address bar to indicate whether sites are secure or insecure. Websites can also promote their Tor-only '.onion' addresses to visitors, and you can choose to access these hidden versions automatically. What's more, Tor can now manage authentication keys, which some .onion sites require for access. You'll find this option under Onion Services Authentication by typing `about:preferences#privacy` into the address bar.



Stop videos autoplaying

Videos that play automatically are near the top of the list of internet annoyances. Disable HTML5 Autoplay (bit.ly/autoplay504) combats this menace on sites including Facebook. Click the add-on's toolbar button to tweak its settings and create rules for specific domains.



If you'd rather use Edge's built-in autoplay blocker, type `edge://flags/#edge-autoplay-user-setting-block-option` into your browser's address bar, enable the flag, then go to 'Media autoplay' in the browser's Settings. Unlike Disable HTML5, however, this won't let you set website-based rules.

Best Free Apps

App of the Fortnight

MESSAGING

NEW

Wordilly

bit.ly/wordilly504

13



Communication is about so much more than just words these days. GIFs, emoji and other imagery are all part of our everyday digital vocabulary. And even if you decide to stick with good old-fashioned words, there are plenty of clever ways to spice up your text and give your messages a personal touch.

Wordilly is one such option. It's an app that lets you create typographic messages using different combinations of fonts, colours and styles that reflect your mood and liven up your messages or social media feed. Created by Jason Smith, co-founder of boutique typography company Fontsmith (www.fontsmith.com), Wordilly gives you a choice of 30 fonts – mainly from the Monotype and Fontsmith libraries – and a variety of options for creating beautiful text-based messages.



Like many of the best apps, Wordilly is based on a simple idea and is incredibly easy to use. You can get a head start by basing your design on one of the templates provided, or launch the editor and create one from scratch. Simply choose a font, customise your text's size, position and colour and then save it or share it with friends on the messaging or social media platform of your choice. See our Mini Workshop (right) for full instructions.

Wordilly is completely free, with no adverts or in-app purchases. You don't even need to sign up for an account to access all its fonts. The only drawback is that the app is iOS-only for now, but we're hoping the developers have an Android version in the pipeline. We'll let you know as soon as one becomes available.

MINI WORKSHOP

Create a typographic message in Wordilly

1 When you launch Wordilly for the first time, swipe through the welcome screens until you reach the Home screen (pictured). The main interface is divided into three tabs. The Published tab 1 stores any messages you've previously shared. Drafts 2 contains messages you've saved but haven't shared. Inspiration 3 offers a selection of templates for you to swipe through.



2 There are several ways to create a new message. If you find a style you like while scrolling through the templates in the Inspiration tab, tap it and select 'Use this style' 1 to create a message using the same font and background. Alternatively, tap Published or Drafts and select 'Get Started' to create a new one. You can also tap the pencil icon at the bottom of the screen. 2



3 Use the keyboard on the Type screen to enter your message, then press the tick button. Select a font from the list, 1 swiping left to scroll through the available options. Choose between Light, Regular or Bold text, 2 and use the toolbar to adjust the font size, line spacing and justification. 3 Tap Colour 4 to pick a colour scheme, then tap Next 5 to save your creation or share it in a message or on social media.



Our rating ★★★★★

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

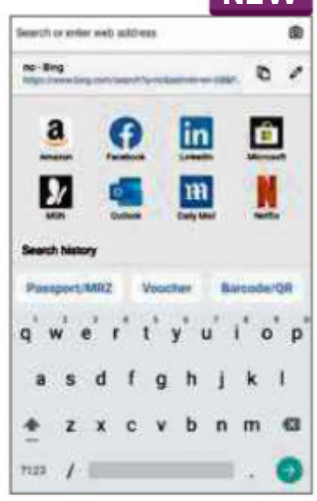
KEYBOARD

NEW

Anyline Keyboard

bit.ly/anyline504

5



Most Android keyboards include a selection of shortcuts for things like adding emoji and stickers to messages. Anyline Keyboard takes a more practical approach by offering built-in shortcuts for scanning. The keyboard aspect of the app works as you'd expect, but along the top of the keys you'll find options for scanning documents, voucher codes, barcodes, QR codes and more. It's not exactly groundbreaking, but if you often need to scan documents and other items, this useful ad-free app could save you a lot of time.

Our rating ★★★☆☆

MESSAGING

UPDATED

Signal

bit.ly/sigdroid504

bit.ly/signalios504

4.4 11



Signal has always made privacy one of its chief priorities. The popular messaging tool uses state-of-the-art end-to-end encryption to keep communication between its users private. Now the company is showing solidarity with the Black Lives Matter movement and anti-racism protesters by updating its iOS and Android app with a new feature that lets you blur the faces of people in your photos to protect their privacy too. Just tap the new blur icon in the image-editing tools to obscure faces and other identifying details.

Our rating ★★★★☆

EDUCATION

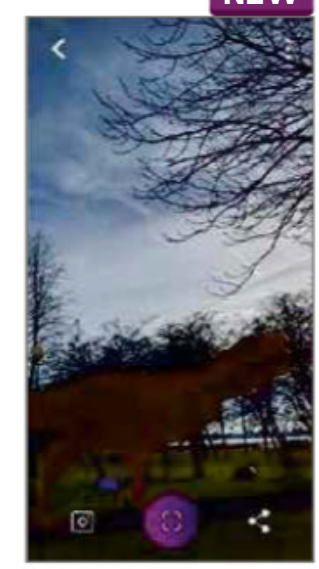
NEW

Outside 3D

bit.ly/outdroid504

bit.ly/outios504

6 11



With many pupils off school indefinitely, parents may be desperate for new ways to invigorate their home learning projects. Outside 3D offers a solution. It's an augmented-reality app that lets you add interactive elements to your children's learning experience by bringing 3D images into the real world, as well as providing fun facts and more. The app includes a decent amount of free content across topics such as Culture & History, Technology & Space and so on. However, you'll need to pay a monthly £1.99 subscription for unlimited access.

Our rating ★★★★☆

NATURE

UPDATED

BirdGuides

bit.ly/birddroid504

bit.ly/birdios504

6 12



Whether you're a lifelong twitcher or you've only recently discovered an interest in bird life after being confined to your home during springtime, the newly updated BirdGuides app is a must. Version 2.0 of the app has been completely redesigned, gaining a number of great new features including a map view that lets you locate sightings, a fast search function, an updated system for submitting sightings and a 'Nearby' news tool that alerts you to sightings within a 5 to 120km radius, based on your current GPS location. Note that some features require you to register at www.birdguides.com.

Our rating ★★★★☆

GAME

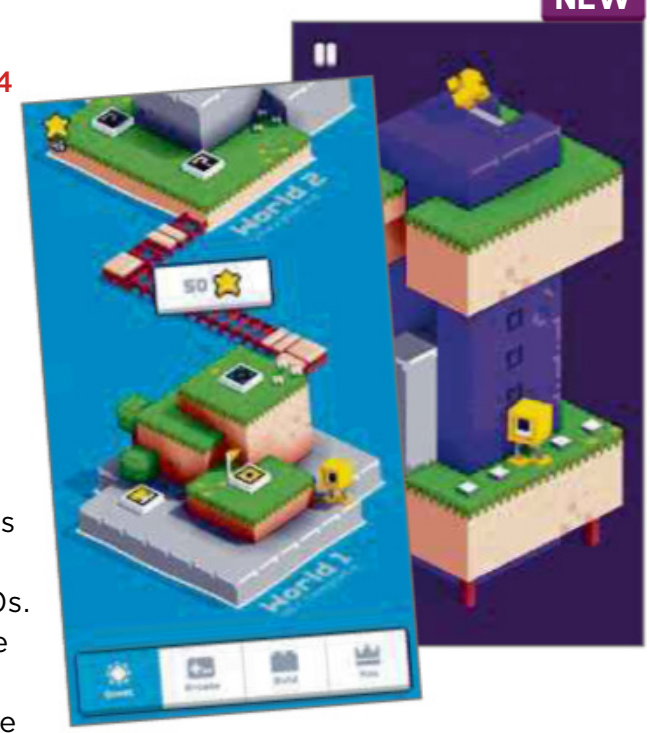
NEW

Fancade

bit.ly/fandroid504

bit.ly/fanios504

5 8



Take one look at Fancade's pixel-art screens, and you might assume that it's another fashionably retro game that takes its design cues from games of the 1990s. And that would be true – except that it's not just a single game. Fancade is home to dozens of games across a wide variety of genres – platforming, racing, puzzling and more – many of which have been generated by Fancade users themselves. There's plenty to keep you occupied, with fresh games arriving every day. And if you get tired of playing other people's games, why not try creating your own levels?

Our rating ★★★★★

5 NEW APPS WORTH PAYING FOR

TOOLS

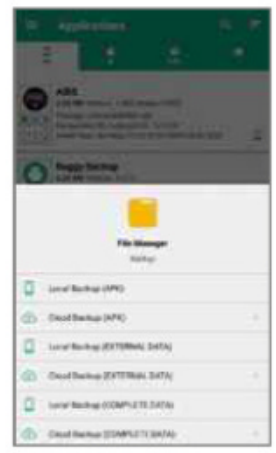
Buggy Backup

bit.ly/buggy504

Price: £5.99

5

This all-in-one tool for backing up, restoring, importing and sharing Android apps offers tons of options, including batch operations. Be aware that some features require a rooted device, however.



PHOTOS

Camera+ 2

bit.ly/cameraplus504

Price: £4.99

12

One of the best iOS camera apps is now even better after this latest update, which adds a new machine learning-powered tool called Magic ML that analyses and intelligently improves your shots.



GAME

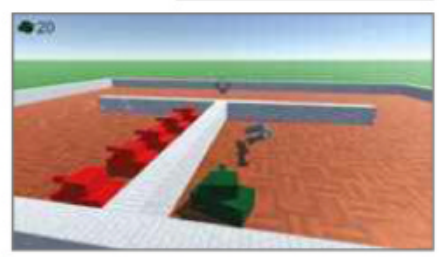
Tank Revolution

bit.ly/tank504

Price: £1.89

4.4

Gamers of a certain age will get a hit of nostalgia from this game, which is basically Atari's Combat with updated graphics. The aim is to use your tank to blow up the other tanks.



EDUCATION

Tell

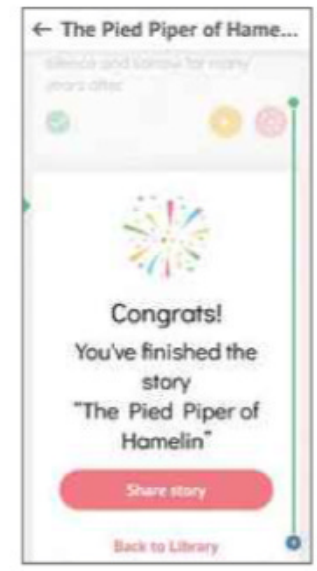
bit.ly/telldroid504

bit.ly/tellios504

Price: £4.99 per month

5 10.3

Recently updated, Tell lets you record yourself narrating story books, so it's perfect for reading to grandchildren, even when they're far away. The app is free, but you'll need to subscribe for more stories.



GAME

BE-A Walker

bit.ly/walkerdroid504

bit.ly/walkerios504

Price:
£4.59 (Android),
£4.99 (iOS)

6 10

In this challenging game, you stomp around a jungle planet in a Scout Walker-type machine, wiping out hostile natives. Alternatively, switch sides to help the brave natives fight back against the colonists!



Buggy Backup

Camera+ 2

Tank Revolution

Tell

BE-A Walker

✓ Install this app...

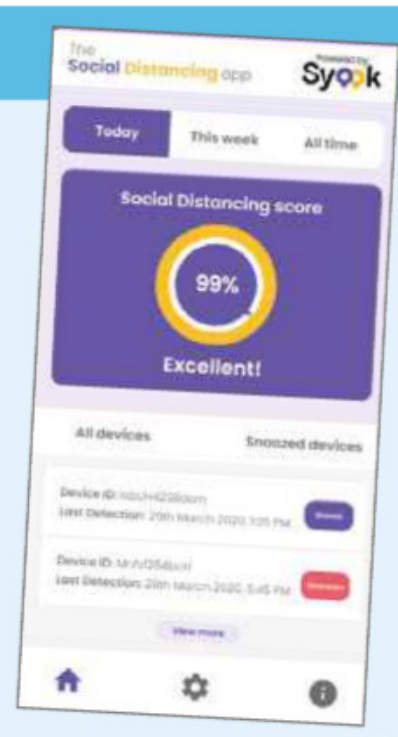
The Social Distancing App

bit.ly/social504

5

Lockdown restrictions are starting to lift, but it looks as if social distancing will be part of all our lives in one form or another for the foreseeable future. At the time of writing, the government's track and trace app hasn't formally launched in the UK, but until it does, this app can help us remain vigilant about social distancing.

The app uses Bluetooth signals to establish your proximity to others, sending notifications to remind you to keep a safe distance and generating a social distancing score to help you analyse your daily interactions. Crucially, you don't need to sign up for an account to use it.

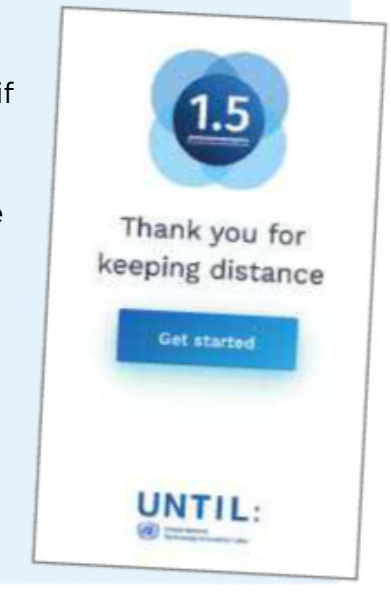


✗ ...Not this one

1point5

bit.ly/1point504

Like The Social Distancing App, 1point5 is designed to vibrate and display a message when other users come within 1.5 metres of you – or anything up to 2.5m if you use the distance adjustment feature. However, it appears to be worryingly unreliable, with many users complaining that the app randomly quits in the background and fails to detect other devices, even when they're right next to each other.



Take a Screen Break

Take a rest from your browser with our fiendish fortnightly challenges – solve our Rolling Stones songs emoji and guess our Wayback Machine year

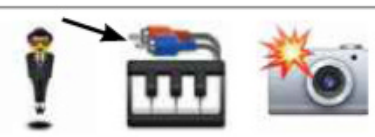
WIN A WEB USER 2019 BACK ISSUES DISC!
Email your answers to editor@webuser.co.uk – one correct entry will win a disc



CAN YOU GUESS THE ROLLING STONES SONGS FROM THE EMOJI?

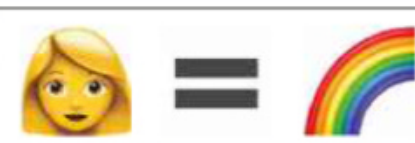
1 

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6 

NEW!

GUESS THE WAYBACK MACHINE YEAR

Can you work out which year the Internet Archive's Wayback Machine captured the following websites?







COMPETITIONS

WIN 1 of 6
Kitsound Diggit Bluetooth speaker

WORTH £39.99 EACH



This weatherproof speaker has a removable stake that easily sticks into the sand or grass, allowing for 360-degree audio. It has an eight-hour play time, while its two five-watt drivers create an immersive sound. To enter, email your address to webusercomp@dennis.co.uk with 'Diggit' in the subject line. For more information, visit kitsound.co.uk and follow @KitSoundUK on Twitter.

WIN 1 OF 3
CorelDRAW 2020 Graphics Suite

WORTH £599



The 2020 version of CorelDRAW Graphics Suite uses new AI tools to expand your design capabilities and speed up your work. As part of this prize, you'll get the complete pro-calibre graphics suite, plus access to CorelDRAW.app Pro's all-new collaboration workflow. To enter, email your address to webusercomp@dennis.co.uk with 'CorelDRAW' in the subject line. For more info, visit www.coreldraw.com and follow @corelDRAW on Twitter.

FAQ

Everything you need to know about the most interesting new technology trends and events

E Ink Kaleido

A new type of colour e-paper could transform the way we read ebooks forever. **David Crookes** explains why it's something to write home about



What is it?

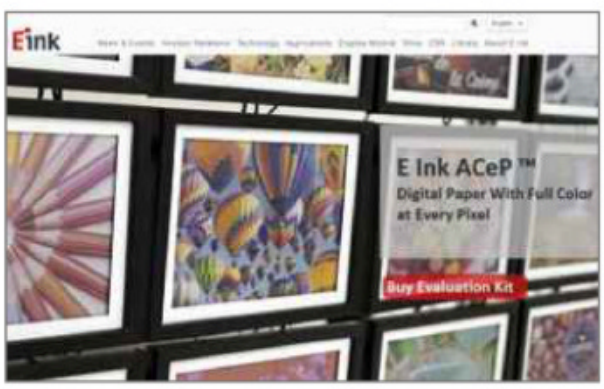
Kaleido is the marketing name for a new generation of colour e-paper displays that are designed for use in ebook readers. The technology was created by the Taiwanese manufacturer E Ink (www.eink.com), which originally unveiled the panels as Paper Color, and it is being promoted as a step up from the current glut of greyscale displays used by the likes of Amazon's Kindle e-readers.

Why should I care?

Although many of us read ebooks on our tablets and smartphones, e-paper displays are easier on the eye. They're also easier to read outside when the sun is shining, and let you keep reading for longer because they only require power to change the content on screen. But because the vast majority of past devices have featured black-and-white displays, they're best suited for reading text-based ebooks. With a colour screen, your choice widens to include graphic novels, comics, picture-led non-fiction books and magazines.

But why has it taken so long?

Numerous companies have worked on producing colour e-readers over the last decade, but their devices have so far failed to take off. E Ink, for example, unveiled a technology called Triton in 2010, overlaying a thin, transparent coloured-filter array (CFA) in front of a black-and-white display to produce colour through a mix of red, green, blue and white sub-pixels. But although it could handle 4,096 colours (and spawned Triton 2), the technology was expensive and the poor refresh rates of the panels meant they couldn't play video, which made it less appealing to buyers.



Taiwanese company E Ink is at the forefront of developing colour displays for e-readers

So what's changed?

Back then, colour e-readers using Triton featured E Ink Pearl screens and these had a contrast ratio of 10:1. Today's colour devices will use E Ink Carta which, despite being seven years old, offers a 50% increase in contrast. Carta was introduced with the Kindle Paperwhite 2 in 2013 and its screens are now the standard for e-readers. But Kaleido is using E Ink's second-generation Carta 1100 ink, which is faster and brighter. More importantly, it uses a new form of printed CFA technology.

How does it all work?

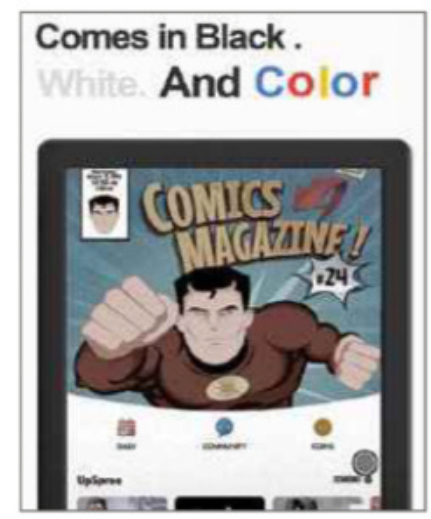
Devices that use E Ink Kaleido will have a Carta or Carta HD layer capable of displaying 16 shades of grey at 300 pixels per inch (ppi). Like Triton, this monochrome display will be overlaid with a CFA consisting of RGB sub-pixels (not unlike the Technicolor process used in early films). The colours can be combined, which is why – again – it'll be possible to have 4,096 shades. This is done by altering the 16 levels of intensity for each of the reds, greens, blues or whites, all the while maintaining low-power consumption, since the pixels only draw on the battery when the on-screen content changes.



E Ink's Triton technology proved too expensive for widespread use by colour e-readers

So will page turns be smooth?

When you use some e-readers and work your way through a book or document, you may see faint text from a previous page. This is known as 'ghosting' and is due to the pages not fully refreshing quickly enough, leaving some of the tiny particles on display. Carta e-paper relies on the Regal Waveform



The Onyx Boox Poke2 Color uses Kaleido technology for smoother page turns

Controller, which reduces the need for full page refreshes after a few page turns. On top of this, the faster ink used for Kaleido allows for quicker updating of animations and video, so the experience should feel fluid.

Does it show hi-res images, too?

No. When you are viewing in black and white, you will be able to enjoy super-sharp words and images at 300ppi in 16 shades of grey. When you're viewing pages with colour, however, you'll only see the images displayed at 100ppi. However, the technology can easily switch between the two resolutions thanks to the layering – the colour filter simply won't come into play. In any case, the resolution is higher and the colour will be better quality than the older Triton displays. With text, you won't see much difference if you compare the screen to reading on paper.

Can I write on the display like paper?

On some devices, yes. E Ink says the upgraded electrophoretic displays (EPD) of its eNote product lines will let you use a stylus to scribble on-screen with colour highlighters, pens and markers, because they'll have an active digitiser layer produced by Wacom. The colour e-paper devices will feel even more like you're holding and writing on paper, too, because a new printing process on plastic means glass-based CFA is no longer necessary, allowing the overall devices to feel thinner and lighter.

Are these e-readers set to be expensive?

Not especially. Although some products are not yet priced – including the Onyx Boox Poke2 Color (www.boox.com) with its 6in screen, octa-core processor, 2GB of RAM and 32GB of storage – some are available for a reasonable cost. The iReader C6, which was the first to go on sale, costs about $210 (around £170), while the 6in Pocketbook Color looks set to cost about $229 (£185). You can only buy the iReader C6 in China at the moment, but it packs a punch, thanks to Android 7, a quad-core processor, 1GB RAM and 16GB of storage, all powered by a 2,000 mAh battery.

And where does Amazon fit in?

Right now, Amazon has not revealed any plans for a colour Kindle e-reader, though there have been rumours that it's developing an alternative screen technology. As it stands, the last Kindle e-reader to be released was the third-generation, high-end Oasis last July – a distinctly monochrome device – and there have been murmurs among tech experts that Amazon could be left behind in the race for a colour e-paper device if it doesn't get its act together soon.



Amazon has yet to confirm any plans to add colour displays to its Kindle e-reader range

It's possible the company will decide to simply direct people to its full-colour Fire tablets rather than develop a separate colour Kindle. If so, it may be missing a trick. Then again, the Kindle has an estimated 95% of the UK e-reader market and 75% of the US, so Amazon isn't likely to be too worried right now.

So will E Ink Kaleido be the breakthrough?

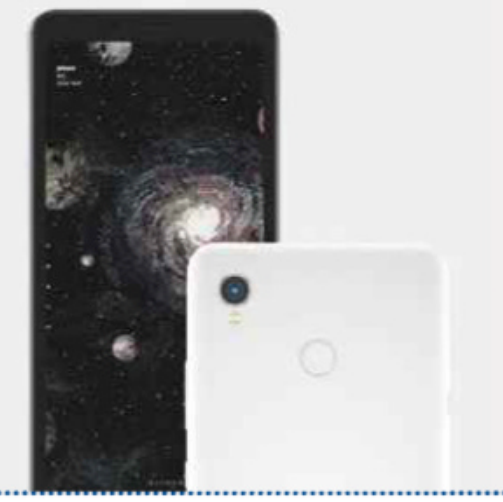
The smart money suggests it will be and E Ink is already reporting stock shortages due to the popularity of its colour e-paper screens among manufacturers. It is also working on another type of e-paper, which uses coloured pigments and a single display layer of electrophoretic fluid that's controlled using voltages from a TFT 'backplane'. Although it's not yet commercially available, this so-called Advanced Color ePaper (ACeP) is being developed for creating digital signs. E Ink recently teamed up with the leading supplier of TFT LCD panels, Innolux, to develop a 28in colour e-paper that could be used to advertise on public transport and for displays in retail environments.

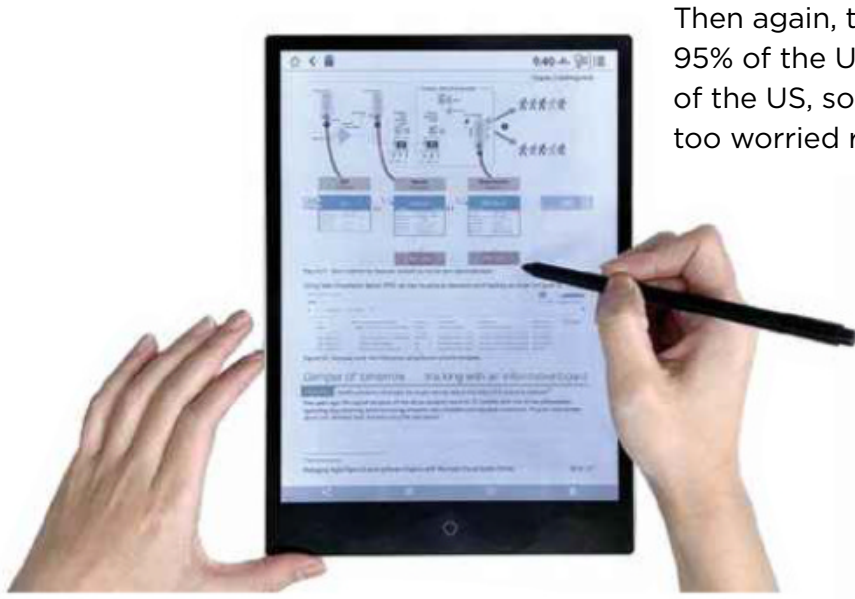
Does E Ink have the market to itself?

No. Back in Issue 430 (bit.ly/webuser430), we looked at Clearink, a company that is continuing to work on colour e-paper displays with the backing of big names including Lenovo. Like E Ink, its technology offers low-power consumption and the ability to read in direct sunlight. It showcased a 1.32in colour e-paper display in 2018 boasting a resolution of up to 202ppi, which would be perfect for wearable devices. It has also been working on a 9.7in screen.

WILL SMARTPHONES USE E INK KALEIDO?

It's funny you should ask, because HiSense (hisense.co.uk) has just launched two smartphones using E Ink Kaleido displays for their 5.84in screens. The A5C and A5 Pro CC models are the world's first e-colour mobiles, and they also boast a Snapdragon 439 chipset, 4GB of RAM, 64GB storage and, crucially, a 4,000mAh battery that powers your reading for an impressive 62 hours. HiSense has also launched its Q5 Tablet but this uses a monochrome LCD display.





Some E Ink devices allow you to write and doodle on their screens using a stylus



E Ink Kaleido could be used to display adverts in a more environmentally friendly way

Run a VPN On Any Device

COVER FEATURE

Want to remain anonymous online and access blocked content even when you're not sitting at your PC? **Wayne Williams** explains how to use a virtual private network on any web-connected device



VPN usage has soared during the coronavirus lockdown, with more people than ever turning to virtual private networks to help them work from home or keep themselves entertained. Not only does a VPN protect your internet connection against snoopers and hackers, it lets you access streaming content that might otherwise be unavailable to you, so it's easy to see why these tools are proving so popular now.

However, while most VPN users simply download a program to run on their PC, this versatile technology has many more benefits when expanded to other devices. For example, you can encrypt data on your phone, protect every device connected to your Wi-Fi network and watch US-only shows on your smart TV.

In this feature, we explain how to install and configure a VPN on any device that would benefit from it, and reveal the best tools for the job.

ON YOUR COMPUTER

Installing a VPN on your PC is very simple, and it's the option people are most familiar with. Essentially, you download and install the VPN just like any other program and enable it when you need it, choosing a server in the location you require. If you want access to a website that's only available in the US, for example, pick a server from that country. There are lots of VPNs to choose from, both paid and free, but our favourites are Windscribe (windscribe.com) and NordVPN (nordvpn.com) because they're trustworthy and affordable, and offer all the features you're likely to need.

Windscribe offers both a paid and a free service. The free VPN gives you a choice of 10 server locations, including the US, and a fairly generous 10GB of data per month, which you can use on an unlimited number of devices. As an additional sweetener, the company has just upgraded its free service to let users stream content from overseas versions of Netflix and Disney Plus in most of its free locations. Don't get too excited about this, however, because one hour of streaming or downloading from Netflix will quickly eat through your free monthly allowance: SD-quality video consumes 1GB of data per hour, while HD uses up to 3GB per hour and 4K requires a whopping 7GB per hour.

If you need a greater choice of servers (110 cities in 63 countries), unlimited data and a configuration generator to help you install the VPN on other devices, including your router (see page 43), you can upgrade to Windscribe Pro for £7 a month or £39 a year. There's also a great value 'Build a Plan' option, which lets you add specific locations for 77p each per month and gives you an additional 10GB of data. An impressive DNS-level blocking tool called R.O.B.E.R.T. (Remote Omnidirectional Badware Eliminating Robotic Tool), which kills ads, trackers and bad domains, is available for another 77p a month. You can try Windscribe Pro free for a day by clicking the Team Garry button (the floating green circle) on the website and asking for a Pro trial.



Windscribe is a great free way to get started with VPNs and offers affordable extras

If you want to set up Windscribe manually on your PC without installing any software, follow the step-by-step instructions at bit.ly/wsinstall504. Using the desktop program is much easier, though.



NordVPN offers an enormous choice of servers and is packed with useful features

Unlike Windscribe, NordVPN doesn't offer a free version, but you can try it free for 30 days at free.nordvpn.com. The company also offers a 30-day money-back guarantee on full subscriptions, so you're not tied in if you try NordVPN and then decide it's not right for you. As well as being easy to set up and use, it offers a whopping 5,200 servers across 59 countries, as well as advanced features such as the optional CyberSec tool, which removes ads from web pages and can help protect your browsing from malware, phishing and other threats. There's also a Kill Switch, which suspends your internet connection if your encrypted VPN connection accidentally drops, protecting your identity. NordVPN has a strict no-logs policy, offers 24/7 support and can be combined with Tor for extra privacy and security, albeit at the expense of browsing speed.

NordVPN costs £9.20 for one month or £5.38 per month on its one-year plan, but if you sign up for three years, the price drops significantly to £2.69 a month, which is a bargain. At the time of writing, a two-year subscription was available for the same discounted price.

You'll find a guide for installing and using NordVPN on PCs running Windows 7 and later at bit.ly/nordguide504 – the process is simple, and choosing a server is as easy as clicking on the global map and selecting 'Quick connect'.

CHOOSING THE RIGHT VPN



You tend to get what you pay for with a VPN. Free VPNs give you fewer servers to choose from, and in some cases you may not be able to pick the server or country you connect to at all. Performance and data are limited, too, and there's also the danger that the provider will log your activity and sell that information to third parties. While most VPNs claim they don't keep logs on their users, that's not always true.

If you want to be sure that governments aren't snooping on your browsing activities, choose a VPN that isn't based in one of the so-called Fourteen Eyes countries: the US, the UK, Canada, Australia, New Zealand, France, Denmark, Holland, Norway, Germany, Belgium, Italy, Sweden and Spain. These countries share military signal intelligence as part of the SIGINT Seniors Europe (SSEUR). For more information on this topic, see ProtonVPN's blog post at bit.ly/eyes504.

Make sure the VPN you choose uses OpenVPN, IKEv2, IPSec, L2TP or OpenSSH encryption, and check how many devices you can connect to it – five is typical, but the more the merrier.

If you plan to use your VPN to protect peer-to-peer file sharing (such as BitTorrent), VoIP or video calls, check the service's terms and conditions to make sure this is allowed. Also find out whether the VPN provider throttles these types of traffic, as this will make your connection slow to a crawl.

ON YOUR MOBILE DEVICE

Most people use their mobile phone or tablet as their primary method of getting online these days, so it makes sense to install a VPN on those devices, too. All our preferred VPN services, including NordVPN, Windscribe and ExpressVPN (www.expressvpn.com – see our Mini Workshop, below) offer apps for iOS and Android devices as part of the same subscription as their desktop VPNs.



You can configure a VPN on your iPhone without downloading and installing an app

There are lots of 'free' VPNs in the mobile app stores, too, with secure-sounding (but unfamiliar) names and scores of five-star reviews.



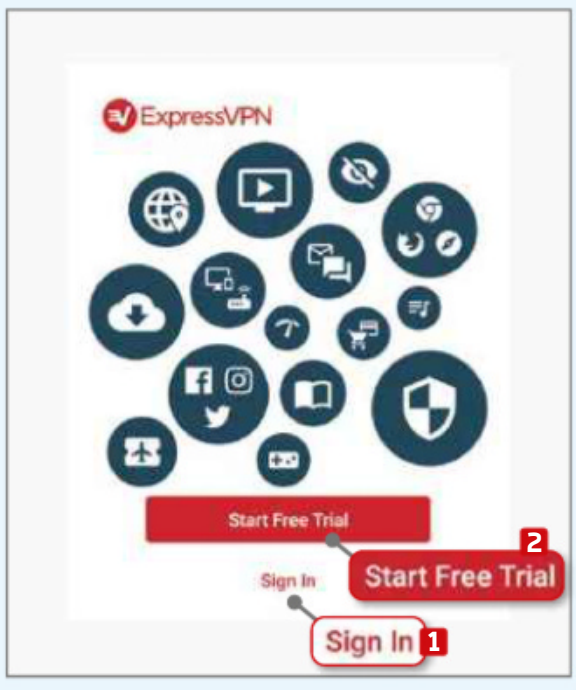
NordVPN's mobile app makes it easy to pretend to be browsing from another country

However, you should be very wary of installing these, because many of them log your online activities and sell the data to advertisers and other third parties. Some free services request invasive permissions (such as the ability to access your email and text messages), while others fail to secure your traffic in the way you'd expect. While you might get lucky and discover a decent free VPN app, we'd definitely recommend paying for a VPN service from a known organisation.

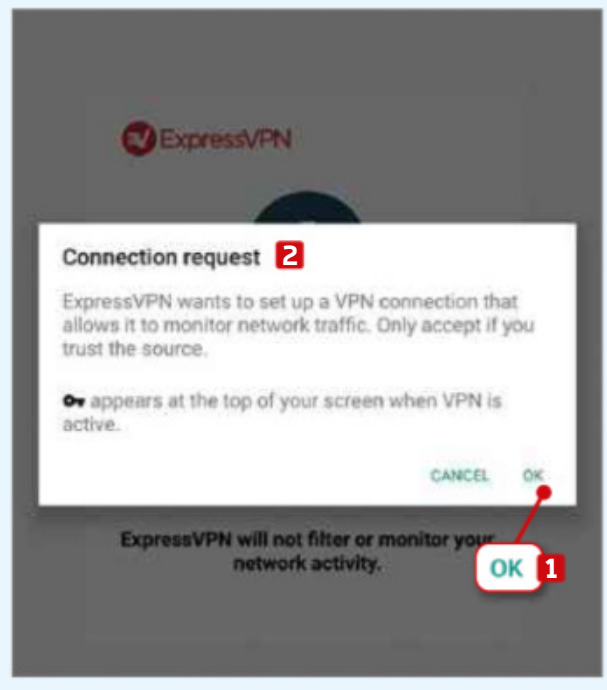
The easiest way to set up a VPN on your mobile device is to install a trusted app, but the Android operating system supports VPN functionality, too. You can enable this feature through the Settings app. Open 'Wi-Fi & Internet' or Wireless & networks' and tap VPN followed by the plus sign in the top-right corner. Enter the requested VPN information, such as a server address, username and password, which your VPN service will have provided you.

Apple iOS also supports VPNs and the setup process is much the same. On your iPhone or iPad, open Settings, then go to General and scroll down to VPN. Tap it, then select Add VPN Configuration and fill in the details.

MINI WORKSHOP | Run ExpressVPN on your Android device



1 Browse the Google Play store for ExpressVPN (or another VPN of your choice), then tap the Install button and wait for it to download and install on your device. Once it has installed, tap Open to launch the app. You can sign into an existing account 1 or start the free seven-day trial, if available. 2



2 Tap OK 1 to begin the setup process and accept the connection request. 2 You're now ready to start using the VPN. Press the location box on the main screen, then select one of the servers from the list. You can browse by recommended servers or view them all.



3 Once you've selected a server, the app makes a connection, which you can see on the main screen. Tap the Connected button 1 to toggle the VPN on or off. You can add favourite sites to the app for easy access. 2 Tap the hamburger button 3 to manage the VPN settings.

ON YOUR ROUTER

Installing a VPN on your router is a great idea because it protects all the devices that connect to your home network – including PCs, phones, tablets, TVs and games consoles – and means you don't need to install individual apps. You can buy routers that have a built-in VPN client mode, but if you're not ready to upgrade just yet, consider replacing your current router's firmware with DD-WRT (dd-wrt.com), which adds VPN support. Search for your router's manufacturer and model in the DD-WRT website's router database (bit.ly/router504), then follow the instructions provided.

Once you've installed the new firmware on your router, you need to install and configure a suitable VPN, such as Windscribe, NordVPN or CyberGhost (www.cyberghostvpn.com), all of which use the OpenVPN protocol. We explained how to set up a VPN on a router in Issue 498's Weekend Project (bit.ly/webuser498), and most paid-for VPNs offer guides you can follow on the web. Windscribe provides instructions on setting up a router at windscribe.com/guides (you will need a paid-for account or a one-day free trial of Pro), while NordVPN's guide is at bit.ly/nordrouter504. Whichever VPN you choose, just search for 'router' in the support section of its website and you should find the details you need.



Windscribe explains how to configure your router using the OpenVPN protocol



Switching your router's protocol from TCP to UDP can give you a speed boost

While there are many benefits to installing a VPN on your router, it can lead to a noticeable performance drop when visiting websites or streaming video. The extent of the slowdown will depend on your VPN, router and devices. Switching the protocol from TCP to UDP (see box below) can speed things up, so it's worth a try. Open your router settings and locate the OpenVPN Client page. Click the arrow next to Tunnel Protocol and select UDP there.



Replace your router's firmware with DD-WRT to install a VPN on your network

TCP OR UDP?



Transmission Control Protocol (TCP) and User Datagram Protocol (UDP) are network protocols for transferring data over the internet. They essentially do the same job, which is to split your data stream into chunks known as packets. TCP is the best known and most common protocol, and it works by assigning each packet a unique identifier and a sequence number. This tells the receiver which packet has arrived, and which one to expect next. When a packet reaches its destination, the receiver checks that everything is as intended and then fires off an acknowledgement to the sender. When the sender recieves this, it sends the next packet. If a packet fails to arrive, or arrives in the wrong order, the receiver won't acknowledge it, so the sender tries again.

This two-way communication makes TCP very reliable but not particularly fast. UDP doesn't bother with unique identifiers or sequence numbers – it simply uses checksums to make sure the data it receives hasn't been corrupted en route. This makes it much faster but also less reliable.

VPN services support both protocols, so you can decide which to use. If you find that your connection is too slow – which it can be if you install the service on your router – switching from TCP to UDP could make a significant difference.

ON YOUR SMART TV

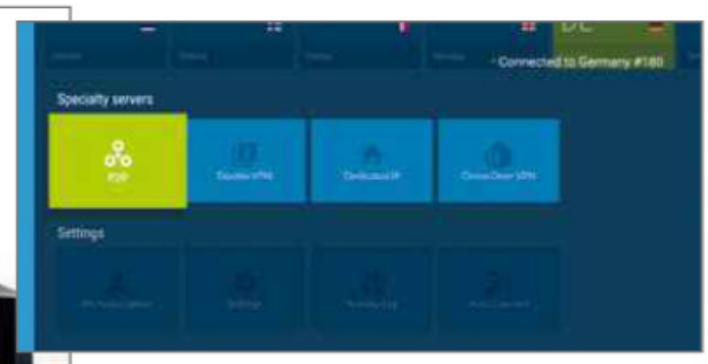
There are a number of ways to run a VPN on your smart TV. One is to install a VPN on your router, as we explain above. Alternatively, you can use a VPN app on your Android TV or a device such as an Amazon Fire TV Stick, or share your Windows PC's VPN.

If you have an Android TV, you can access the Google Play store through it. Buy a subscription to a VPN service such as ExpressVPN or NordVPN and download the app. It will come in the form of an Android Package File, or APK, which you can install. Then log into your account and connect to a server.

If you own an Amazon Fire TV Stick you can install a VPN on that. Open the Amazon Appstore on your TV, search for a VPN and download the app. Sign into the VPN (or create an account if you don't have one), then connect to it. The Fire TV Stick typically costs around £40, but Amazon regularly discounts it, so you should be able to pick one up for less if you're patient.

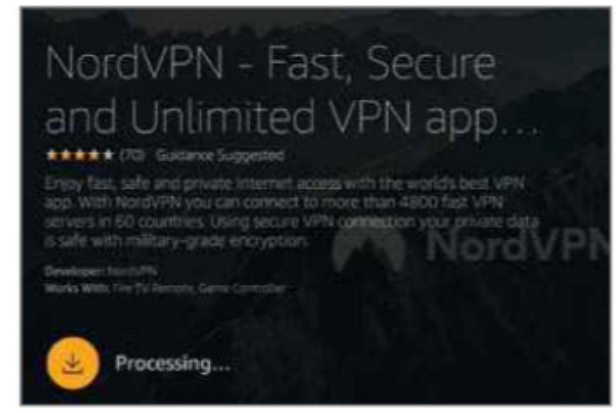
Another option is to share a VPN connection in Windows. Install and set up the VPN on your PC, then connect your computer to your Smart TV using





Install a VPN app on your Android TV to watch shows that aren't available here

an Ethernet cable. Open the 'Network and Sharing Centre' on your PC by typing `control panel` into the Windows search box and pressing Enter. Open 'Network and Internet', click 'Network and Sharing Centre' and select 'Change adapter settings' on the left. Find your VPN connection (it will be called something like 'TAP-Win32 Adaptor V9'), right-click it and select Properties. Click the Sharing tab and tick 'Allow other network users to connect through this computer's internet connection'. From the drop-down menu, select Local Area Connection and click OK. Restart your PC and your TV, and hopefully your secured connection will be available.



You can install NordVPN on a Fire TV Stick by downloading the app from Amazon

If you plan to access Netflix from a different country, such as the US, make sure the VPN you choose lets you do this, because the streaming service actively clamps down on such behaviour. This also applies to accessing BBC iPlayer from outside the UK.

ON YOUR GAMES CONSOLE

The most obvious benefit of running a VPN on a games console is that you can access games that aren't currently available in your country. However, you can't simply install a VPN on your Xbox One, PS4 or Nintendo Switch, because it's not something providers offer, and the consoles don't support it. That said, there are some ways round this. The best option is to install a VPN on your router (see page 43) because your console traffic will go through it. Another option is to set your console to use your VPN provider's DNS servers, which will help you avoid some geographic restrictions. The process for this varies, but you'll find your VPN's DNS server addresses on its website. NordVPN users should go to bit.ly/norddns504, for example. Once you have the DNS addresses, check your console's manual to find out how to change its DNS settings.

ExpressVPN's MediaStreamer service lets you pretend to be gaming from elsewhere

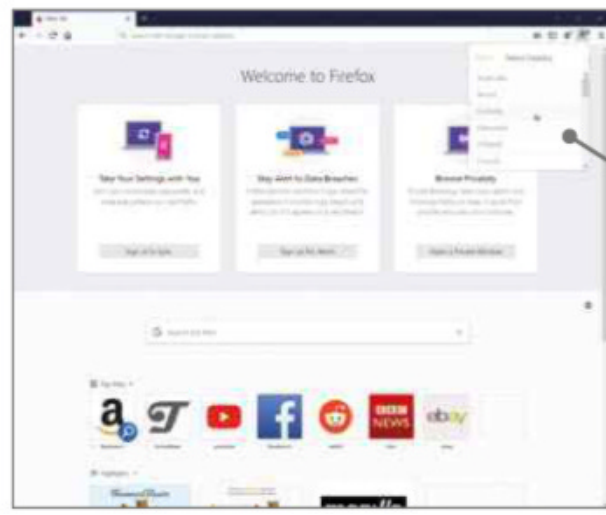
ExpressVPN offers a MediaStreamer service which, while not a full VPN, lets you watch online content that wouldn't otherwise be available to you, and works by faking your location. Before you can use it, you have to create a dynamic DNS hostname using a service such as Dynu (www.dynu.com). Register this name with ExpressVPN, then configure the DNS on your console. You can find guides for setting everything up at bit.ly/media504. Select your console from the options.

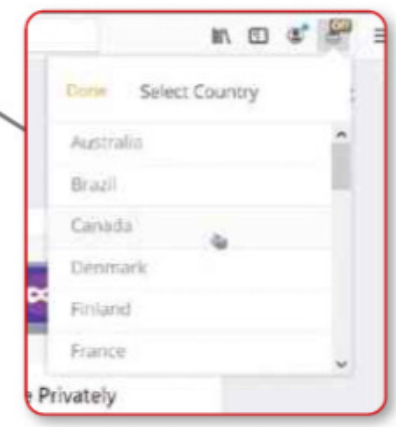


ON A USB STICK

The main advantage to running a VPN from a USB stick is that you can use it to browse the web anonymously from any computer that has a spare USB port. That sounds useful, right? Unfortunately, it's not as easy as you might imagine, because you need administrative rights to the PC you're using. The VPN requires system access to change the PC's network configurations, which includes installing new network interfaces. This means you can't simply run the VPN from your stick – you need to install it.

An easy way around this problem is to use a portable browser, such as Firefox (bit.ly/ffport504), with a VPN add-on installed. Simply install the browser on your memory stick, launch it and then install a VPN add-on and create an account or sign in using your existing account details. Alternatively, you could install the portable version of Opera (bit.ly/opport504), which comes with its own VPN built in (see opposite page).





Use a portable browser with a VPN add-on installed to maintain your privacy on the go

The downside of this approach is that the VPN/proxy only protects any browsing you do. You can't use it to hide other forms of internet activity on the computer you're using, such as system activity and apps.

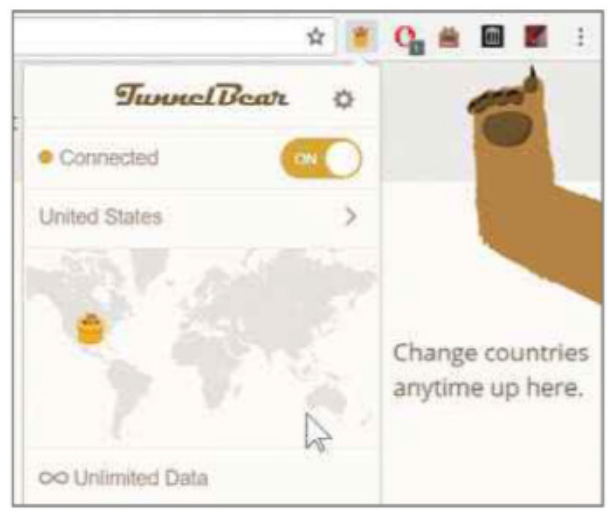
IN YOUR BROWSER

Unless you need a VPN to hide your location while downloading content over BitTorrent, the chances are you'll mostly use it to browse the web anonymously. If so, installing a VPN add-on in your browser makes a lot of sense. You could even have a browser for everyday use and another purely for accessing geo-blocked sites or those you don't want snoopers to know you visit. All the major VPN services provide browser add-ons, including NordVPN, ExpressVPN, Windscribe and TunnelBear (www.tunnelbear.com). The latter is particularly easy to use and offers extensions for Chrome (and therefore Edge), Firefox and Opera (bit.ly/tunnel504), although the free version limits you to just 500MB of data per month. Once you've installed your preferred VPN add-on, sign in and activate your protection by clicking its button on the browser's toolbar.

Some browsers have a VPN built in. The best known of these is Opera (www.opera.com), which introduced a free VPN with unlimited data four years ago. While most users appreciate its inclusion, it has attracted criticism from people who point out that because it only anonymises browser traffic, it's actually a secure proxy rather than a VPN. Worse still, it collects data (connected to a unique device ID) for



Opera has a VPN built into its browser but there are privacy issues to consider



TunnelBear's free browser add-on offers a quick and easy way to activate a VPN

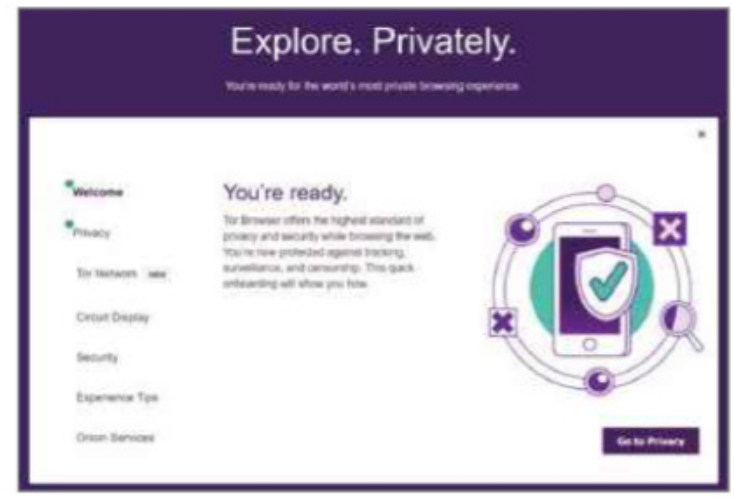
"promotional campaigns and advertising" and to help the developers make improvements. There are other downsides to bear in mind, too. The location categories it offers are very broad – Americas, Europe or Asia – which isn't particularly helpful if you want to use a server in a particular country. What's more, while Opera was originally a Norwegian company and still has its office in Oslo, it's now owned by a Chinese firm, which might set alarm bells ringing. Opera is not alone, however. A recent survey discovered that more than half of the top free VPN apps in the Apple App Store and Google Play Store (both the UK and US versions) have Chinese owners.

If that doesn't bother you and you simply want to disguise your browsing to access geo-blocked sites, for example, Opera's VPN/proxy will be more than adequate. To enable the feature, press Alt+P to open Settings, then select Advanced in the sidebar and click Features. Toggle on the Enable VPN setting under VPN.

Opera's VPN feature is also built into the company's Android browser (bit.ly/opera463). This replaces the standalone VPN app, which was available for free on iOS and Android but was discontinued in April 2018.

Epic Browser (www.epicbrowser.com) for Windows, Mac, iOS and Android is another option with a built-in VPN, and offers servers in eight countries. Firefox doesn't come with its own VPN built in, but Mozilla is testing one called the Firefox Private Network (bit.ly/ffoxpn504). This costs $4.99 (£3.85) a month and looks promising, although it's currently available only to users in the US who sign up to a waiting list. It's possible that the service will be available globally in the future.

Finally, although it's not a VPN, Tor Browser (www.torproject.org) offers a great way to safeguard your web browsing by routing traffic through the Tor network. Unlike a VPN, Tor's main advantage is that its network is run by thousands of volunteers, so you're not putting your trust in one single organisation. This means there's no danger that your browsing activity will be logged or sold.



Tor Browser offers an alternative to VPNs with many of the same privacy benefits

NEXT ISSUE on sale Wednesday 8 July 2020

DITCH THE WEBSITE - INSTALL THE APP!

The best free Android and iOS apps that do things their parent sites can't



PLUS...

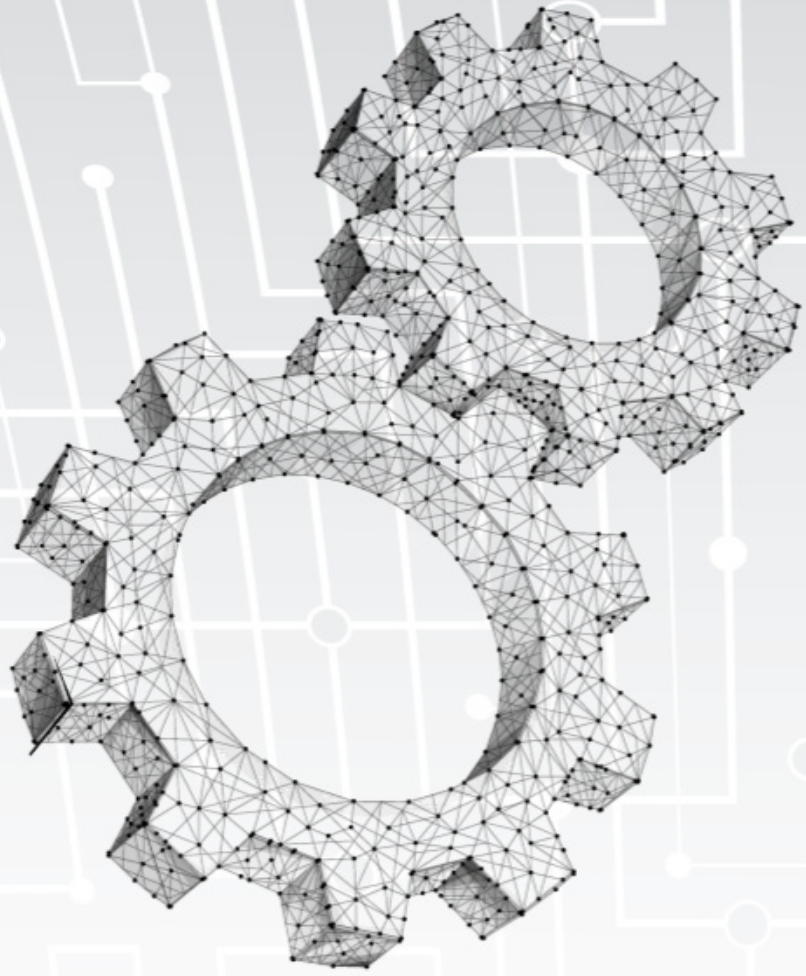
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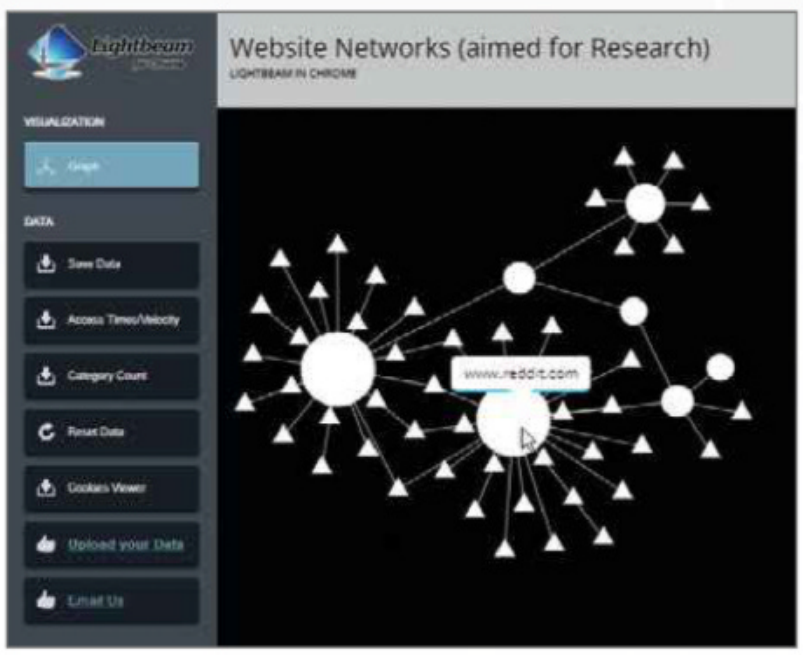


There's more happening behind the scenes than you realise every time you go online. **Robert Irvine** explains how to find out what lies beneath your favourite websites

Expose hidden third-party trackers

Whenever you go online, hidden ad servers and other invisible trackers connect to your browser to monitor your activities. Your browser's 'Do not track' function is supposed to prevent this from happening, but this relies on websites obeying that request, and most simply ignore it, which is why many of us install ad blockers such as uBlock Origin (bit.ly/ublock504), Ghostery (ghostery.com) or Privacy Badger (privacybadger.org). Clicking the toolbar button for one of these add-ons tells you exactly which trackers have been blocked on the current site, but for a clearer overview of who's following you (without resorting to an ad blocker), check out Thunderbeam (bit.ly/thunder504).

This Chrome version of an excellent Firefox extension called Lightbeam, which Mozilla has discontinued but can still be installed (bit.ly/lightbeam504), visualises the hidden trackers that lurk in the background as you browse the web. The large circles in the graph represent the sites you've visited, while the triangles show the third-party servers connected to each site, which may be collecting and sharing your data. It's eye-opening stuff.



Thunderbeam and Lightbeam visualise third-party trackers lurking in the background

Monitor your background processes

The Windows Task Manager tells you how much processor power and memory your browser is using, and the number of processes it's running, but it doesn't reveal what those processes are, so you can't identify which ones are hogging resources or are acting suspiciously. Fortunately, browsers provide their own task managers for this purpose, which let you spot and close greedy background processes related to specific tabs, plugins, extensions and other web elements.

To open the Task Manager in Chrome or Edge, either click the three-dot menu button and choose 'More tools', 'Task manager' ('Browser task manager' in Edge), or just press Shift+Esc on your keyboard. This brings up details of all running processes, including their type (tab, extension, utility and so on), and the amount of memory they're using. Select an unwanted task and click 'End process' to terminate it.

You can access Firefox's Task Manager by clicking the menu button and going to More, Task Manager or by typing `about:performance` in the address bar. Again, this lists running processes and lets you close them by clicking the X in the far-right column or by choosing 'Show in Add-ons Manager' and disabling them there.

Discover what data is being collected

Irrespective of which browser you use to access the web, you unwittingly share a certain amount of personal data every time you go online, including your location, the operating system you're running, the name of your ISP, your screen resolution, which plugins you have installed and much more. This helps websites optimise their content for your browsing benefit, but it's also useful to know exactly what data they're collecting – and how much.

There are various web tools that reveal the information you're 'leaking', of which the most comprehensive is BrowserLeaks.com (browserleaks.com).



Ad blockers such as Ghostery show which trackers are blocked on the current site



The Task Manager in your browser lets you monitor and close background processes



From your IP address alone, websites can detect where you are, your ISP and more



Find out which country a website is based in and who registered its domain name



Built With reveals the hidden technologies used by billions of different websites

This offers a series of tests that show you what data is being gathered via different methods, for example your IP address, JavaScript and WebRTC (which allows browsers to communicate with websites). Usefully, it provides advice below each set of test results recommending ways to plug that type of leak, such as disabling specific settings and switching to Tor Browser (www.torproject.org).

Alternatively, you can install the Chrome (and Edge) extension BrowserBuddy, which we recommended in Issue 501's Best New Browser Tools section (bit.ly/buddy501). This lets you instantly check all the data about you that's currently available to websites, so you can decide whether you need to beef up your privacy, perhaps by running a VPN (see page 40).

Reveal a site's true location and owner

Websites use your IP address to detect where you're browsing from, but it's often less clear where the websites themselves are really based, because a 'co.uk' domain doesn't necessarily mean they're operating from the UK – it's just the web address they've registered. Additionally, many sites now use non-country specific domains, such as '.biz', '.info' and '.xyz'.

You can discover a site's true location by installing the cumbersomely named Chrome (and Edge) extension IP Whois & Flags Chrome & Websites Rating (bit.ly/ipwhois504), which displays the relevant country flag for the current site on your browser's toolbar. Click this button for further information, including the site's IP address, the name of its owner, its global Alexa ranking, the number of visitors it receives a day and much more. You can also run a Whois search to find out who registered the domain name and when, check the security of the site on Norton Safe Web and read visitor reviews.

For Firefox, try the equally handy Flagfox (bit.ly/flagfox504), which displays the country flag in your address bar and lets you click it for full website details and a Google map showing its location. Right-click the flag to scan the site for malware, check its server status, view its Alexa ranking and more. You'll be surprised how many supposed UK sites have servers based abroad.

Learn exactly what websites are made of

Many websites look simple on the surface, but have a lot of different services and elements going on behind the scenes, from analytics tools, ad networks and affiliate programs to social-media widgets, email providers and the content-management systems used to run them. To discover exactly which technologies are included on a particular site, search for its web address at Built With (builtwith.com).

This impressively comprehensive resource, which claims to "index 100% of the internet by registered domain" (that's around 16.4 billion sites), detects and tracks signals from websites to determine which technologies they currently use or have used in the past. It then provides detailed profiles that list all the different elements, explain what they are and link to other sites that also use them. BBC News, for example, has more than 40 different elements going on in the background.

Although it's aimed at web developers, Built With should appeal to anyone interested in the hidden building blocks of the internet, and lets you look up five sites a day for free.

Similarly, if you want to know which fonts a website uses, so you can try them on your own pages, install WhatFont for Chrome (bit.ly/wfchrome504) or Firefox (bit.ly/wffire504), which lets you hover your mouse over a font to view its name. ■

UNCOVER WEBSITES' SOURCE-CODE SECRETS

The quickest way to look behind the scenes of a web page is to right-click it and choose 'View page source' (or press Ctrl+U). This displays the source code – all the HTML elements that make up the page – and sometimes a hidden 'Easter egg', too. For example, try viewing the page source on the KitKat website (kitkat.com) to see an ASCII rendition of the chocolate brand's logo; on The Guardian (www.guardian.co.uk) and Flickr (www.flickr.com) sites to uncover hidden job adverts; and on Entertainment Weekly (ew.com) to reveal a secret unicorn. Please let us know if you've found any others!



Best free encrypted file lockers



Encrypted file lockers make it easy to hide and protect your sensitive files and folders from prying eyes. **Steve Clark** unlocks the best free file-encryption tools

Cryptomator | cryptomator.org | ★★★★★

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



What we liked:

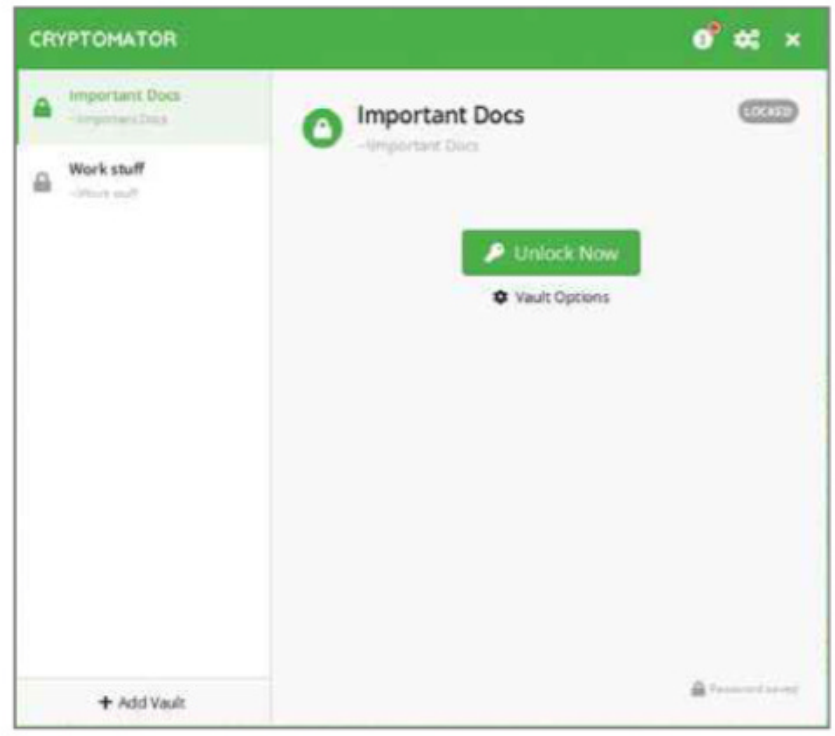
Cryptomator's clean, modern interface and cross-platform support makes file encryption incredibly easy. On startup, you're asked to create a vault – a secure space you can access via File Explorer. You're free to make as many vaults as you like.

When creating a vault, you're offered the choice of two save locations: in the cloud or on your hard drive. Set your password, then generate a recovery key, if you need it. This is recommended if you're prone to forgetting passwords, because losing your vault's password will lock you out of your files for good.

With your vault sorted, you can add, copy or move files to it. You then have two options – either to mount the target destination by clicking Reveal Drive or unmount it by choosing Lock. Cryptomator then instantly hides the folder from File Explorer, making it invisible to snoopers.

There's a high level of security involved. The open-source tool uses Advanced Encryption Standards (AES) 256-bit encryption to protect both file names and the files themselves. The developers also state that there are no backdoors into the program. That's been a major concern surrounding other high-profile encryption tools, which allegedly allow access to government and corporate snoopers.

Cryptomator puts a lot of focus on its cloud support. Files within OneDrive, Dropbox, iCloud, Amazon and Google Drive can all be encrypted with relative ease. However, if you want to beef up your cloud-storage security, you'll need to download the mobile app, which charges a one-time fee of £8.99. Everything else is free, although donations are accepted.



How it can be improved:

There's not much in the way of optional extras – Cryptomator is deliberately streamlined so you don't get some of the added features found in pricey competitors. There's no file sharing, for example, and no automatic uploads. Even the settings menu is unusually bereft of options. There's also no account system in play, so everything runs locally. If you have several computers, that means multiple downloads of Cryptomator to ensure all files across all devices are encrypted.

OUR VERDICT

Cryptomator is easy to use and especially good if you're not willing to trust cloud-storage providers. It may lack the advanced features of its rivals but it's just as secure, with no hidden costs.

NordLocker | nordlocker.com | ★★★★☆

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



What we liked:



NordVPN is one of the best virtual private network tools available, so you'd expect its spin-off venture, NordLocker, to apply a similar high standard to file encryption. However, while its security is superlative, the tool isn't quite there yet.

NordLocker protects your files with a wide range of encryption technologies, including Argon2, AES256 and ECC. Fortunately, you don't need to know anything about them, and the interface is very easy to use: just drag and drop files into it or choose to Add Files.

You can also import folders from elsewhere on your computer directly into your encrypted locker. This makes encrypting both individual and multiple files very easy. There's also a sharing option, although the people you share with also need to install the software.

NordLocker provides support for cloud-storage encryption but, like Cryptomator, there's no true integration via the desktop app.

How it can be improved:

Incredibly, for the company behind the cross-platform NordVPN, there's no smartphone app available. That needs to change. The 2GB limit for free accounts is enough for documents, but not for media files, so you may need to upgrade to secure larger files. Lastly, we couldn't find a way to restore folders to their original unencrypted state.

OUR VERDICT

NordLocker is a solid and simple file encryption tool, but it needs more features to compete with rivals. The absence of a mobile app is certainly a major oversight.

AES Crypt | www.aescrypt.com | ★★★★☆

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



What we liked:



AES Crypt avoids cumbersome software and clunky apps by discreetly tucking away its interface and AES 256-bit encryption process in the right-click menu.

Choose your files, right-click, then select AES Crypt. After entering (and confirming) a password, the tool automatically duplicates an encrypted copy in the proprietary AES file format. To open it, just re-enter your password. It's as simple as that.

Bear in mind, though, that you can't create a backup key, so it's vital not to forget your password or you risk locking your files forever. Removing encryption is just as straightforward: right-click a protected file and choose AES Decrypt.

This is as smart, simple and user-friendly as software gets, as long as you're happy to do without multiple lockers and vaults. AES Crypt's simplicity also makes it particularly easy for sharing encrypted files.

How it can be improved:

The absence of an interface could put off users who want more control, and it's a shame AES Crypt can't encrypt folders as well as files. Passwords aren't restricted or checked for security, so if you want to secure a file with '1' or 'password', you can. In that regard, protection is very much up to the user.

OUR VERDICT

Abandoning the graphical interface is both smart and bold: this is the easiest and clearest file encryption tool around. However, the paucity of features may not suit everyone.

BEST OF THE REST

VeraCrypt

www.veracrypt.fr

Unlike other tools in this roundup, the excellent VeraCrypt is a full disk-encryption tool that lets you secure everything on your hard drive, from the operating system down. There's also the option to partition a section of the drive and protect only the files contained within.

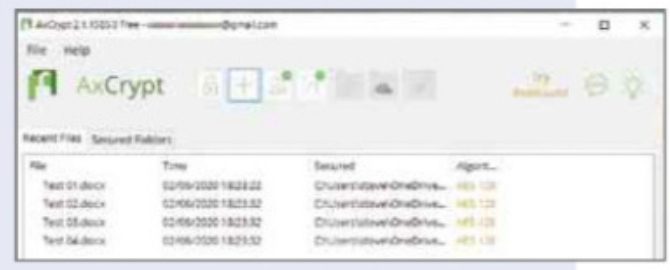


If you're looking for large-scale encryption software, this is the best game in town. VeraCrypt offers 10 encryption options, so you're not only limited AES 256-bit.

AxCrypt

www.axcrypt.net

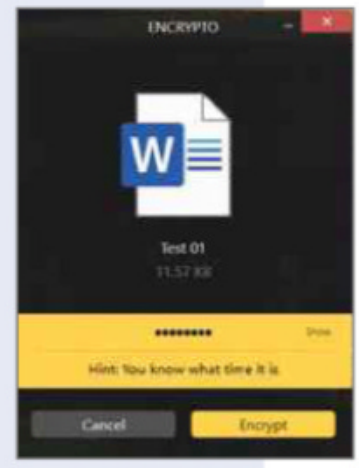
AxCrypt takes a similar approach to file encryption as AES Crypt – simply right-click a file to encrypt it. You also have the option of using a basic interface to view, open or add files (click the AxCrypt icon in the system tray's notification area and select Advanced to open it). The downside is that the free plan doesn't include the strong AES 256-bit encryption found elsewhere.



Encrypto

macpaw.com/encrypto

Sounding like a comic book villain, Encrypto is a tool predominantly designed to encrypt files for sharing. Available for both Windows and macOS, this free, lightweight app asks you to upload a file or folder, then creates a password-protected copy. It uses AES 256-bit, as you'd expect.



The interface is almost non-existent, so it won't appeal to everyone. But it's great for quickly securing files you can email to others.

SECRETS OF THE Internet Archive



In the second part of our A-to-Z guide, we reveal even more great free stuff you can browse and download from the sprawling but brilliant online resource

OFFLINE ARCHIVE

Most people in the UK have easy access to the internet these days, but that's not true for everyone in the world. To cater for these citizens, the Internet Archive has built an offline server that can be installed on devices such as the Raspberry Pi, so you can enjoy its content without an active connection. Find out more at bit.ly/offline504.

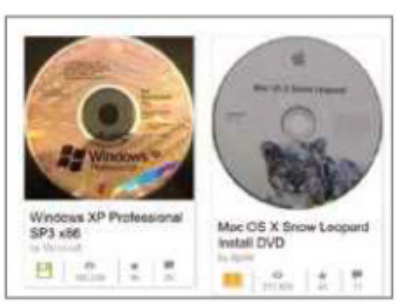
OLD TIME RADIO

Old Time Radio (bit.ly/oldtime423) is a collection of radio shows from the past, including classic American series such as *Dragnet* from the 1950s, *Gunsmoke* from 1949-1961, *The Adventures of Superman* from 1938-1951, *An Evening with Groucho (Marx)*, and many more.



OPERATING SYSTEMS

There are sections in the archive for Windows, Mac and Linux, but if you're after disc versions to install on an old computer, then explore the Operating System CD-Roms category (bit.ly/oscd504). This includes ISO versions of old OS such as Windows XP Professional, MacOS X Snow Leopard and Windows 7 Ultimate.



PODCASTS

You'll find podcasts across the Internet Archive, but the main Podcasts section (bit.ly/podcasts504) itself includes nearly 4.5 million recordings created from user contributions to the Open Source Audio collection (bit.ly/osaudio504). There's so much podcast content that it helps if you know what you're looking for (the search engine is a godsend here).



PRELINGER ARCHIVES

Founded by Rick Prelinger in New York in 1983, the Prelinger Archives (bit.ly/prelinger504) is a fascinating collection of thousands of advertising, educational, industrial and amateur ephemeral films stretching back to 1903.

PROJECT GUTENBERG

Named after Johannes Gutenberg, a German inventor who introduced the printing press to Europe in the 15th Century, this collection of text and audiobooks includes works from the likes of Lewis Carroll, Sir Arthur Conan Doyle, the Brothers Grimm, Mary Shelley, Mark Twain and Oscar Wilde. Browse the massive free collection at bit.ly/guten504.



QUOTES

If you're looking for inspirational or motivational quotes, or just everyday quotes for different purposes, you'll find plenty to use in the archive's Forbes Quotes section (bit.ly/quotes504).

RADIO

The Radio Programs collection (bit.ly/radioprograms504) has more than 300,000 radio shows you can listen to, including those from the aforementioned Old Time Radio collection. There are other collections from specific stations, including UK broadcasts such as BBC Radio 5 Live (bit.ly/5live504).



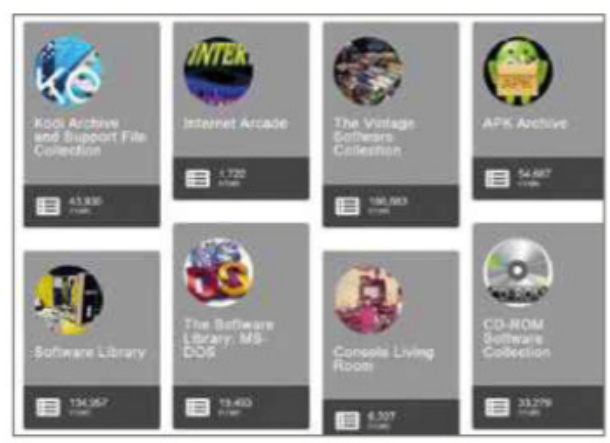
SILENT MOVIES

The Silent Films section (bit.ly/silent504) offers an impressive collection of short and feature-length silent movies uploaded by users. A good place to start is the Silent Hall of Fame (bit.ly/silentfame504) which offers some of the very best examples.



SOFTWARE

The Internet Archive is home to massive collections of software for almost every platform you care to name. The Internet Archive Software Collection (bit.ly/software504) is the largest vintage and historical software library in the world, with more than half a million titles available to play, explore and download.



TED TALKS

You'll learn a lot about technology, entertainment and design from



watching and listening to TED Talks, and you'll find nearly three thousand of them in the TED Talks collection (bit.ly/ted504), dating back to 2004.

TUCOWS

One of the earliest software download sites, Tucows is now better known for its domain-portfolio management and mobile-phone services. The Internet Archive hosts the Tucows Software Library (bit.ly/tucows504), which is described as the "largest freeware/shareware library on the Internet".

TV

There are loads of different TV-related collections to explore on the Internet Archive, including the Television Archive (bit.ly/tvarc504) of news programmes, Classic TV (bit.ly/classictv423), Television Tunes (bit.ly/tvtunes504) and TV ads (bit.ly/tvads504). As you might expect, the emphasis is on American content, but you'll find some classic British shows, too.



UFO FILES

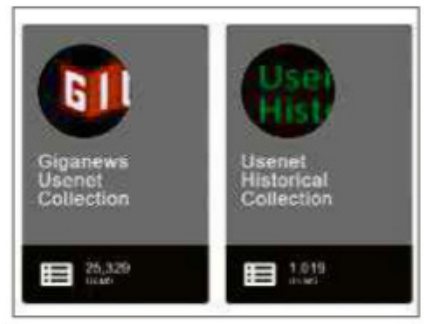
We are not alone, if the evidence on the Internet Archive is anything to go by. You can view a collection of declassified UFO files from all countries in the UFO Files (bit.ly/ufo504); explore Project Blue Book, a study into UFOs conducted by the United States Air Force in 1952 (bit.ly/bluebook504); and browse UFO Newsletters from the Archives for the Unexplained (bit.ly/ufonews504).



UNIVERSAL LIBRARY

Sometimes called the Million Books Project, the Universal Library (bit.ly/ulibrary504) contains over 100,000 scanned books that you can read in your browser. It's the sort of online library where you'll find *Brewer's Dictionary of Phrase & Fable* on the same page as *Man-Eaters of Kumaon* and *Elements of X-Ray Diffraction*.

USENET



Usenet dates back to 1980 and was a popular way of posting messages before the worldwide web took off. The Usenet Archive (bit.ly/usenet504) has thousands of items to browse, with most available in the Giganews collection.

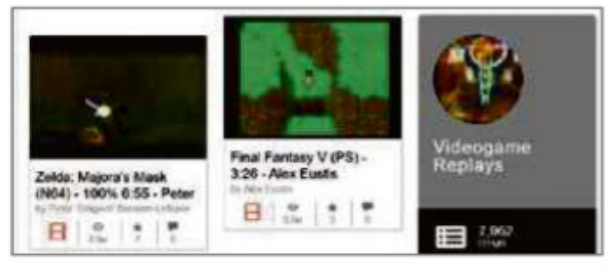
VHS

The VHS Vault (bit.ly/vhs504) is home to a wide collection of trailers, shows and recordings, all captured and stored on VHS. As you'd expect, it's a very mixed bag and the quality is far from great, but there are some absolute classics on offer, such as the very cheesy Microsoft Windows 95 Video Guide (bit.ly/win95-504) starring *Friends'* Jennifer Aniston and Matthew Perry.



VIDEO-GAME VIDEOS

There are lots of video games available to play on the Internet Archive, but if you'd prefer to just watch someone else take control, there's the Videogame Videos collection (bit.ly/gamevid504). This includes speed runs, replays, previews and footage.



WAYBACK MACHINE

For many people, the Wayback Machine *is* the Internet Archive. This amazing service at archive.org/web provides free access to hundreds of billions of web pages, captured over time. If you want to see what a certain site looked like on a particular date, or view content that's since been removed from the web, then this is the place to go. Just enter a web address and browse the saved snapshots.



WORLD WAR II

The WWII Archive (bit.ly/wwii504) is a collection of public-domain Second World War books, radio broadcasts, films and other ephemera.

XBOX

Microsoft's games console is well represented in the archive. You can explore the XBox CD-ROM Collection (bit.ly/xbox504), which has thousands of downloadable games, and also browse hundreds of Xbox manuals (bit.ly/xboxman504).

YAHOO

Yahoo doesn't get much love or attention these days but you can find its many pages in the Wayback Machine, and in collections such as Yahoo Groups (bit.ly/yahoog504). Yahoo also sponsored a set of public-domain books, which you can view at bit.ly/yahoobooks504.

ZX SPECTRUM

Millions of British people of a certain age have very fond memories of Sir Clive Sinclair's affordable 8-bit home computer from the 1980s. The Software Library: ZX Spectrum (bit.ly/zxspec504) is where you'll find thousands of games, demos and applications that you can play in your browser. And yes, Manic Miner, Jet Set Willy, Jetpac and Knight Lore are all there.



PART 1

If you missed part 1 of our Internet Archive guide, you can order Issue 503 of *Web User* from Mags Direct at bit.ly/wumags or buy a digital edition from Zinio at bit.ly/wuzinio.



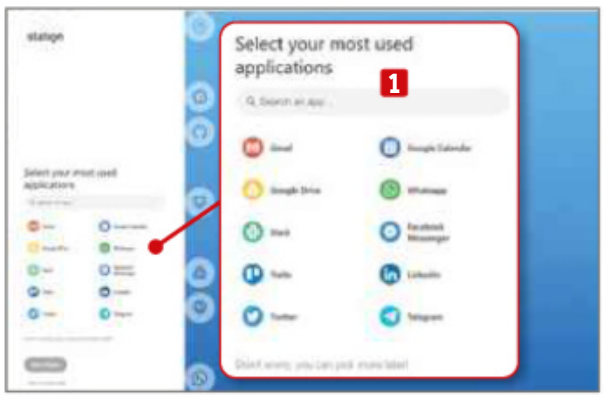
Manage all online apps in one place

Station is a handy free desktop dock that brings together all the online apps you use in one interface. Here's what you need to know

Station: getstation.com | 20 mins | Any browser

If your desktop is crowded with open windows – browser tabs for services you regularly check (Gmail, Facebook, Twitter), along with apps for messages (WhatsApp, Telegram) and work (Slack, Google Drive) – you need Station. This free management tool provides a home for all your web apps, organised into neat categories, and you can even add unsupported services of your choosing.

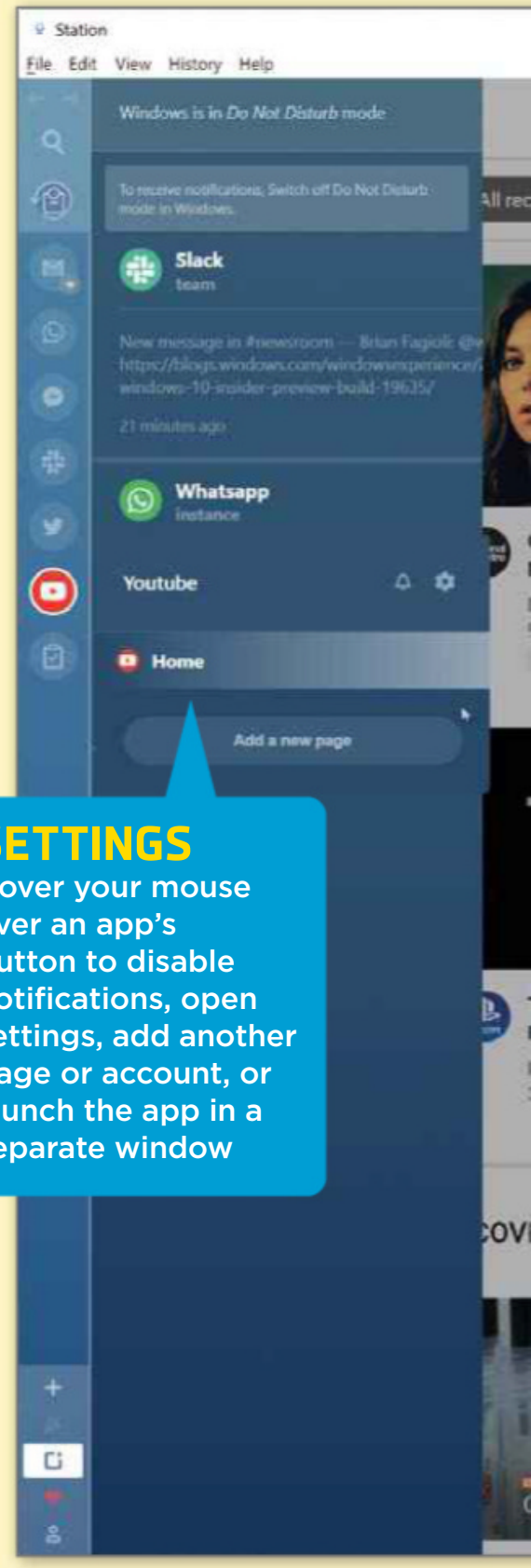
If you open multiple pages in an app, Station automatically groups them together for easy access. You can also choose which apps to receive notifications for, if you want them, and manage multiple accounts for services such as Google, where you might have more than one Gmail address.



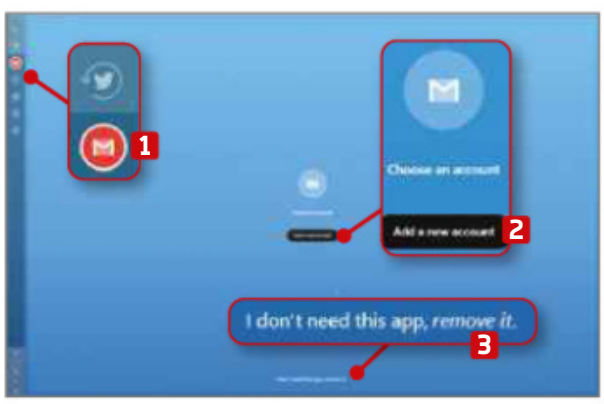
1 Create a free account and verify your email address, or sign in with Google. Once logged in, you're encouraged to invite friends to use the service, but skip this for now. You're presented with a list of the most popular services available to add. 1



2 Click the plus sign next to an app to add it. The selected app appears in the sidebar 1 along with any others you've picked. You can add more later, including services not shown here. Click the Start Station button 2 to move to the next stage and view some tips.



SETTINGS
Hover your mouse over an app's button to disable notifications, open settings, add another page or account, or launch the app in a separate window



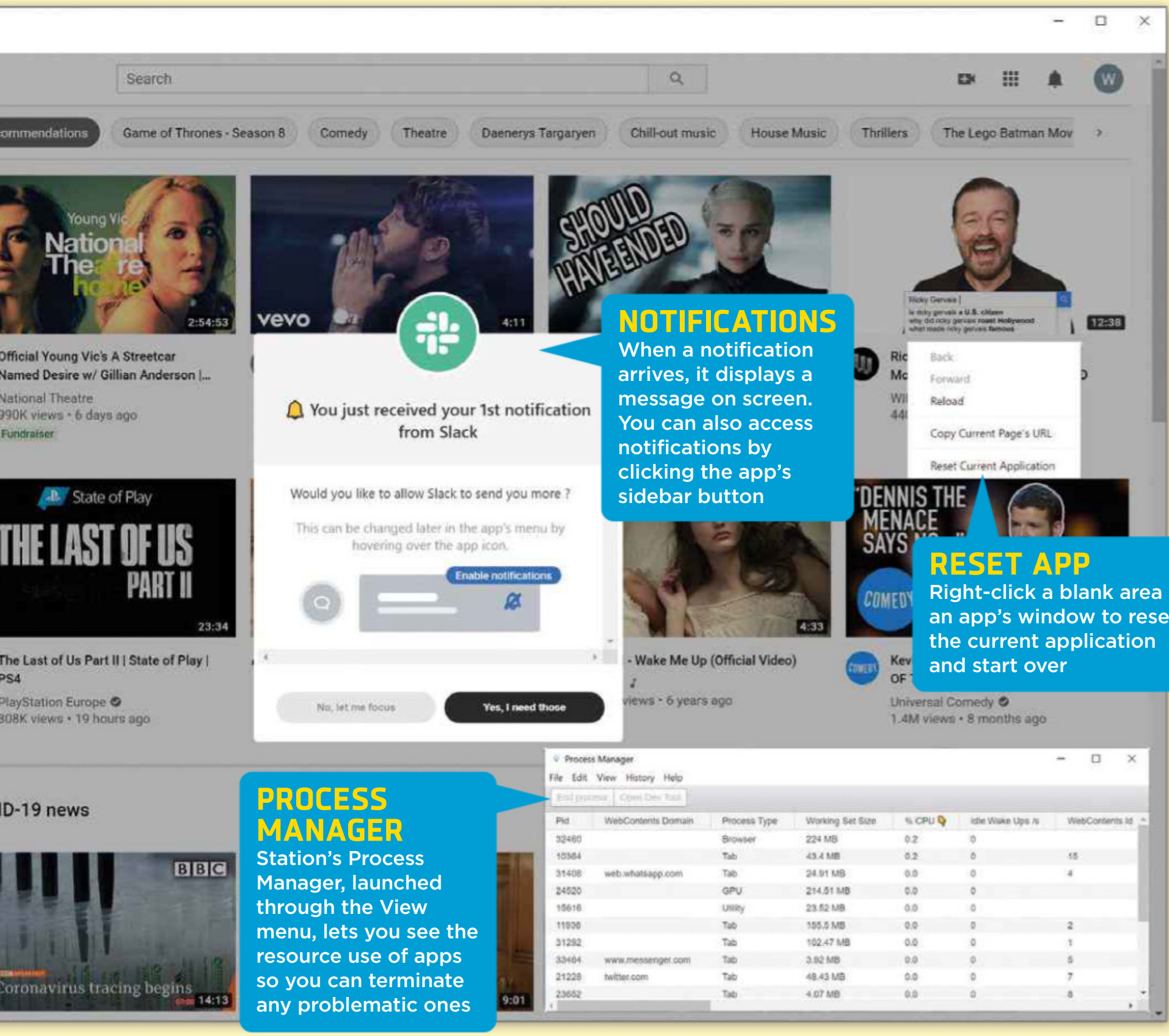
3 Choose an account you want to sign into from the left-hand sidebar. 1 The login method and screen will vary depending on the service. For Gmail, click the black 'Add a new account' button and sign into Google via your browser. 2 If you don't need an app, remove it by clicking the link. 3

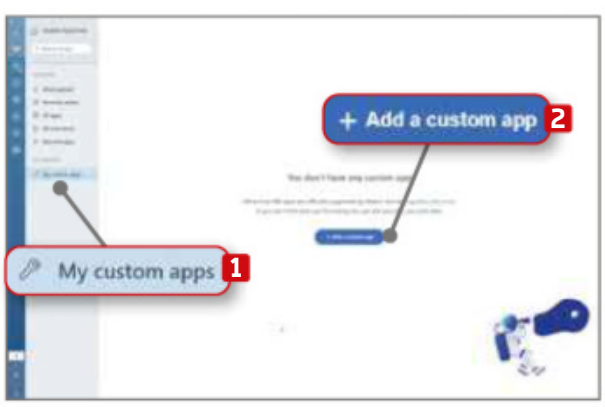


4 Repeat the process, logging into all the apps you want to connect. Once done, you can switch between services by clicking their icons. You can also quickly switch to any of the recently accessed apps. 1 To add more services, click the plus sign 2 to open Station's app store. 3



5 There are a lot more apps on offer, ranging from the 'Cream of the crop' 1 to 'Runner-ups', 2 with more listed below under 'Noteworthy'. You can also search for an app 3 or browse 'Most popular' or 'Recently added'. 4 'Boosted apps' 5 have deeper integration with Station.

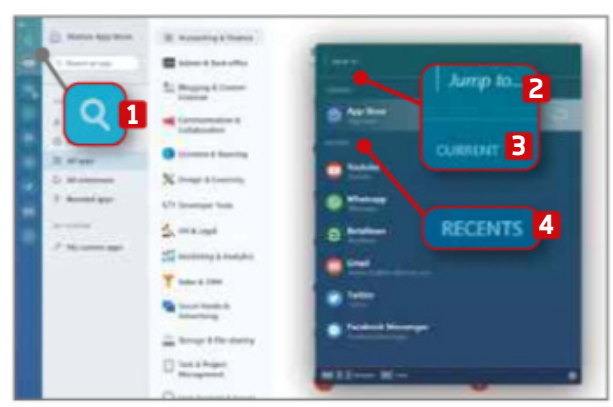




6 Adding new apps from Station's app store is the same as in Step 2. Click an app's plus sign and it appears in the sidebar to select and log into. You can create your own custom apps for sites that aren't currently supported. Click 'My custom apps', 1 then click 'Add a custom app'. 2



7 Custom apps can be Private or you can make them accessible to other Station users. Choose your preferred option, then give your custom app a name. Choose an icon colour 1 and logo, 2 then enter the login URL for it. 3 You can now add it to your store and log in.



8 Click the magnifying-glass icon 1 to open the Quick Switch window. From here, you can jump to any app 2 (the list of choices updates as you type), switch to the current window 3 or go to any of the recently accessed services in the list below. 4

Share your exercise routes without revealing private data



Various online mapping tools | 20 mins | A fitness tracker or GPS device

In Issue 503's cover feature, 'Stop Google & Amazon Spying on You' (bit.ly/webuser503), we pointed out that sharing your exercise routes straight from your fitness apps could reveal more information than you want. This is a pity because, for many of us, sharing new places and routes for our daily exercise has been one of the unexpected joys of the lockdown.

In this workshop we'll show you how to remove personal health information, such as heart rate data, from your phone or fitness tracker's GPS recordings, so you can simply share a route without letting everyone know how fit (or otherwise) you are. However, it's worth noting that inquisitive types may still be able to find out when you did the exercise, how fast you were moving and your start and finish point.



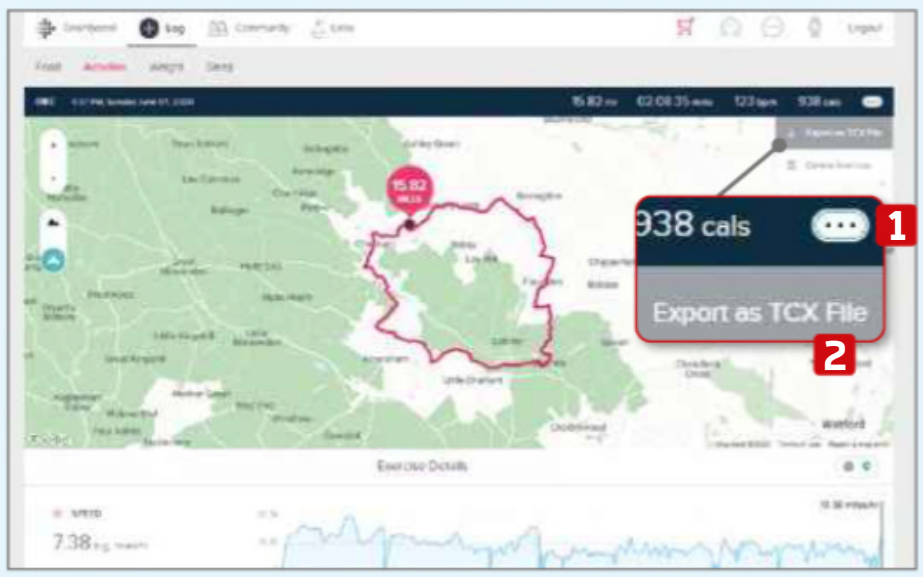
EXPERT TIP

Andy Shaw says

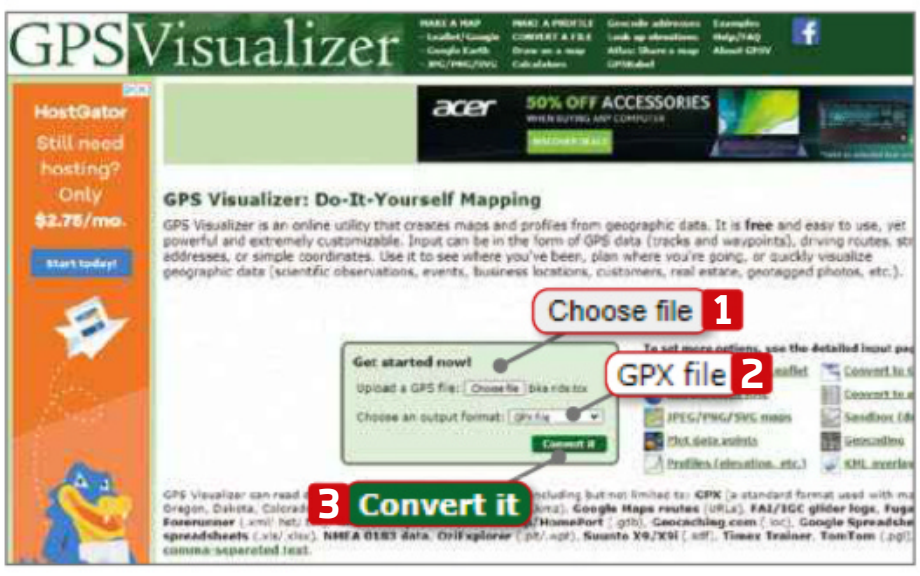
If you forgot to switch off your GPS before you jumped in the car to go home, you'll see the extra leg of your journey on your map. Before you upload it, open the GPX file in a text editor, such as Notepad, so you can see each data point. These are marked with the time, so delete each `<trkpt>` tag for the unwanted sections of the journey. If you don't know the exact times, use a bit of trial and error.



1 First you need to extract the GPS data from your phone or fitness tracker. The method varies from device to device – we used a Fitbit Charge 4. The easiest way to extract its GPS data is to log into the website (www.fitbit.com), click Logs, then Activities 1 and find the exercise event you want to share. Click View Details. 2



2 This opens a map that includes information about your exercise. Click the menu button 1 and choose 'Export as TCX File.' 2 From the dialogue box, select a convenient location to save your file. If your device doesn't offer this kind of web or smartphone dashboard, you may have to download the data directly.



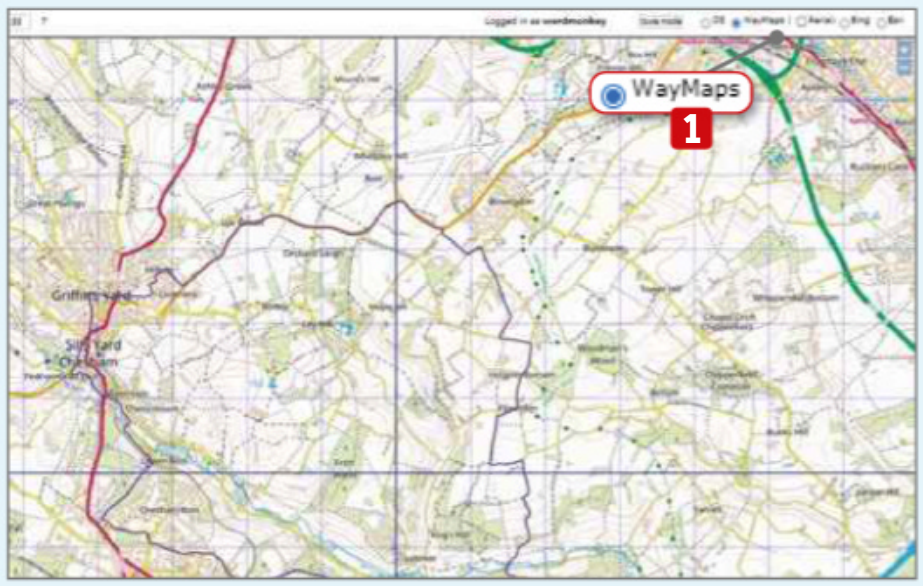
3 If you have the option to save your data as a GPX file, choose that. If not, you'll need to convert it. We used the free tool at www.gpsvisualizer.com for this. Click 'Choose file' 1 and select the TCX file. Select 'GPX file' from the drop-down menu, 2 then click the 'Convert it' button. 3



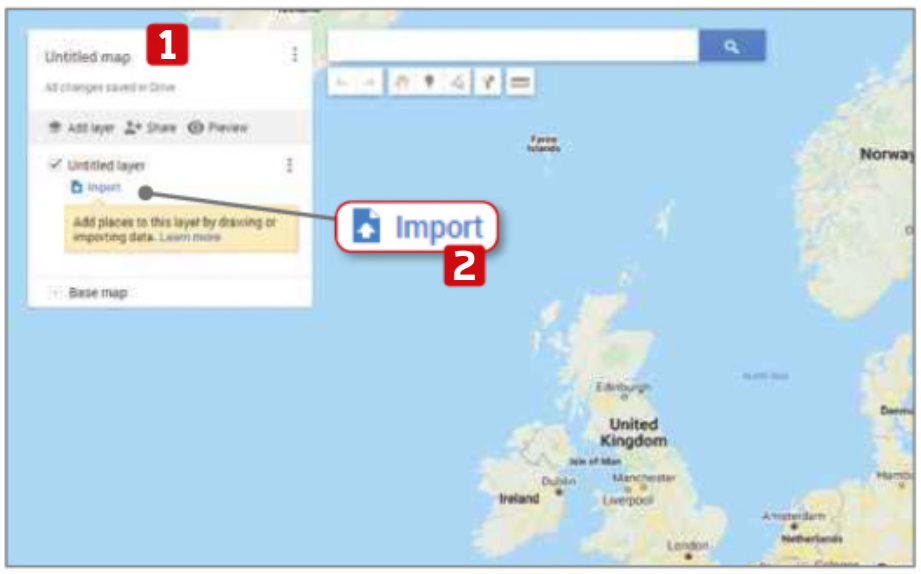
4 If you want to superimpose your route on an Ordnance Survey map, perhaps to share with someone as a screenshot, load it into WalkLakes' maps (www.walklakes.co.uk/maps). Click the menu button 1 and select 'Load GPX file'. 2 Click 'Choose file', then Load.



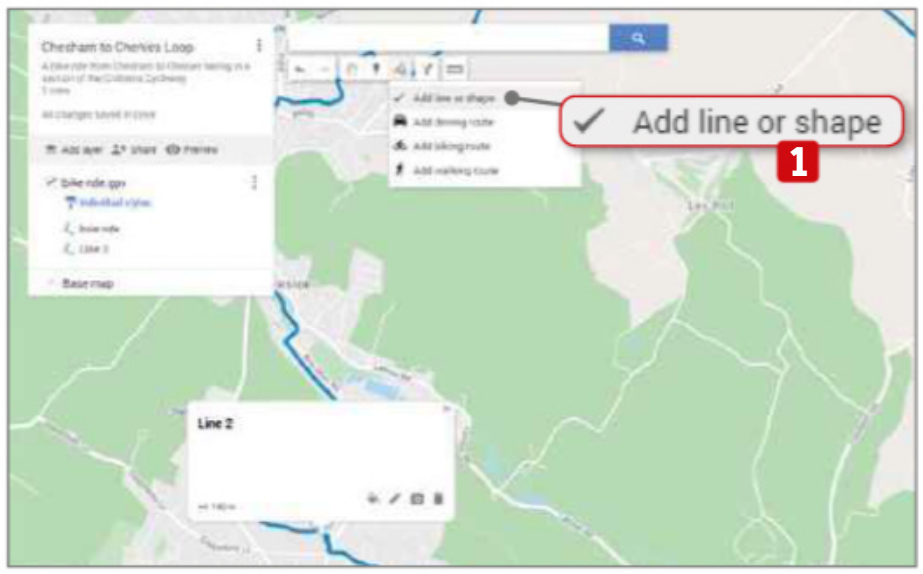
5 Once WalkLakes has loaded your route, it displays all the information about it. 1 Click 'View profile' 2 for a side-on view, which shows you how many hills you ascended and descended. If you want to share this with others, either take a screen shot or send them the GPX file so they can upload it themselves.



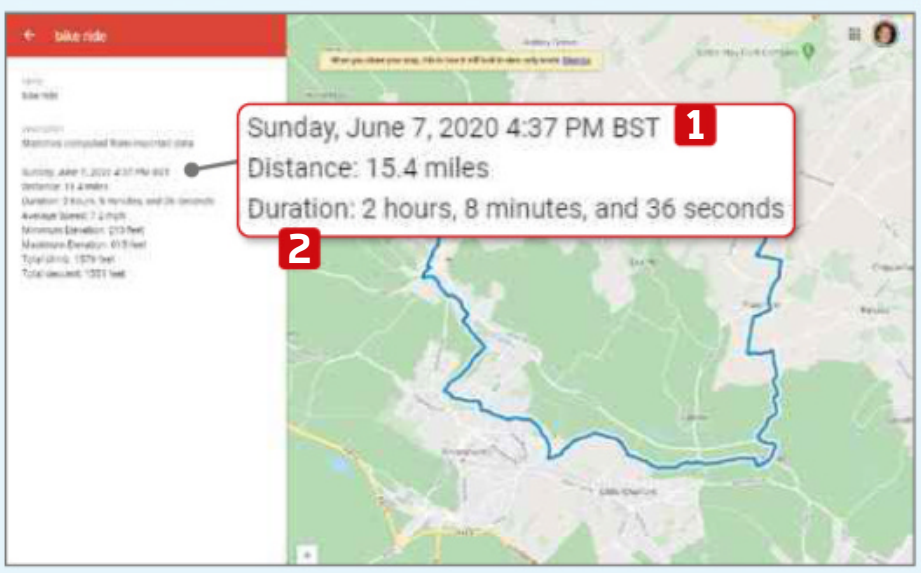
6 While you're here, it's worth checking out WalkLakes' WayMaps option. 1 This merges data from OpenMaps and a few other sources and styles it in familiar Ordnance Survey-style colours. It's a great alternative to the OS maps.



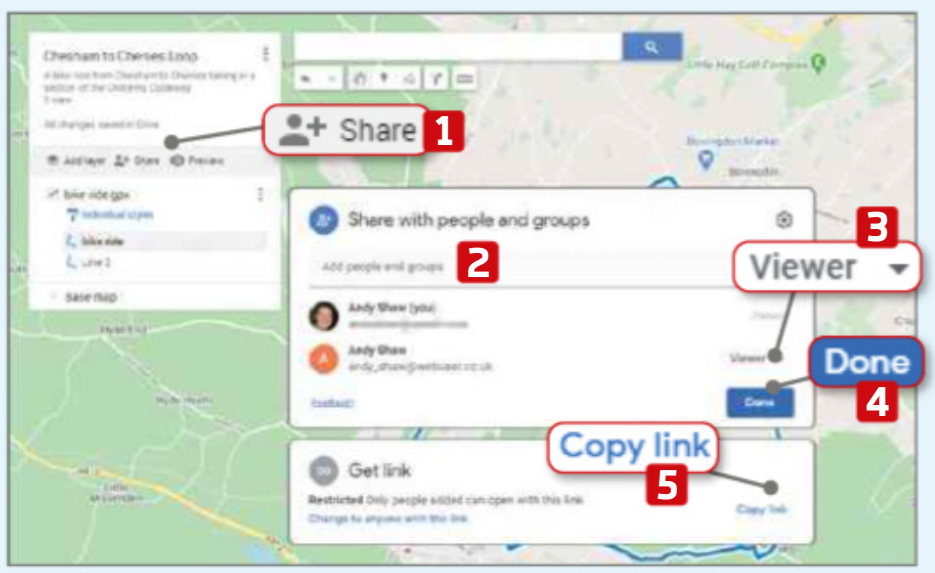
7 If you'd like your map to be a little more interactive, post it on Google Maps. From the menu, select Your Places, then Maps. Click the Maps tab, then Create Map. Click Untitled map, 1 give your map a name and description, then click the Import link 2 and select your GPX file.



8 If the map gives away more information that you'd like, you can remove it. To erase your Start and Finish information, for example, click the symbol in the list and choose the bin icon ('Delete feature'). You can also add information such as a line 1 to close up any gaps between your start and finish point.



9 Click Preview to see how your map will appear to people you share it with. Recipients will be able to see when you exercised 1 and how long you took to complete the route, 2 but any information about your heart rate and other personal data has been removed.



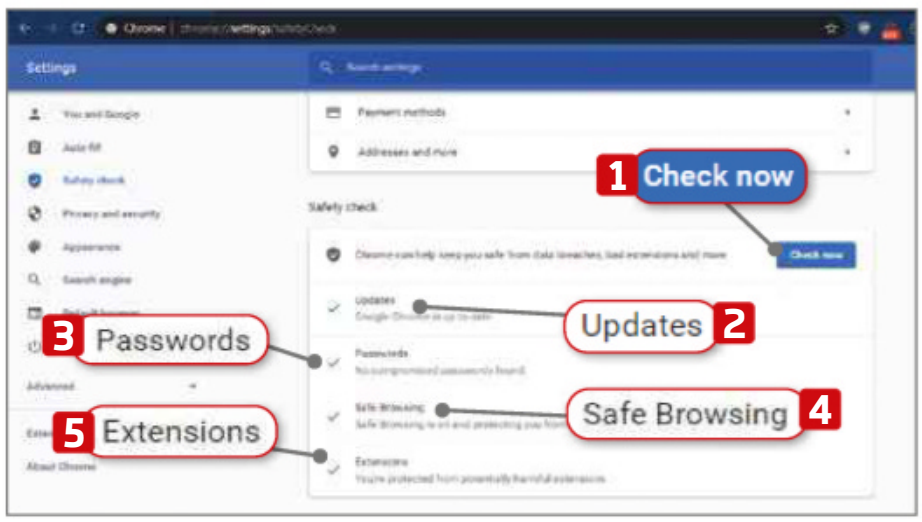
10 To share the map with others, click the Share option. 1 You can add email addresses 2 if you want to send people an email with a link, and also set the recipients' access level. 3 Click Done. 4 Alternatively, copy the link and share it manually. 5

Boost Chrome's security and privacy

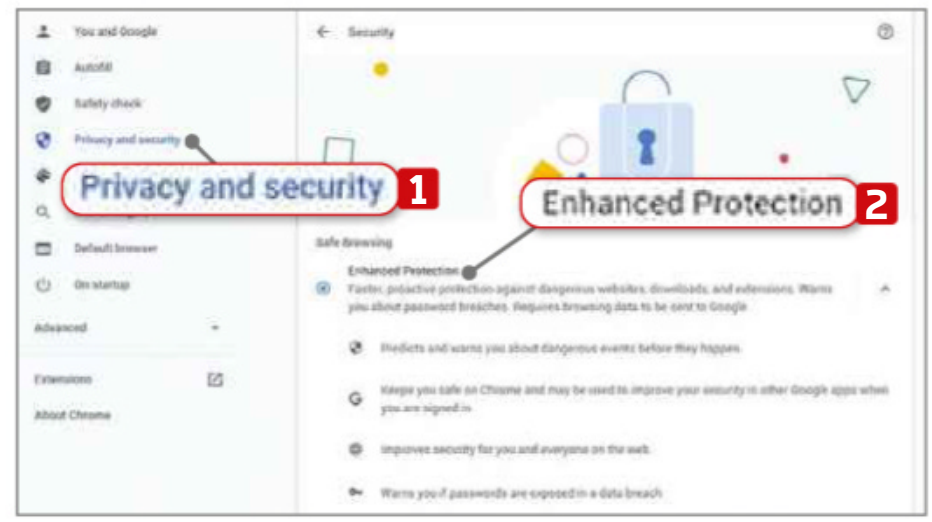


In this workshop we're exploring Chrome's redesigned security and privacy options, which we briefly looked at in last Issue's Best New Browser tools. The redesign is still being rolled out, so if you don't have it yet, visit chrome://flags/#privacy-settings-redesign and change it to Enabled.

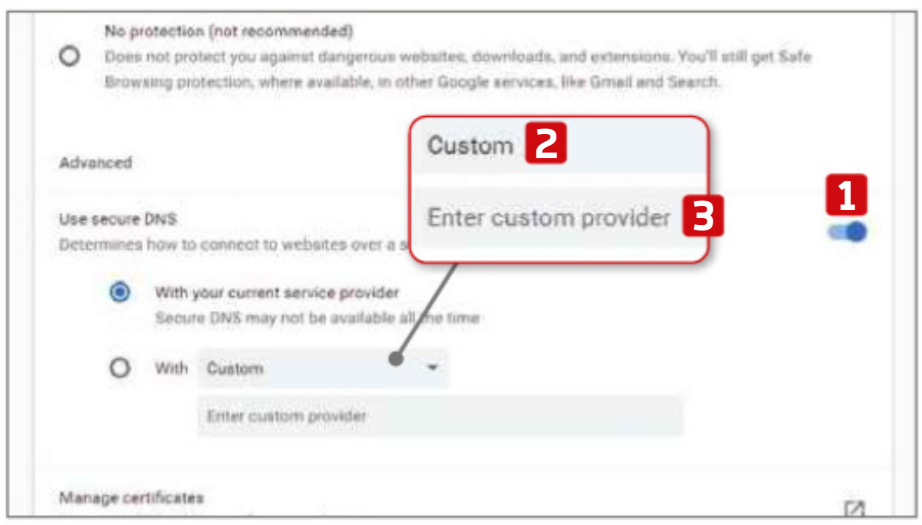
Chrome: www.google.co.uk/chrome | 10 mins | 7, 8, 10



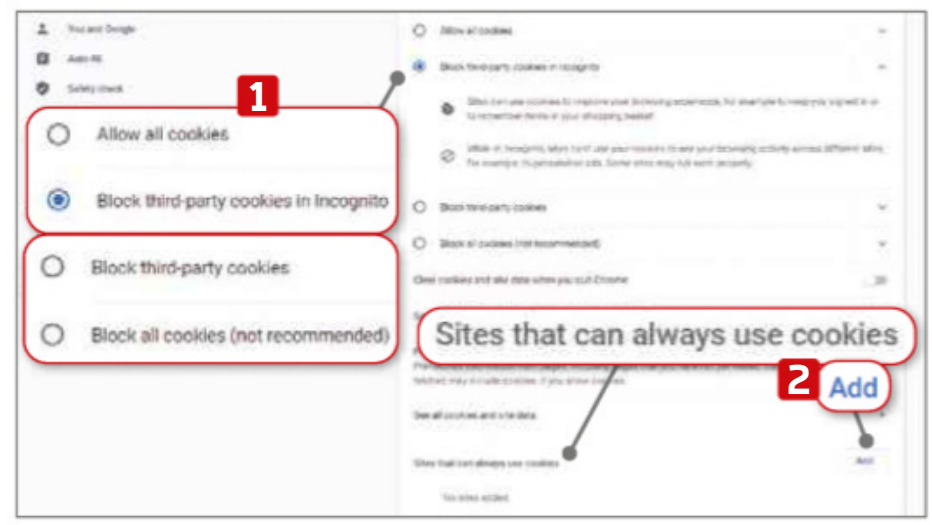
1 Open chrome://settings and scroll down to 'Safety check'. Click 'Check now' 1 to get reports on necessary browser updates, 2 check whether your passwords have been compromised, 3 find out if Google's Safe Browsing is switched on 4 and ensure that your extensions are secure. 5



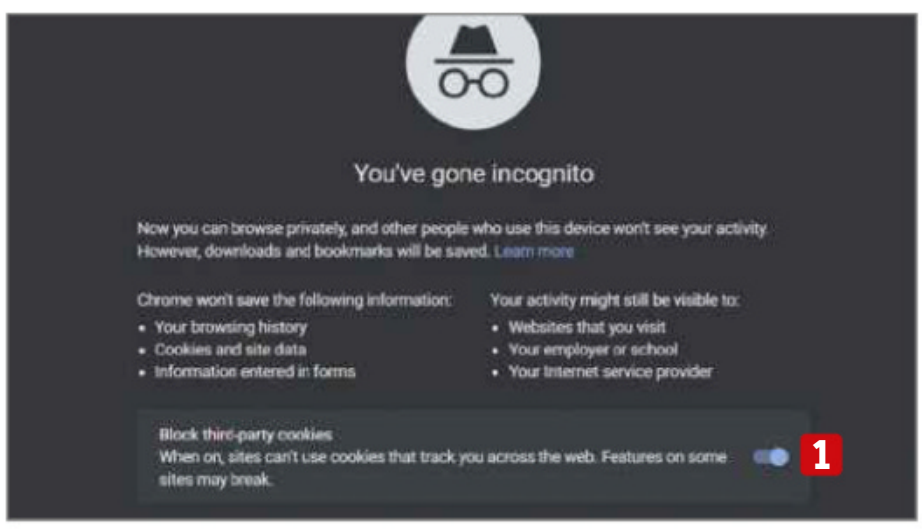
2 Chrome has introduced an enhanced Safe Browsing tool. Click 'Privacy and security', 1 then Security. Above Standard Protection and 'No protection' is the new Enhanced Protection. 2 This may be missing in current Chrome versions, so keep your eyes peeled.



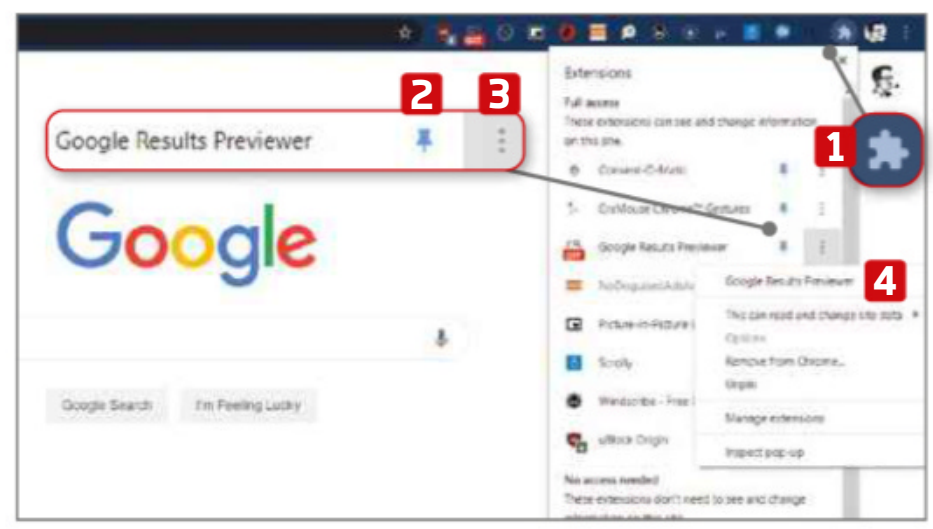
3 Secure DNS is also found here – though you may need to turn it on by going to chrome://flags/#dns-over-https. With this setting turned on, 1 hackers won't be able to see the sites you visit. You can also choose a different DNS server using the drop-down menu 2 and text field. 3



4 Head to 'Privacy and security', 'Cookies and other site data' to see updated cookie-management settings. It's now easy to control when cookies are active by clicking one of the four radio buttons. 1 You can determine which sites use (or are refused) cookies, 2 regardless of default settings.



5 'Block third-party cookies in Incognito' is a new option. Switch this on and open an Incognito window. You can now block all third-party cookies without diving into the settings. 1 Again, you may need to turn this option on via chrome://flags/#improved-cookie-controls.



6 To tackle browser tools cluttering your address bar, click the jigsaw-piece icon 1 to view and manage extensions. Click the Pin 2 to unpin (or re-pin) an add-on, or open its three-dot menu 3 to access management options. 4 If required, enable chrome://flags/#extensions-toolbar-menu.

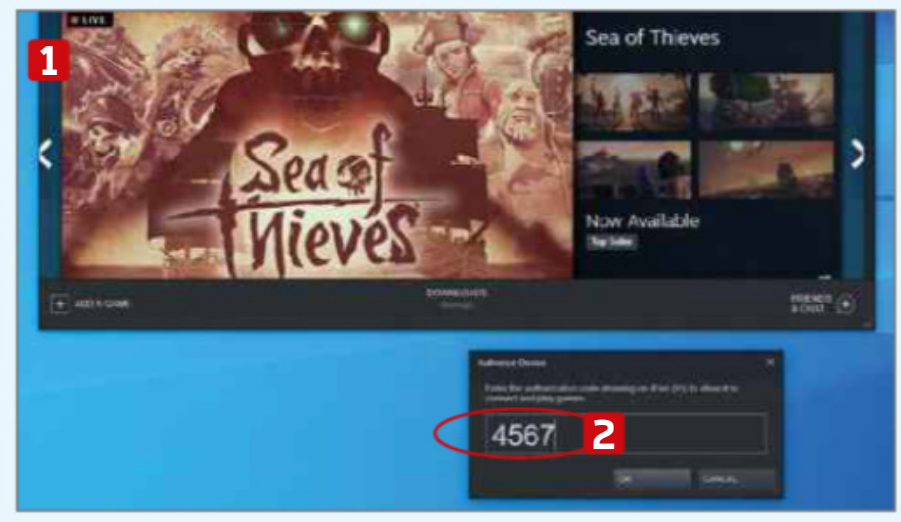
Play PC games on your TV or phone



Your PC may be brimming with great games, but what if you want to play them on a larger or more portable screen? If your games are on Steam and you have the right hardware, you can download Steam Link and play them live on a different device, whether its your TV (via a Raspberry Pi or Android set-top box), a tablet or your smartphone.

Steam Link: bit.ly/steam504 | 10 mins | Android, iOS/iPadOS, Raspberry Pi





1 If you want to use a Bluetooth controller from an Xbox, PS4 or other console, connect it to your device first. Load the Steam Link app and give it access to Bluetooth if necessary, then tap 'Get started'. If you have a controller, select it. 1 If not, choose 'Use touch control'. 2

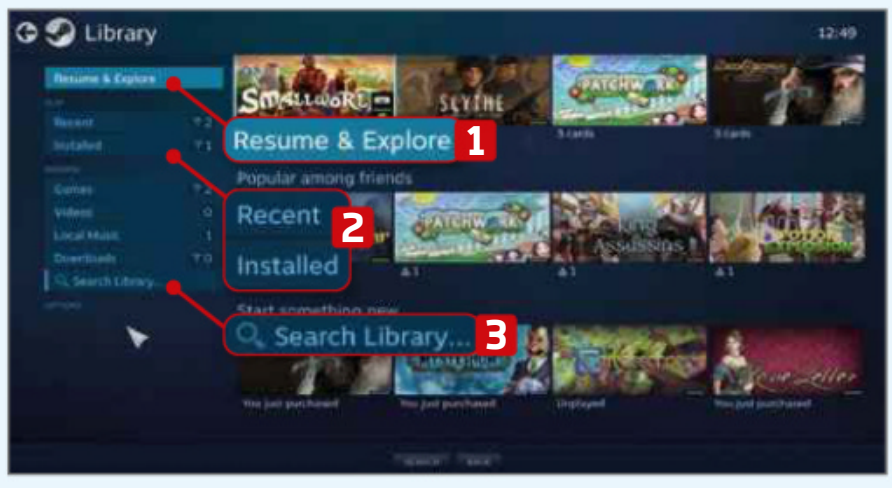
2 Make sure your device and the PC that contains your games are connected to the same network, then launch Steam on the PC. 1 On the app, choose the PC from the list. The remote device displays a code that you must type into the PC to give it access. 2





3 Steam tests the speed of your network. Once everything is in place, you can click Start Playing. 1 This launches a different version of Steam on the PC, which you can control from the remote device. Unfortunately, you can't use the PC for other tasks at the same time.

4 The menu is easy to navigate using a game controller, or you can tap a touchscreen to engage touch control. This works more like a trackpad than a normal touch interface: move your finger to control the cursor 1 and tap to choose the button or option below it. Choose Library. 2





5 All the games you have installed on your host PC should be available on your remote device. The Resume & Explore option 1 shows a list of all your games, or you can click Recent or Installed 2 to refine your hunt. If you have a lot of games, try the Search Library option. 3

6 There are two settings screens, one for the app and another for Steam. Before you start playing, the cog icon provides access to the app's settings. Once you're connected, click the arrow 1 to return to the main screen and click the cog icon to access Steam's settings. 2

Weekend Project

Get to grips with some serious tech tinkering to boost your computer and other devices



How to...

Turn an old laptop into a Chromebook

Wayne Williams shows you how to breathe new life into an old laptop by installing a version of Google's lightweight Chrome OS

If you took the coronavirus lockdown as an opportunity to replace your outdated laptop in favour of a new model, you may now be wondering what to do with your old one. Transforming it into a Chromebook running Google's cloud-based operating system, Chrome OS, not only gives your hardware a new lease of life but, if you were previously running an unsupported operating system such as Windows 7, it makes it safer, too.

While the main focus of this Weekend Project is on turning an old Windows laptop into a Chromebook, we also explain how to rejuvenate old Chromebooks that Google is no longer supporting.



What you need

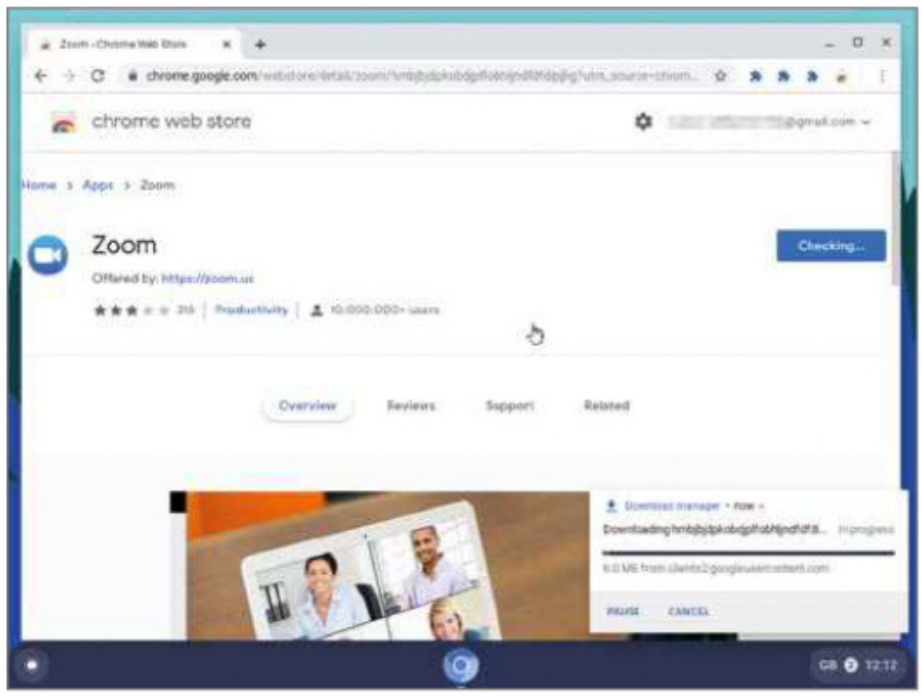
There are a couple of ways to install Chrome OS on a spare laptop, but the easiest method is to use CloudReady: Home Edition (www.neverware.com). This is essentially a build of Chromium OS (the open-source development version of Chrome OS) that's designed to run on home PCs.

As well as a copy of CloudReady, you also need a USB memory stick to store the operating system files and boot into. This should be an 8GB or 16GB model – larger capacities aren't recommended. There also appears to be a problem with some Sandisk drives, so avoid those, too.

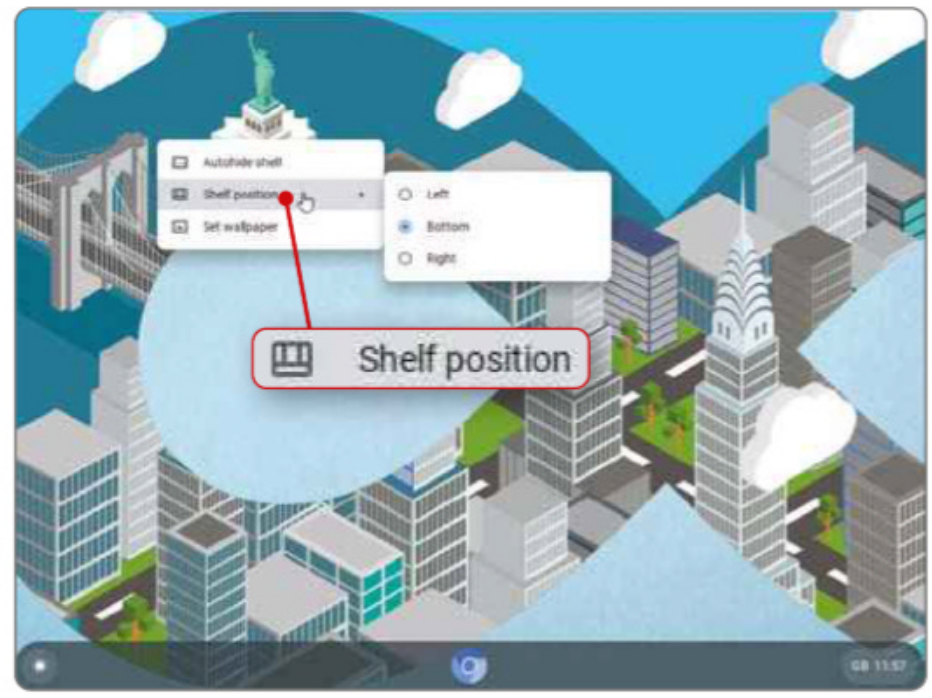
Most PCs are set to boot from USB drives automatically but, if yours isn't, watch the screen carefully when you first turn on your PC and press the key it tells you to use (usually F12 or Delete) to enter the settings. Once you're in the BIOS or UEFI screen, look for a boot order menu and set it up so the USB flash drive is listed first.

The main benefit of Chrome OS over Windows is that it's very lightweight and mostly runs web-based apps rather than bloated desktop programs, so it's ideal for older, low-powered PCs.

You used to need an internet connection to run Chrome OS but that's no longer strictly true. Chrome OS can



Finding and installing new apps is straightforward, and there's a good selection on offer



Right-clicking the desktop opens a context menu that lets you customise the look of the operating system

run 'packaged apps' – self-contained apps that can be used offline. Sure, Chromebooks perform better with an internet connection but that's true of all laptops.

Hardware requirements

Unless your laptop is very old, it will probably run CloudReady just fine, but check the hardware requirements before proceeding:

MEMORY: 2GB or greater
STORAGE SPACE: 16GB or more
BIOS: Full administrative access, so you can boot from the CloudReady USB installer
PROCESSOR AND GRAPHICS: Components made prior to 2007 may result in a poor experience. Also, the following graphics hardware does not meet performance standards for CloudReady: Intel GMA 500, 600, 3600, 3650

In the past, if you had a reasonably capable laptop, you could dual boot CloudReady alongside Windows. However, this option was removed a couple of years ago because Windows 10 updates kept breaking it and introducing a degree of instability, so CloudReady now has to be the sole operating system on a device.

We guide you through the installation process in our Mini Workshop, below, then show you how to get started in our Mini Workshop on page 61.

How to install new apps

Installing web apps on your Chromebook is similar to installing software in the Chrome browser on a Windows PC. Visit the Chrome Web Store (bit.ly/webapps504) and browse the selection on offer, then click the one you want. A box appears asking if you want to install it, and you're then shown the permissions it requires. If you're happy to comply, click the 'Add app' button. You can cancel the installation if you change your mind. The app is downloaded and installed. When it finishes, you can run it from the Launcher.

Customise your CloudReady Chromebook

Chrome OS, like many of Google's products, has a clean and uncluttered design. There isn't much to the interface, so the options for customising it are limited. Right-click the desktop and, in the context menu that appears, you can change the Shelf position (storing it on the left-hand side, right-hand side or bottom) and have it automatically hide

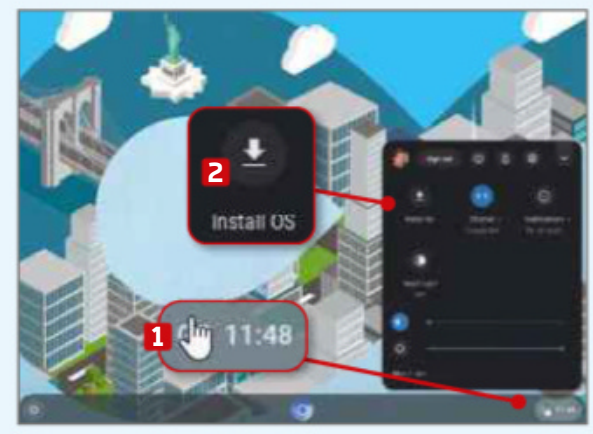
MINI WORKSHOP | Install CloudReady from a USB stick



1 Go to bit.ly/cready504 and download and run the USB Maker for Windows 7 upwards. Insert a blank USB memory stick into a spare port on your PC (the software formats the stick if necessary) and select the drive in the software when prompted. The Installer image begins downloading 1 and the compressed file is extracted.



2 It shouldn't take long for CloudReady to start creating the USB installer but allow up to 20 minutes for it to complete. When it's ready, plug the USB drive into the computer you want to turn into a Chromebook. Power it up or, if it's already switched on, reboot it to run the installer. Click the Language box and select your language 1 and keyboard. 2



3 Click the Let's Go button, select your network, choose if you want to allow anonymous data collection, then sign in with your Google account details. Next, click the clock in the bottom-right corner 1 and select Install OS. 2 Read the information, then click the button to Install CloudReady.

Broadband Deals

Call FREE on 0800 083 2357 to switch your broadband

	Provider	Package name	Monthly price	Contract length	Broadband speed	Allowance	First-year cost*
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2	sse	SSE: Unlimited Fibre + Line Rental Only	£22.00	18 months	35Mbps avg. speed	∞ unlimited	£264.00
3	sse	SSE: Fibre Plus + Line Rental Only	£26.00	18 months	63Mbps avg. speed	∞ unlimited *	£312.00
4	Virgin media	Virgin Media: Big Bundle + Fibre Broadband + Weekend Calls	£33.00 (£59 after 12 months)	12 months	54Mbps avg. speed	∞ unlimited	£396.00

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

Ofcom

Data supplied by www.broadbandgenie.co.uk. Correct as of 8 June 2020.

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

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On sale Weds 1 July

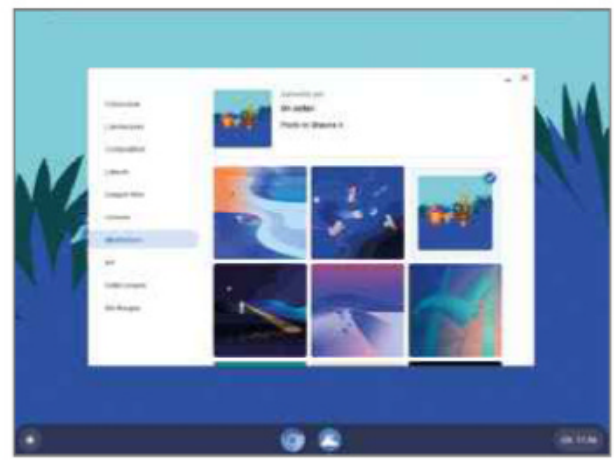
when not in use. You can also change the wallpaper. The OS comes with a wide selection of images organised into categories such as Cityscapes, Landscapes, Composition, Leisure, Colours, Art and Illustrations. Just select one to apply it.

Optimise the Settings

The Settings screen lets you enable, disable and configure options such as Network, Bluetooth, Connected Devices, People, Media Plugins, Device and 'Search and Assistant'. The Google Assistant is disabled by default, but you can enable and configure it with settings that let you decide if you want the Assistant to show you information related to what's on screen, display notifications and choose your preferred input method – voice or keyboard. You can also set Google Assistant to spring into life when you say "Hello Google".



Enable and configure Google Assistant through the Settings screen



Dress up your Chromebook with a choice of stylish wallpapers



GalliumOS is a lightweight Linux operating system for Chromebooks and Chromeboxes

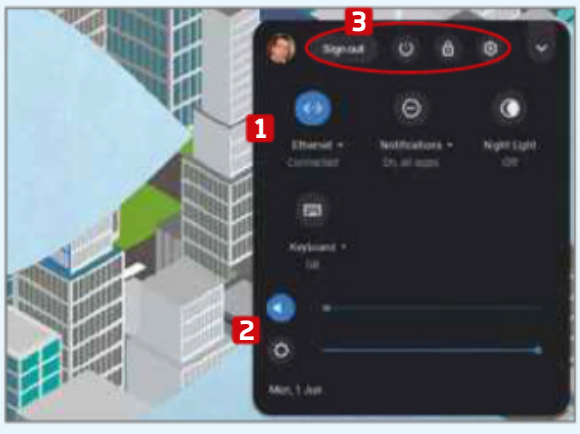
Revive an old Chromebook with GalliumOS Linux

If you have an aging Chromebook that's no longer supported, or is too slow or too limited for your needs, don't assume that it's destined for the scrapheap. It can still be put to good use by installing a different operating system.

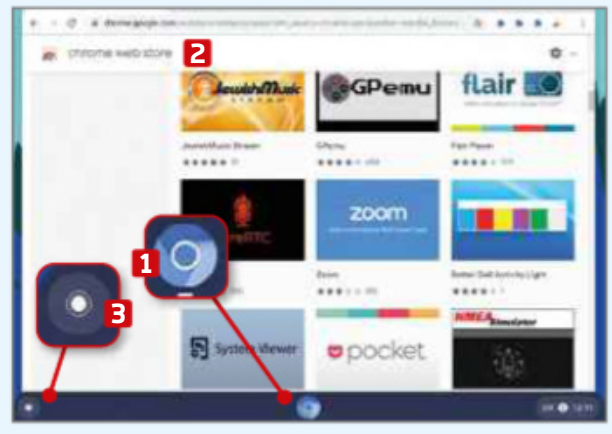
GalliumOS (galliumos.org) is a featherweight Linux operating system designed for Chromebooks. Installing it in place of Chrome OS could improve performance and responsiveness, and because it's built on Xubuntu, you'll also get a fully functional OS including the ability to install and run Linux software. This includes familiar favourites such as VLC Media Player, Firefox, Kodi, GIMP and LibreOffice, as long as you have enough storage space.

When choosing a replacement operating system for Chrome OS from the download page, get the version you need based on your device's processor. If you prefer, you can set GalliumOS to boot alongside Chrome OS, and there are full instructions on how to do this on the GalliumOS wiki (bit.ly/gallwiki504). ■

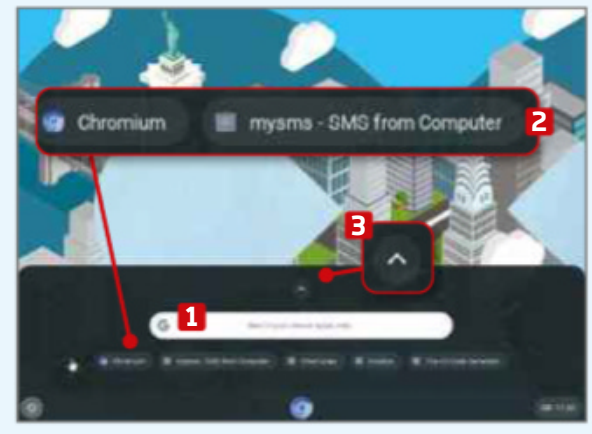
MINI WORKSHOP | Get started with CloudReady



1 CloudReady's right-hand menu provides access to the settings for internet connectivity, notifications and Night Light. 1 This last feature changes the colour of the screen to make it easier to read in low lighting. You can also adjust the audio volume and brightness level, 2 and sign out, shut down or lock your computer. 3



2 Clicking the Chromium button 1 in the centre of the shelf opens the browser. 2 From here, you can access the web, and find and download web apps to run in the operating system. Click the button in the bottom-left corner 3 to open the Launcher. This shows you any apps you have installed.



3 The Launcher opens part of the way by default and you can use the bar to search your device, apps and the web. 1 Recently accessed items are shown underneath. 2 You can expand the Launcher 3 so it fills the screen and explore all the apps you have installed on your device.

NEXT ISSUE **How To...** Make your smart-home devices even smarter

On sale Wednesday 8 July

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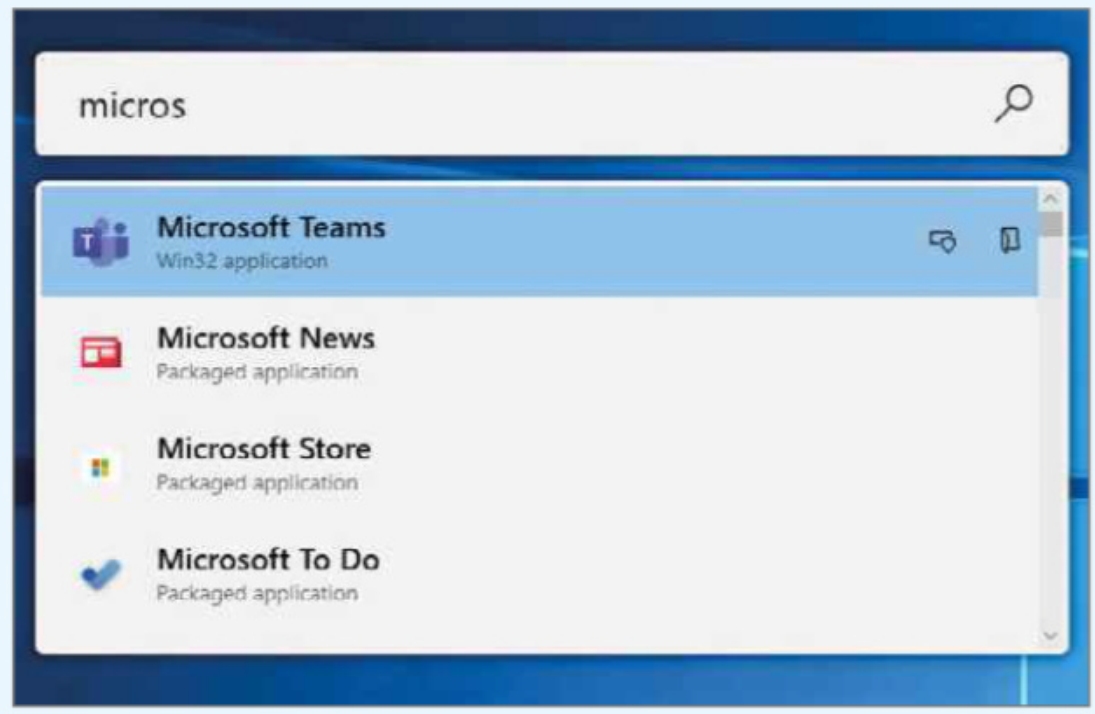
Web User Masterclass

Master the latest version of Microsoft PowerToys

Get the macOS Spotlight tool on a Windows PC

According to Mac users, the search tool Spotlight is one of the operating system's best features. Now Windows has it too, thanks to PowerToys (see first tip, below, if you haven't installed it yet).

Press Alt+Spacebar and a small letterbox-shaped gadget appears on the screen. This is PowerToys Run which, like Spotlight, has several different functions. For example, it makes it easier to start programs. Type `notepad`, `wordpad`, `paint` or any program you have installed and press Enter to run it. You don't even need to type the full name – after entering a couple of letters, a list of suggestions appears below. Press the down arrow to highlight a program, then press Enter or click it with the mouse to run it. It's quicker and easier than finding programs on the Start menu.



Press Alt+Space and start typing a program's name to run it

Keep Microsoft PowerToys up to date

PowerToys is a collection of tools that perform simple but useful tasks, extending Windows 10's features and functions in ways that can save you time and effort. Check bit.ly/power504 for information and click 'Downloading & Release notes' to grab the latest version. Old versions must be manually updated, but the latest release includes an auto-update tool.

Calculate sums with Run

Run, activated with Alt+Space, is more than just an alternative to the Windows Run box – it can also perform calculations. For example, press Alt+Space, enter a sum (say, `57 + 36`) and you'll see the answer displayed below, at the top of suggestions list.

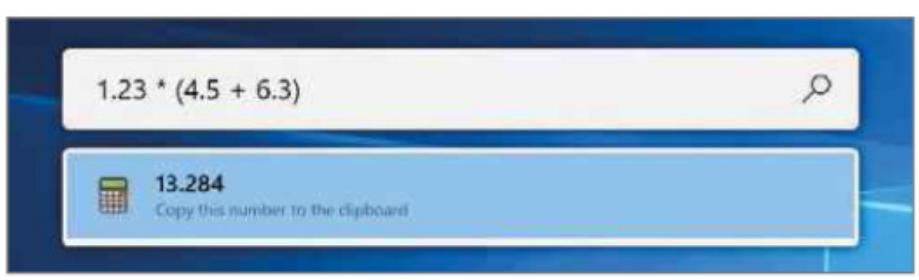
Click the result to copy it to the clipboard. Use an asterisk (`*`) for multiplication and a slash (`/`) for division.

More complex sums – such as `1.2 + 1.8 * 4` – can give more than one result (`12` or `8.4`), depending on whether you carry out the calculation from left to right or use operator rules and perform the multiplication first. We have seen both results in Run, which is possibly a bug, but usually it performs the calculation as you type, like the Calculator app does. Use brackets, such as `(1.2 + 1.8) * 4` to get the result for operator rules.

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.

Find files and folders

Windows search in File Explorer can be slow, sometimes taking a minute or more to find files or folders on the drive. PowerToys Run is much faster. Press Alt+Space and start typing what you're searching for. As you press each letter, it shows a list



Press Alt+Space, enter your calculations and copy the result to the clipboard



Find files and folders by typing in a filename or part of a filename

of suggestions, including files and folders on the hard drive.

Click a file to open it in its associated application, just as if it was clicked in File Explorer. Search for a music track, for example, and click it to play it in Groove Music or whatever music player is the default on your PC. Click a text file and it opens in Notepad. If it's a folder, it opens in File Explorer.

When searching for files, move the mouse over it in the suggestions list and you'll see two icons displayed on the right. The first opens the containing folder, which opens Explorer with the contents of the folder showing. The second copies the file path to the clipboard, such as C:\Users\YourName\Music\track.mp3.

Launch websites instantly

It's easy to launch a browser and type a web address but it's even easier if you use the Run box. Press Alt+Space and type the name of a website, such as `wikipedia`. If it's in your bookmarks or favourites, a link is displayed in the suggestions. Press the down arrow and press Enter or click the link with your mouse to launch a browser and visit the site.

You may need to import your existing bookmarks into Edge to get this to work. Open the menu in Edge and click Favorites, Import.

Run programs as an administrator

You may have an administrator account, but most programs are still run as a standard user for security reasons. A few programs have to be run in admin mode, but others can be run in both standard or admin modes, with some extra features available in the latter.

Press Alt+Space and type `disk`. Disk Clean-up is the first suggestion and clicking it runs it in standard mode. However, if you click the first icon on the right, it runs in admin mode with many more hard drive cleaning functions.

See Windows shortcuts

If you can't remember all the Windows key shortcuts, such as Windows+L to lock your PC, just hold down the Windows key. Open PowerToys, select 'Shortcut guide' and you can set the length of the delay before the shortcuts appear and configure how the list looks.

PowerToys not working?

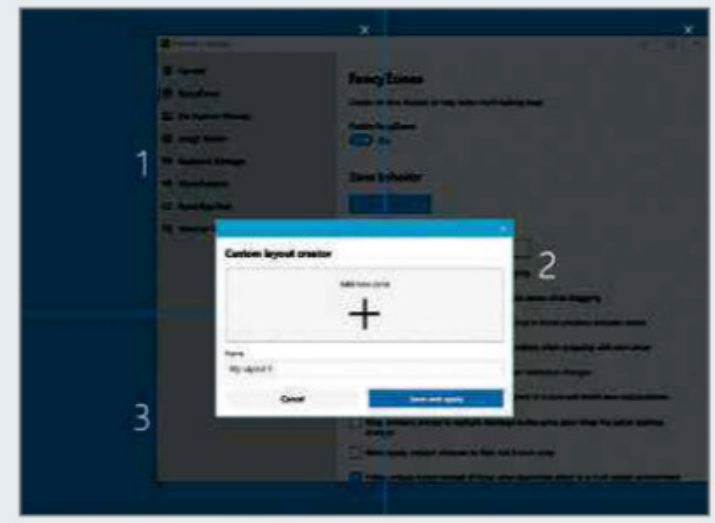
PowerToys runs in standard mode, but if you click the icon on the right of the taskbar to open the main window, you'll see an option to restart PowerToys in administrator mode.

TAKE IT TO THE NEXT LEVEL

More advanced tips for when you're feeling brave

Create your own FancyZones

FancyZones is an extension of the Windows 10 feature that lets you snap windows to the sides or corners of your screen. Open the Settings app, choose System, Multi-tasking and turn on 'Snap windows'. When you now drag a window on the desktop to the side or corner, it snaps into place.



Create zones and snap windows to them by Shift+dragging them into place

PowerToys FancyZones adds more desktop layouts. Enable it and click Launch Zones Editor, then choose one of the layouts – such as the three columns. Windows snap allows two columns but FancyZones lets you have three or more by clicking the plus and minus buttons at the top. This is particularly useful for widescreen monitors that have plenty of space.

If you don't like the predefined layouts, you can create your own. Click the Custom tab, then 'Create new custom', 'Edit selected layout'. Click the plus button in the next window and a semi-transparent area appears on the screen. Drag this to wherever you want it, and drag the edges to resize it. You can then add more areas if you wish.

Name your layout and save it. Now open a window, such as Notepad, then hold down Shift and drag it. Drop it on one of the zones you created and it's automatically sized to fit the space.

Remap keys and shortcuts

Open PowerToys, select Keyboard Manager and click 'Remap a key'. This lets you move a key – for example, you could set it so that pressing A produces a B instead of an A. It may not be immediately apparent why remapping keys would be useful but, for example, if a game's controls aren't to your liking, you could switch the keys to suit you better. This won't work with every game but it's worth a try. Another circumstance would be if one of your frequently used keys stops working. You could then assign that character to a lesser-used key, such as a square bracket ([or]) until you get a replacement keyboard.



Move keys to make them more convenient and avoid ones that don't work

Click the plus icon to add a new item, click Type Key on the left and press the key you want to change. Now, under Mapped To, either click Type Key and press the character you want the first key to trigger, or select the character from the drop-down list.

Shortcuts can also be changed in the Keyboard Manager by clicking 'Remap a shortcut'.

Resize and rename images

Right-click any image or photo in Explorer and you'll see a new 'Resize pictures' menu option. Choose from a selection of different sizes or use the custom-resize option, which lets you enter any dimensions.

Resized images are saved with a new name that contains the size: Small, Medium, Large or Phone. When looking at file names in Explorer, it's not obvious what exactly Medium size is, so you may want to give it a more accurate name. Click in the first box under Image Sizes, delete the word Small and enter the size, such as 300x200. When images are resized, they are saved with a name, such as 'Picture (300x200).jpg', where the size is obvious.

Ask the Expert

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



WINDOWS

Get System Restore working

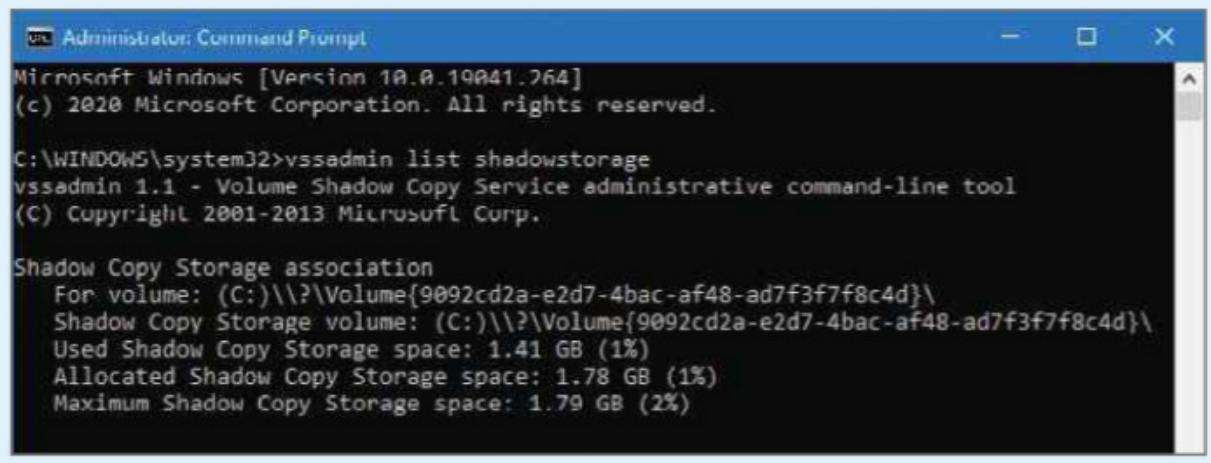
Q Following your advice, I turned on System Restore for all my drives but I get the following error: "The restore point could not be created for the following reason: Insufficient storage available to create either the shadow copy storage file or other shadow copy data. (0x8004231F)."

I ran `sfc /scannow` and no errors were found but even switching System Restore off again for all drives, apart from C: produces the same error.

I have 10% space allocated for System Restore on each drive, apart from the C: drive, which has 20%. I only use CCleaner to manually clear the junk from my PC.

My drive setup is a little unusual: I have C: (for Windows 10) and P: (for installed programs I don't mind losing if disaster strikes) on an SSD drive. Then, on a second drive, I have D: for important documents, M: for all music, photos and OneDrive, and S: for all downloaded software.

Ria, via email



Is shadow storage nearly full? Check the used and allocated space

A Start by checking that the filing system on each drive is working. Click the Start button, type **command**, and run the Command Prompt as an administrator. Enter **`chkdsk c: /f`** and follow the instructions, which include restarting Windows. Repeat this for every drive.

Your unusual drive setup could mean that there isn't enough space to back everything up. It's not the drive space allocated but the free space on hidden Windows system partitions that are used for shadow copies (backups).

Open File Explorer, right-click This PC in the sidebar and select Manage. Under Storage, select Disk Management and check that the drives on the right have plenty of free space, even hidden system partitions that don't have drive letters. If any don't have free space, that is the problem.

Return to the administrator-powered Command Prompt and enter **`vssadmin list shadowstorage`**. If the used space is nearly equal to the allocated space, that is a problem. Enter **`vssadmin delete shadows /all`** to delete all shadow copies.

This may help for a while, but we recommend you put Windows, Documents, Pictures, Music, Videos and Programs folders all on the C: drive. You can store files on other drives, but these system folders are best kept with Windows.

SOFTWARE

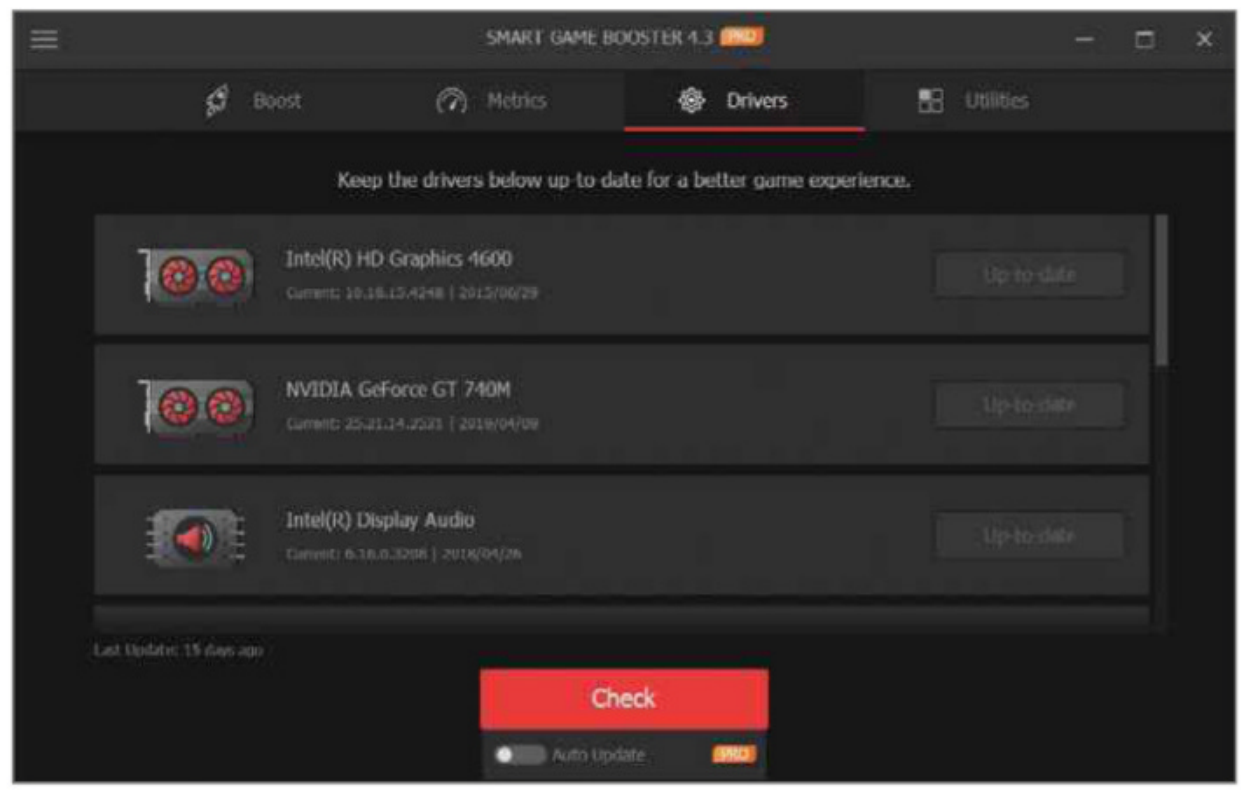
Stop games crashing

Q I'm not a serious gamer but I like to play occasionally. However, sometimes my games crash anywhere from a few seconds to a few minutes after starting. I don't always see any error messages and sometimes I have to restart my PC, while other times I'm just dumped to the desktop.

Brian Moore, via email

A The most common cause of crashing games is hardware drivers. There are a lot of drivers involved in playing games, including network, Wi-Fi, mouse, trackpad and so on. However, video and audio drivers are usually the main culprits.

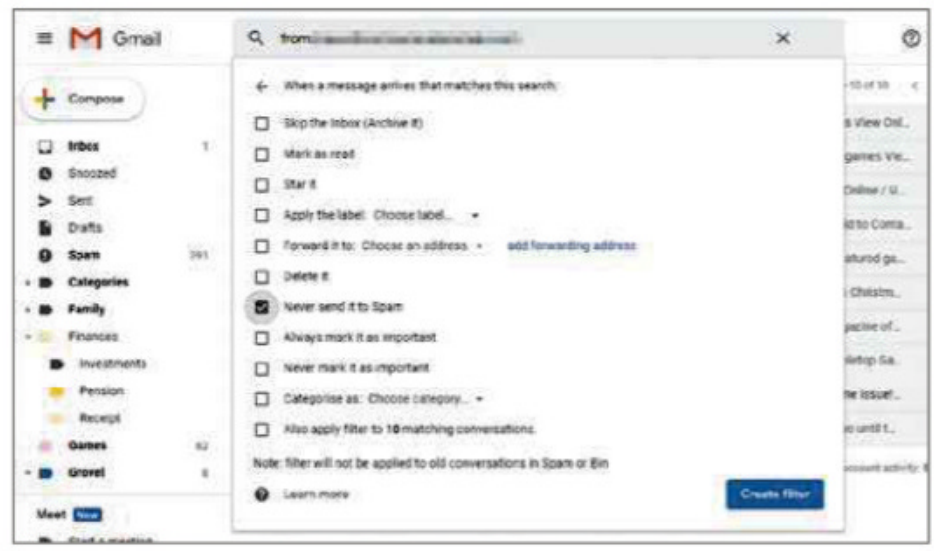
Open Device Manager in the Control



Use Smart Game Booster to find and update drivers for gaming



Hide problematic updates from Windows Update to stop it repeatedly trying and failing to install them



Set up a Gmail filter if newsletters and other emails are disappearing into your spam folder

Panel, then expand 'Audio inputs and outputs' and 'Display adapters'. Right-click each item in those categories and select 'Update driver', then click 'Search automatically for drivers'. If it doesn't find anything, click 'Search for updated drivers on Windows Update'.

If updating the sound and video drivers doesn't help, update Bluetooth, Human Interface Devices, 'Mice and other pointing devices' and 'Network adapters', too.

If you're still having problems, try Smart Game Booster (www.pcgameboost.com), which can be used in free mode. It has a driver-updater section that looks for drivers specifically used for gaming, and it can find updates Device Manager can't. Before playing a game, click the Boost button, which stops unnecessary background programs and services that might otherwise interfere with games. They are restored when the boost is stopped.

WINDOWS

Stop an update failing repeatedly

Q I'm having a problem with a Windows update. It's not Windows Update itself, but one specific update that keeps downloading, trying to install and failing. The next day, it tries to download and install it again, but it always fails. It's like my PC is stuck in Groundhog Day and I can't stop it. How do I get out of this loop?

Paul Stephenson, vide email

A This can be annoying and frustrating when it happens, but if left long enough, it usually sorts itself out. The big spring and autumn updates to Windows 10 may fix a problem like this, but if it doesn't or you can't wait until the next big update, there is a tool to put off specific updates.

Go to bit.ly/trou504 and scroll about half way down the page to the 'Choose your automatic updates' section. This has a link to a troubleshooter that lets you show or hide updates. Double-click the 'wushowhide.diagcab' file that's downloaded to run it and follow the instructions.

EMAIL

Bypass Gmail's spam filters

Q I use Gmail and it's mostly good at separating the genuine emails from the spam and automatically consigning the junk to the Spam folder in the sidebar. However, there is one email newsletter I get that sometimes appears in my inbox, but sometimes ends up in Spam. It seems random. I have to remember to check the Spam folder every few days to see if it contains the newsletter. Is there anything I can do to make sure that these emails always arrive in my inbox?

S Porter, via email

A There must be something about this email newsletter that's triggering Gmail's spam filters. It could be the wording or it may be that lots of other people have marked it as spam. What one person considers vital information may be regarded by someone else as junk.

There are a couple of things you can do to stop emails being mistaken for spam. One is to select Spam in the sidebar, tick the box next to any email that isn't spam and click the 'Not spam' button in the toolbar. The idea is that Gmail will learn that emails similar to this are not spam and eventually it will learn to keep them in your inbox.

However, a better option for a one-off problem is to create a filter. Open Spam and tick the box next to an email you want to keep. Click the three-dot button in the toolbar, then click 'Filter messages like these'. Do nothing in the window that appears and just click the 'Create filter' button. In the next window, tick the box 'Never send it to spam'. These emails shouldn't be mistaken for spam again.

WINDOWS

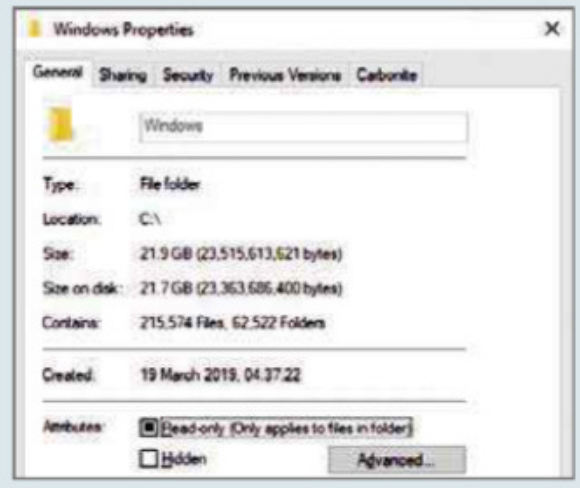
Check your file count

Q Last month, I bought a new PC. I have put a few programs on it, but really not very many. I ran a scan using Windows Security and was shocked to discover that there were nearly 40,000 files scanned. Does a new PC really need that many files? What on earth are they all for?

David Hall, via email

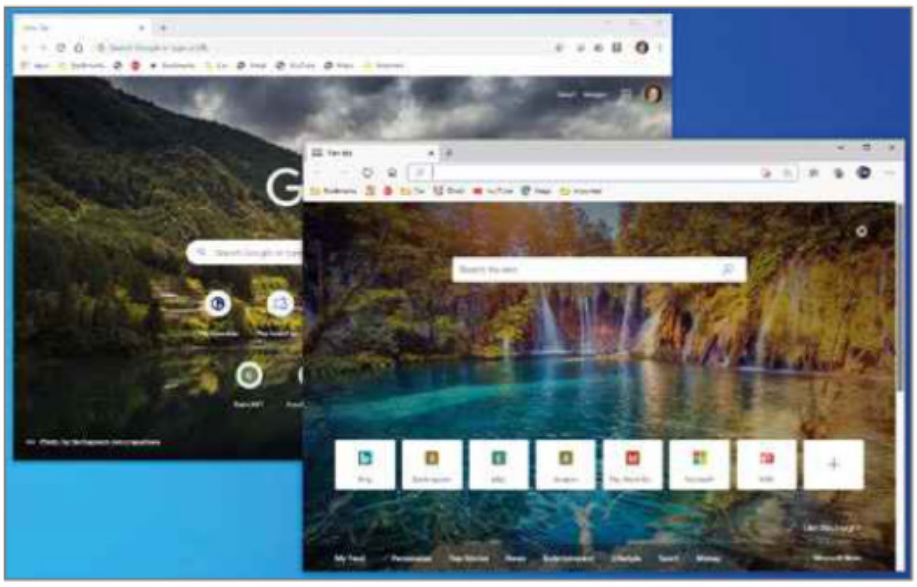
A Windows Security defaults to a quick scan and just looks at the most obvious files for malware, ignoring file types and locations where malware is rarely found, so this is actually just the tip of the iceberg.

Our Windows folder alone contains over 140,000 files, not including Program Files, Users and other folders. To see how many files are on a hard drive, open File Explorer, go to the C: drive, right-click any folder and select Properties.

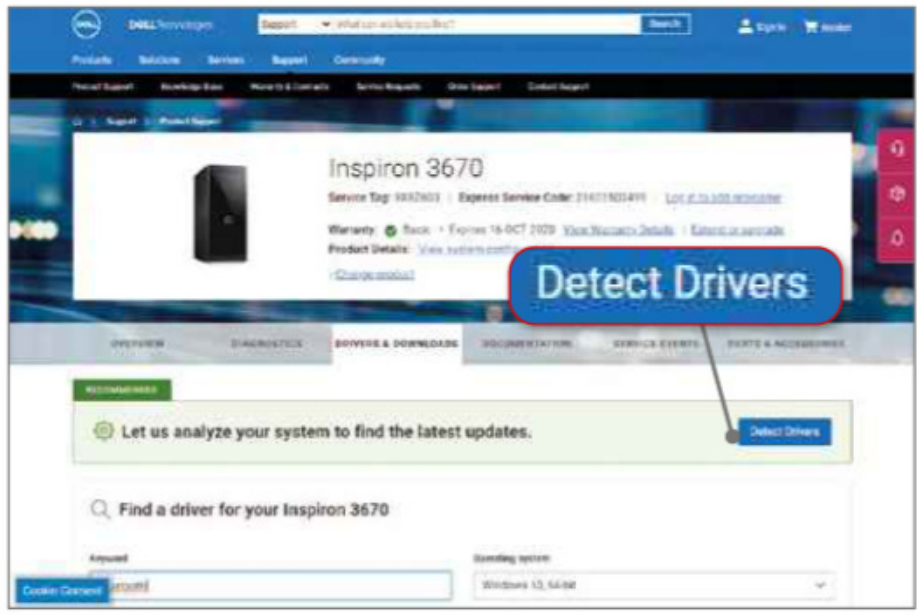


Right-click a folder and go to Properties to see how many files it contains

It might seem like a lot of files, but it's perfectly normal. Windows is not a single executable file but a collection of files, each with a specific purpose. It's mind-boggling how many there are!



Chrome (left) and Edge (right) have the same engine (Chromium) but different features



Download drivers for your PC from the manufacturer's website

BROWSERS

Choose between Edge and Chrome

Q I'm confused about Edge and Chrome. I read that Edge is basically Chrome, so are they the same browser or are they different? If they are the same, is there any point in switching from Chrome, which I am quite happy with? Can you explain in simple terms for a silver surfer?

Ken Munroe, via email

A Cars from different manufacturers can have the same engine (as is common with brands such as VW, Audi, Skoda, SEAT) but be different in the design of body shape, seats, dashboard and trim. One may have air-conditioning, another may have a sunroof, and so on.

Edge and Chrome both use the same underlying software engine, so they display web pages equally well. However, the fixtures, features and trim are different. For example, Edge has more privacy and family-safety options, its own special features (such as the Collections tool) and a news feed on new tabs.

There shouldn't be much difference in performance because they both use the same underlying engine, but it's worth looking at Edge's extra features and different ways of doing things to see if the browser suits you better. You can have as many browsers installed as you like and they don't clash, so there's no harm in trying them all.

HARDWARE

Replace Bluetooth drivers

Q I had a Bluetooth problem, so I followed advice on a website and uninstalled it in Device Manager. It said it would automatically be reinstalled, but it hasn't done this and now I have no Bluetooth at all!

Alan, via email

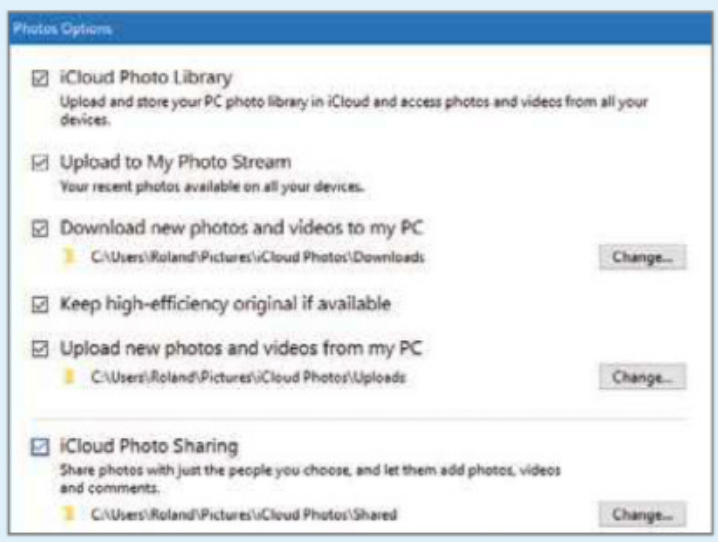
A You didn't do anything wrong and on nearly all PCs, Windows will automatically reinstall a driver if it is uninstalled. In some cases, you must go to the computer manufacturer's website to download and install the drivers. Try going to your manufacturer's site and downloading the Bluetooth drivers for your model from there.

MOBILE

Transfer photos from iPhone to Windows

Q I've been having problems uploading photos from my iPhone to my Windows 10 PC. I connect the iPhone with the cable and start transferring, but everything freezes after it's only managed a few photos or a video. I've tried it multiple times and can't get it to work reliably.

Len Power, via email



Don't transfer iPhone photos by cable, use a cloud service instead

A You're not alone – many people encounter this problem if they have more than 1,000 photos and videos on their iPhone. The transfer seems to fail more often when it's working with large numbers of files.

There are some alternative methods worth trying. Install the OneDrive app on your iPhone and either use the option to sync all your photos or manually select photos and videos, then upload them. If you only have the free 5GB offered by OneDrive, you may have to keep an eye on the remaining space. You could upload 1GB of files, then move them out of OneDrive to your PC, then upload another 1GB, and so on.

If the Photos app on the iPhone stores photos on iCloud (which costs an affordable 79p a month for 50GB of space), install iCloud for Windows from the Microsoft Store app on your PC. Your photos can then be accessed or synced to the PC's hard drive. Alternatively, go to the www.icloud.com website, sign in with your Apple ID and open the Photos app to select and download images to your PC from there.

You could also install the Google Photos app on your iPhone. It automatically uploads all your photos and they can be browsed and downloaded from photos.google.com in a browser.

There are also several excellent free alternatives to the Windows Photos app, including FastStone Image Viewer (faststone.org), IrfanView (www.irfanview.com) and XnView (www.xnview.com).



This fortnight Roland has replaced his pricey old Android smartphone with a cheap budget model that's much faster



Readers' Helpdesk

Can you help your fellow readers with their computer problems? Send your questions and answers to webuser@webuser.co.uk

READERS RESPOND

Back Issues disc winner



PRINTERS

Reset a printer's waste-ink counter

A Regarding Chris Simmons' question about his Epson Expression XP-605 printer (Issue 502, bit.ly/webuser502), he should try WicReset (www.wic.support). You can use the free download and reset your printer's waste-ink counter to 90% for free. It can only be used once but it's made my Expression XP-760 last an extra four months so far.

Paul Heap, via email



WIC Reset Utility can breathe new life into an old printer

A I also recommend WicReset. Go to the site and click 'Buy Key'. This should take you to 'WIC Reset Utility v5.57'. You then need to find and select your printer. Be aware that your waste ink tank might overflow. Mine did and I had to fit an overflow kit.

Paul Finch, via email

CAN YOU HELP?

webuser@webuser.co.uk

You can seek help or suggest solutions to other readers' problems by emailing webuser@webuser.co.uk or via www.facebook.com/webusermagazine or twitter.com/webusermagazine.

WINDOWS

Q Once a day my Windows 10 PC freezes for about five seconds, then carries on as normal. Why does it do this?

Harvey, via email

MOBILE

Q My Android phone is saving photos and videos to the internal storage, not my near-empty SD card. How can I change this?

Dennis Spargo, via email

BROADBAND

Switch to a 4G router

Q Does anyone have any experience with 4G routers? I have a friend who lives in a valley near Penzance, Cornwall, where there's no fibre, so she currently connects to the web by satellite. However, that's far from ideal. There's a 4G mast nearby, and she gets a good signal in her polytunnel at the top of the hill but not at her house.

I am aware that there are 4G routers available and I wondered if it might be worth trying one. Do they have external aerials that can be mounted on a mast to improve the signal and reception? If so, recommendations would be gratefully received.

Andy Pedley, via email

A A 4G router may solve the problem but, as with all equipment of this type, the results can be hit and miss, especially if you want to keep costs down. All the major network providers offer 4G routers and we'd recommend using this as a starting point. If your friend would rather not tie herself into a contract, you can buy the device as a standalone, but you'll need to insert your own SIM card and set up a data plan. Either way, most routers don't come with external antennas. You'll need to buy these separately, so make sure you get a router that's compatible.



Vodafone's Gigacube is a 4G-powered mobile router

You should also check that the network provider has adequate coverage in Penzance – according to signalchecker.co.uk, for example, EE can't provide a decent 4G signal inside the house but works outdoors. If any readers have first-hand experience with their own 4G routers, we'd love to hear from you.

Steve Clark, Features Writer

MOBILE

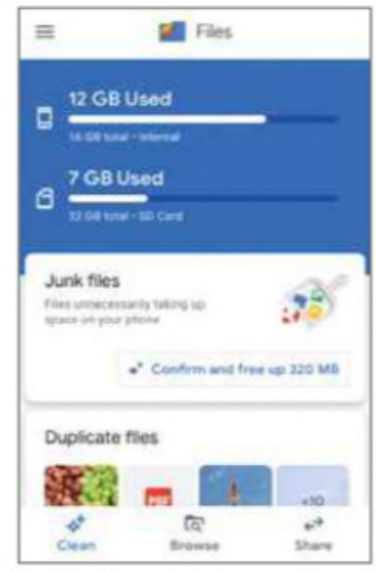
Keep your Android device free of clutter

Q For some reason, my phone has become intensely laggy. Sometimes it freezes and, on the odd occasion, apps crash completely. It's very frustrating because even basic tasks such as opening the app drawer can cause the phone to grind to a halt. I've tried turning it off and on again but that hasn't helped. Could it have something to do with a recent Android 10 update?

Gillian, via email

A The most common cause of a phone slowing down is too much data in the cache. Just as you would with your computer, you need clean up your device from time to time. Uninstall any apps you don't use, then use Google Files (files.google.com) to remove junk files, duplicates and media that's already backed up in your Google Drive. There are also third-party apps, such as CCleaner (bit.ly/cache504), that do the job.

Steve Clark, Features Writer



Google Files is a handy tool for spring-cleaning your smartphone

Your Top Tips

Our pick of the best advice from our readers. Please send questions and answers to webuser@webuser.co.uk



TOP TIP

Back Issues disc winner



WINDOWS

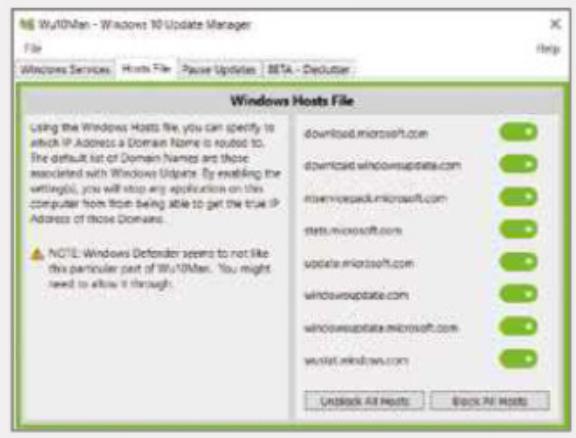
Block Windows updates

Like many other computer users, I'm not happy with how Windows 10 handles updates. They either interrupt whatever I'm doing or can only be delayed for a limited amount of time, and often include 'fixes' that contain bugs and make your PC worse.

If you feel the same way, I highly recommend Wu10Man (bit.ly/wupdate504), an easy-to-use open-source tool that lets you disable Windows updates. Of course, you can do this manually, but I find it's a lot quicker to use this tool.

Use the tabs across the top to choose specific services, then toggle each one on or off. There's also a 'Pause Updates' option for general postponement.

Given what the tool does, Windows Defender doesn't play nice with it, so you may find yourself having to override its complaints to get Wu10Man to perform.



Wu10Man pauses and prevents updates but you may need to override Defender

Jeff Keenan, via email

Web User **says:** Learn more about the latest version of Wu10Man on page 30.

MOBILE

See what unpermitted Android apps can see

More an object of grim curiosity than anything else, PrivacyBreacher (bit.ly/breacher504) is an app that highlights how seemingly harmless apps can still gather data about you. The app requires absolutely no permissions and yet it still knows information about your phone: when and how you're moving it; whether or not the screen's been turned on or off; even when it's on charge. And if this app can do it, then any apps can, even without your express permission.



Privacy Breacher shows how easily apps can access your data

If PrivacyBreacher shows us one thing, it's that Google needs to tighten up its security.

Karen Bailey, via email

BROWSERS

Check out Opera GX's new features

For anyone using Opera GX (www.opera.com/gx), I've just realised the gaming browser has received an update. It now has native Instagram and supports Workspaces, which makes my browser a fair bit tidier than before. As with the original Opera browser, you can now also search for tabs either by clicking the magnifying glass or pressing Ctrl+Space.

Jazz, via email

BROWSERS

Keep the old Edge

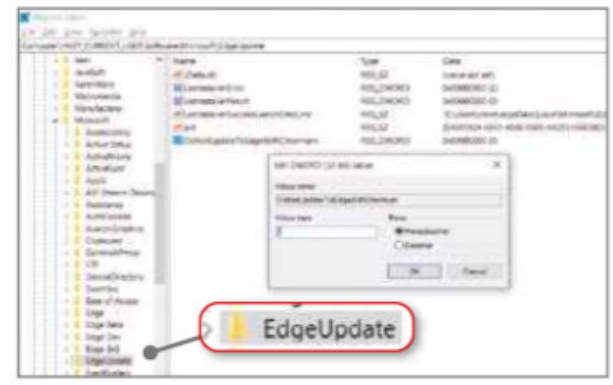
It appears that the latest Windows update is automatically updating the old Edge browser to Microsoft's shiny, new Chromium version. If you're perfectly content with the old one, though, you'll need to hurry before the update fully rolls out. Go to the Registry Editor and locate the following key:

HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft

Within this parent tree is another folder called EdgeUpdate. Open this and right-click inside, then select New, then 'DWord (32-bit) Value'. Name it `DoNotUpdateToEdgeWithChromium` and save it, then double-click it to set the value to 1.

Once you've restarted your computer, you won't need to worry about the Windows update removing the old Edge. If you change your mind later, the process can be reversed by deleting the DWord you created or altering the data value from 1 to 0.

Lionel Brantley, via email



If you don't want Microsoft to force the new Edge update, change this setting now

WINDOWS

Uninstall Cortana for good

I've just found a way to get rid of the unloved AI assistant Cortana from my computer. Open Windows PowerShell as an Administrator and enter the following command:

```
Get-AppxPackage -allusers
*Microsoft.549981C3F5F10* |
Remove-AppxPackage
```

This removes Cortana for all users, but if you want to get shot of it for only the current user, use this command:

```
Get-AppxPackage
*Microsoft.549981C3F5F10* |
Remove-AppxPackage
```

F Skelton, via email

MOBILE

Turn your iPhone into a webcam

My laptop's webcam is passable but it's nowhere near as good as my iPhone's camera. With my days dominated by Zoom meetings and the like, I thought I'd see if I could use my phone as a webcam instead. Turns out you can, using www.kinoni.com and EpocCam (bit.ly/epoccam504).

First, download the app, then download the correct drivers for your computer from the Kinoni website. Go to the camera or video settings of Zoom, Skype, Teams or whatever video-calling program you use. With the app open on your phone, you should be able to select EpocCam to start.

Ken Adam Hillier, via email

WINDOWS

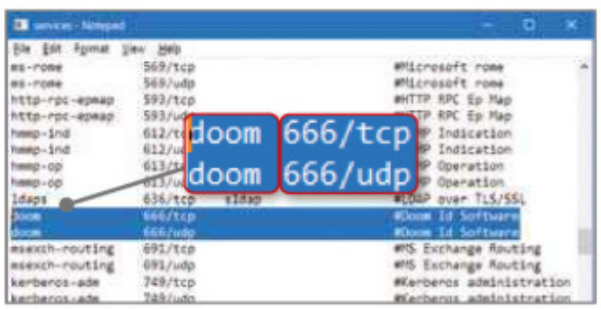
Discover Doom's influence in Windows

Doom (bit.ly/doom504) was one of most popular games around in the 1990s. I used to play against colleagues after work on the local network. But did you know that it was such an influential game that Windows 10 is still configured for Doom? Open Explorer and go to:

C:\Windows\System32\drivers\etc

Open the file called 'services' in Notepad, and it lists all the network ports and what they're reserved for. Turn off word wrap on the Format menu, scroll down to port 666 and there it is – Doom by Id Software!

Mark Thomas, via email



Microsoft still reserves port 666 just for playing network Doom

WINDOWS

Access your desktop icons more easily

I have seen some messy desktops in my time – some people seem to dump everything there including files, folders, shortcuts and more. I don't know how they find anything among the clutter.

If you need something on the desktop and your screen is filled with open windows, create a toolbar. Right-click the taskbar, hover over Toolbars, then click Desktop. The word Desktop appears at the right-hand end of the taskbar. Click the >> next to it to show the desktop contents as a menu. You can now select files and folders without having to minimise all your programs to get to your desktop.

Matt King, via email

MAC

Capture screenshots on a Mac

Like a lot of Apple Mac owners, I have Windows 10 installed, running through Boot Camp (bit.ly/boot504), so that I can choose between Windows 10 or macOS. Windows works great on my Mac, except that it doesn't have a Print Screen key for taking screenshots. On a PC, I use Windows+Print Screen to save the current screen to my hard drive. On a Mac, the Cmd key works like the Windows key, but there's no Print Screen.

My solution is to use Lightscreen (lightscreen.com.ar) to take screenshots. Run it, click the Options button and select the Hotkeys tab. You can define your own keys to save screenshots, such as Alt+Q or some other unused key combination.

Philip Lee, via email

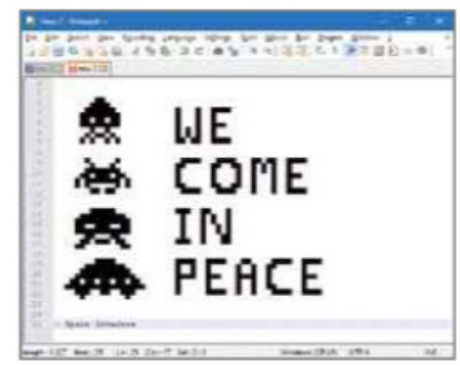
SOFTWARE

Reveal a hidden message in Notepad++

I'm a long-time user of Notepad++ (free, from notepad-plus-plus.org), which is like Notepad but with hundreds of extra features. I've just discovered a fun new Easter egg in the latest version.

Open a new tab and type `Space Invaders`. Highlight the text and press F1 to see the message, "We come in peace." You might need to hold down Fn and press F1 on a laptop keyboard.

Sean Wright, via email



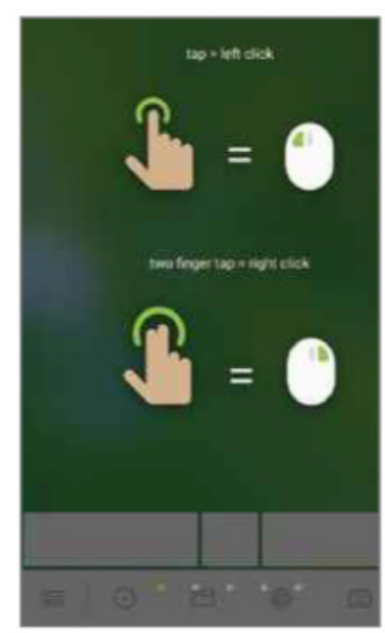
Reveal a hidden message in Notepad++

MOBILE

Use your Android phone as a mouse

You don't need a mouse to control your computer – you can use your phone instead. Install Remote Mouse (bit.ly/remotemouse504) on your phone, then install the companion tool from www.remotemouse.net on your PC. Make sure both devices are on the same Wi-Fi network. Now, tap to connect your phone to the computer through the app. You can even use gestures, such as pinching the screen to zoom.

JG, via email



Don't have a mouse? Try using your phone instead

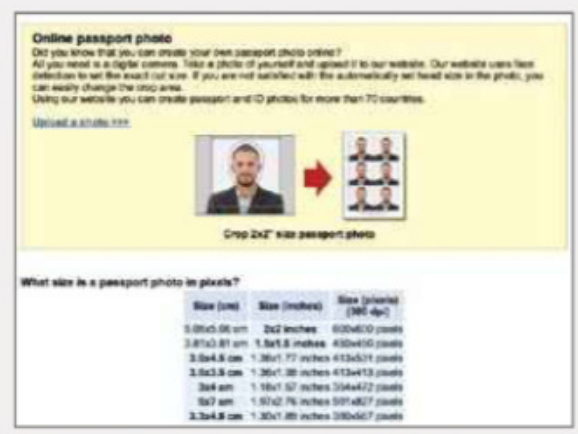
BLUNDER OF THE FORTNIGHT

WEBSITES

Print your own passport photos

I'm not certain this is a blunder but for many years I've trotted down to the photo booth at my local Post Office or train station to get my passport photos done. Recently, I needed to update my driving licence. The last ten years have not, I admit, been kind and you'd hardly recognise me from my licence! However, since lockdown, I've not relished the thought of visiting my local booth – who knows who else has been inside?

This left me in a bit of a quandary until I happened upon IDPhoto4You (www.idphoto4you.com), which lets you create passport-sized photos for free. Choose your country and the site automatically selects the official size needed. Upload your photo (make sure if conforms to the restrictions and regulations), then print them out on photographic paper. You'd hardly know the difference!



You no longer need to leave the house to get your photo done

Cath Clemens, via email

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

Inbox

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

Star Email

Back Issues disc winner



The perils of using a NAS drive

I've been a *Web User* reader for many years, and during that time I've seen various articles extolling the benefits of network-attached storage (NAS) drives.

Four years ago, I decided to join the NAS fraternity and bought a Western Digital EX4 four-bay NAS drive. This was set up as a RAID 1 system to provide 100% backup, and although it was configured for 24-hour operation, it spent most of its time in hibernation.

The system worked as it should, and I was able to store my photos, music, documents, videos and other files on the massive NAS drive, safe in the knowledge that its RAID 1 mirrored system backed everything up.

One day I couldn't access the NAS drive and noticed it was displaying an error message "Power Supply 2 Failure". The power button on the front



didn't work either, although all the blue lights were flashing, and I could hear the hard drives running inside. I disconnected the power and tried to find out what was causing the problem.

After thorough investigation and trying several remedies, none of which worked, I turned to Western Digital for advice. The company told me to replace the four-year old unit at considerable cost, and to send the drive to a data-recovery company if I wanted to keep my data.

These NAS systems are extremely expensive, and to face the possibility of losing the entire unit and all my data for the sake of a 50p resistor in the internal power supply is unacceptable. That's not to mention the environmental impact of adding yet more electronics to landfill.

So this is a warning to all NAS users: back up your data to a second device, because RAID 1 only offers protection against hard drive failure. If the unit fails, you could still lose everything.

N Bradley, via email

BitLocker recovery key saved my laptop

Like David Wheeler ('Ask the Expert, Issue 501), I have an HP Envy 17 laptop. It's a very good laptop – very fast, with plenty of memory for my many high-res photos, which I can open and process in a flash.

However, I suffered the same problem as Mr Wheeler after a BIOS update, which in my case happened when the laptop restarted following a Windows update. On the first occasion, the update was successful and the laptop restarted with full access.



Like Mr Wheeler, I had no idea my laptop's drives were encrypted. After reading his letter, however, I followed your advice and downloaded my encryption key, printed it and saved it to a USB memory stick.

A couple of weeks later, the laptop downloaded yet another BIOS update and I had to restart. This time a blue screen appeared and the PC asked me for my BitLocker recovery key, which thanks to your article I had to hand. What a lifesaver.

That's two BIOS updates in less than a month. I have owned various computers over the past 30 years, and none of them has ever performed such an update. HP should stick a label on its new laptops warning of this potential problem.

Ian Hinsley, via email

Leaving Sky Q can cost you everything

I was interested to read about the experiences of other readers when trying to leave Sky (Inbox, Issue 503). I had much the same problem when I tried to move from Sky to Virgin Media.

In my case, the problem was that I'd signed up for the Sky Q package. With Q, all the equipment is on loan, so you have

Quiz Answers: Issue 503

1. *Sons and Lovers*
2. *The Name of the Rose*
3. *The English Patient*
4. *The Quiet American*
5. *Of Mice and Men*
6. *Three Men in a Boat*



WINNER!
Well done to **Brian Barton** who wins a Web User Back Issues Disc



WAYBACK MACHINE
2012



to give it back when you leave. What's more, as soon you stop subscribing, all your TV channels disappear – it's not like Sky HD+ where the box continues to receive free-to-air channels.

You can't just plug a Freesat recorder into the dish, either, because the engineer who installs Sky Q changes the low-noise block downconverter on the dish, so it's not compatible with Freesat. Sky wouldn't come back to reverse this, so I'd need to pay someone else to do it.

To cut a long story short, I went back to Sky after Virgin Media messed things up and couldn't connect me, but Sky certainly leaves customers in a difficult position when they leave. That said, Sky is making some great original programmes right now, so it's not all bad.

Jon Sharp, via email

Stop the 5G conspiracy theories



At a time when we're suffering the worst health crisis in a generation, I find it bizarre that people feel the need to finger 5G as the source of our woes. Barry Collins is quite right when he says there's no evidence that 5G is a threat to public safety (Page 404, Issue 503), and yet conspiracy theories still circulate.

5G is a means of delivering fast mobile internet access, not an Illuminati plot to wipe out a large proportion of the human race. We should be focusing on controlling the spread of the coronavirus before it kills many more people, not hyping up fictitious dangers and vandalising phone masts. As Barry says, it's time for sanity to be restored and conspiracy theorists to get a grip.

Andrew Lilley, via email

CORRECTION

In our Best Free Apps section in Issue 503, we incorrectly stated that the headphones-optimisation app Wavelet (bit.ly/wavelet503) has a minimum specification of iOS 11. It is in fact only available for Android devices. Apologies for any inconvenience caused.

What you say...

ARE YOU SURPRISED THAT GOOGLE TRACKS YOU IN INCOGNITO MODE (bit.ly/incognito504)?

Not at all. As long as companies can generate revenue, they will try whatever sneaky tricks they can.

Brian Brown

It doesn't surprise me. Big Brother is always watching you.

Geoffrey Boow



I don't think people understand that incognito mode won't keep you private from Google itself. The company is unlikely to offer a feature that does!

Paul Giddings

Even with my Android phone set to Airplane mode, it managed to force a stealth download of voice-recognition software I didn't want.

Liz F Lambeth

If you don't want to be tracked online, use a VPN.

Dean Stockton

DO YOU OWN A SMART APPLIANCE SUCH AS A FRIDGE OR WASHING MACHINE?

I can't see the point of a connected fridge-freezer or washing machine. My daughter had a smart fridge-freezer from Hoover. Its Wi-Fi module blew and stopped the whole appliance working. She got a replacement and the same thing happened. Keep it simple and keep it reliable.

Iain Kenworthy-Neale

I can see no good reason to have a smart kettle, fridge or washing machine. My kettle takes a couple of minutes to boil. My 30-year old fridge just does its thing without interference and my 10-year old washing machine has a timer that is very simple to set. My mother used to say "you're too smart for your own good", in a snarky way. I think that comment applies here

Eff Clarke

I love our smart gadgets but I don't need a smart fridge. We bought a smart washing machine, but it has never been able to connect to the relevant apps. I'd certainly avoid any product that has limited updates, security or otherwise.

Rich Grove

I think smart appliances are a security risk. A hacker could access your fridge and make it tell you your milk is still in date when it has actually expired, and then you might get ill.

Colin Trevelyan

HAVE YOU SIGNED UP FOR ANY STREAMING SERVICES DURING LOCKDOWN?

Yes, BritBox, Mubi and BFI Player. The latter two offer extended free trials, which you can cancel at any time.

Josic Cadoret *@tellystack*

I got a free trial of BritBox with EE and bought an Amazon Fire TV stick to watch it, but I haven't used either since! There's too much on Netflix and YouTube at the moment.

Caroline Chapman

Disney Plus. We were thinking of signing up anyway, but the lockdown pushed us into it.

Ady Colclough *@AdyC76*

There are far too many streaming services now. How long before we start to see them merge, I wonder?

Alan Russell

Nope as I have Netflix for free via Sky

Kevin Gadget Man Benton

Personally, I'm suffering subscription fatigue.

Jayme Carne

Page 404



Barry Collins explain the benefits of using more than one web browser

Why I'm leading a browser double life



Illustration: Andrew Torrens

Business or pleasure? It's a question you've probably been asked when making a foreign trip (remember those?), but not when deciding which web browser to use on your computer. However, over the past year or so, I've found myself – almost by accident – slipping into the habit of using one web browser for personal surfing (no, that's not a euphemism) and another for work.

This might sound like a tremendous faff, but there are very good reasons for keeping my personal and business surfing separate. For the personal day-to-day stuff, I use Firefox. I returned to the Firefox fold after many years away because I was increasingly impressed with its privacy features, which curb the worst excesses of those pesky advertisers.

Firefox on my Mac is set to the browser's Standard level of Enhanced Tracking Protection, which means that social networks don't get to stalk me all over the web, cross-site tracking cookies are thwarted and so are resource-hogging cryptocurrency miners and privacy-infringing fingerprinters. What's more, primed with my email address, Firefox warns me if my password has been stolen because of its convenient tie-in with the excellent HaveIBeenPwned.com.

> "I returned to the Firefox fold after many years because it curbs the worst excesses of those pesky advertisers"

For work, meanwhile, I'm beavering away in Google Chrome. This is largely a matter of convenience. Certain sites and web services only play ball with Chrome because their lazy developers can only be bothered to make their sites work properly with the world's biggest browser. And then there's Google itself, which – artificially or otherwise – makes tools such as Google Docs work better in Chrome than its rivals.

Chrome also has the widest selection of browser extensions, such as the recently released Microsoft Editor – an excellent spelling and grammar checker for the browser, which helps to keep the articles I write online free of typos and split infinitives. That only came about because Microsoft Edge recently moved to the same browser engine as Chrome – the clearest case of 'if you can't beat 'em, join 'em' there's ever been.

There are further advantages to keeping personal and business surfing in separate browsers. For one, this effectively creates two distinct online identities in the different browsers, meaning it's harder for Google and the like to build a personal profile that covers both my personal life and work. There are practical benefits, too. I have both personal and business accounts with the same bank but, with two browsers, I can have the user ID (not the password!) for the personal account saved in Firefox and the business user ID saved in Chrome. Previously, I had to choose to save one identity or the other, because a browser won't store two different IDs for the same site.

My bookmarks toolbar for each browser is very different, too. Firefox's is festooned with links to football, gaming and other leisure sites; Chrome's is stuffed with tech-news sites and the content-management systems for the various websites I write for. As for passwords, they're all safely stored in the brilliant Bitwarden password manager (bitwarden.com), which has add-ons for both browsers, so no matter which one I'm in – Firefox or Chrome, desktop or mobile – I can blag my way into any site.

A browser for work and a browser for play. I never thought leading a double life would be this easy.

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

WebUser

SUBSCRIPTION OFFER
FOR MORE INFO SEE PAGE 62

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GET THE NEXT ONE EARLY!

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- Check your spelling and grammar
- Solve common Wi-Fi problems

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