



Hack Your Wi-Fi Router

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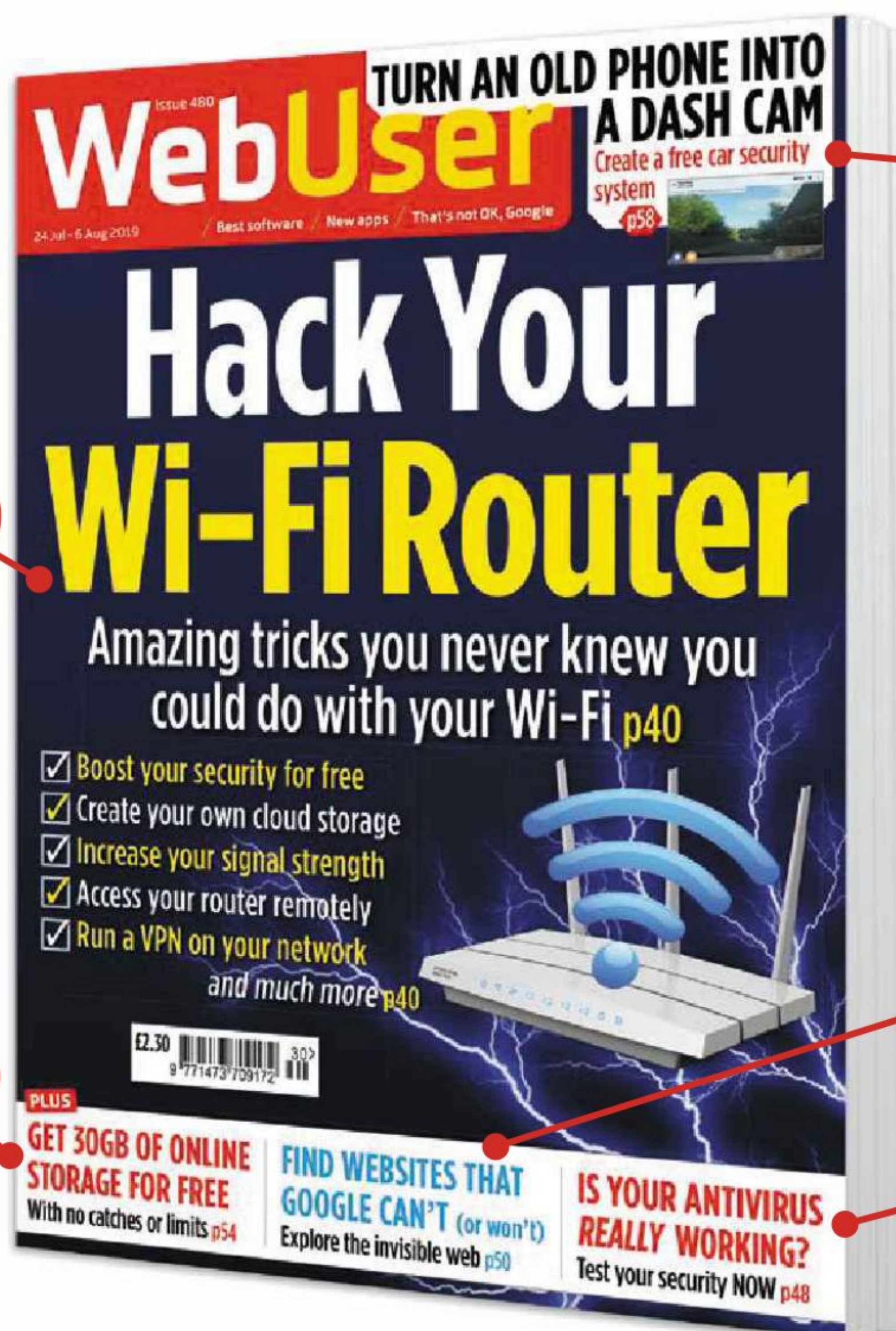
I've been binge-watching the US version of *The Office* on Amazon Prime Video, and was jarred to hear a character pronounce 'router' to rhyme with 'shouter', rather than 'shooter'. As with similar American inflections of words such as 'aluminium', 'tomato' and 'herb', I was alarmed by this mangling of the English language, and fired off an email of complaint to the US ambassador (only to find he'd resigned).

In this issue's cover feature, the word 'router' is used correctly throughout, but we do reveal how you can mess with the device itself, tweaking its settings to

increase speed, add useful features and boost your security. If you've ever wanted to install an ad blocker, VPN or cloud storage on your Wi-Fi network, we've got the hacks for you.

Also in this issue, we've expanded our Best New Websites section with a new page of Essential Bookmarks, for interesting sites you may have missed. Awesome, as they say in the States!

Robert Irvine, Editor
editor@webuser.co.uk
[#webuser](https://twitter.com/webuser)



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Hack Your Wi-Fi Router

Unlock the full potential of your
wireless home network



p40

Make sure your security software
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Practical WebUser

Workshops, tips, projects and problem solving

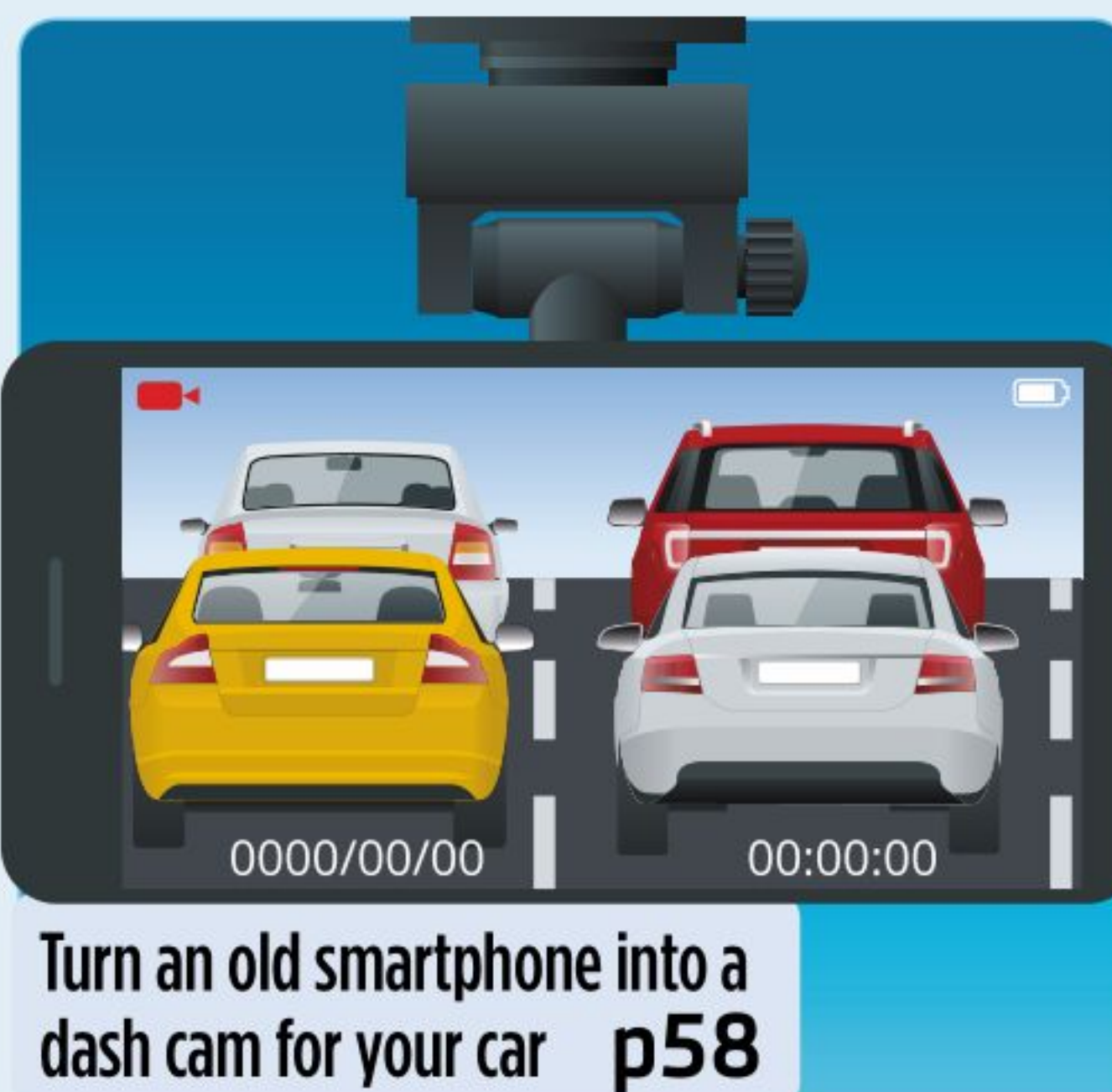
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EDITORIAL

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, Roland Waddilove, David Crookes, Jonathan Parkyn, Barry Collins, Nicole Kobie, Nik Rawlinson
Editorial email: editor@webuser.co.uk

ADVERTISING

Tel: 0203 890 3824
Group Advertising Director Andrea Mason
Senior Sales Executive Ashley Wood

ADVERTISING PRODUCTION

Group Production Manager Stephen Catherall, 0203 890 4050
Production Assistant Helina Ozyurt, 0203 890 3827

MARKETING

Marketing Manager Rachel Hare
Marketing Production Manager Gemma Hills

MANAGEMENT

Group Editor Daniel Booth
Managing Director Dharmesh Mistry
MD of Advertising Julian Lloyd-Evans
Commercial and Retail Director David Barker
CFO/COO Brett Reynolds
Chief Executive James Tye
Company Founder Felix Dennis

SYNDICATION AND LICENSING

Tel: 0203 890 4027
Endorsement Licensing Manager Ryan Chambers
Licensing Content Manager Nicole Creasey

SUBSCRIPTIONS

Tel: 0330 333 9493
Email: subscriptions@dennis.co.uk
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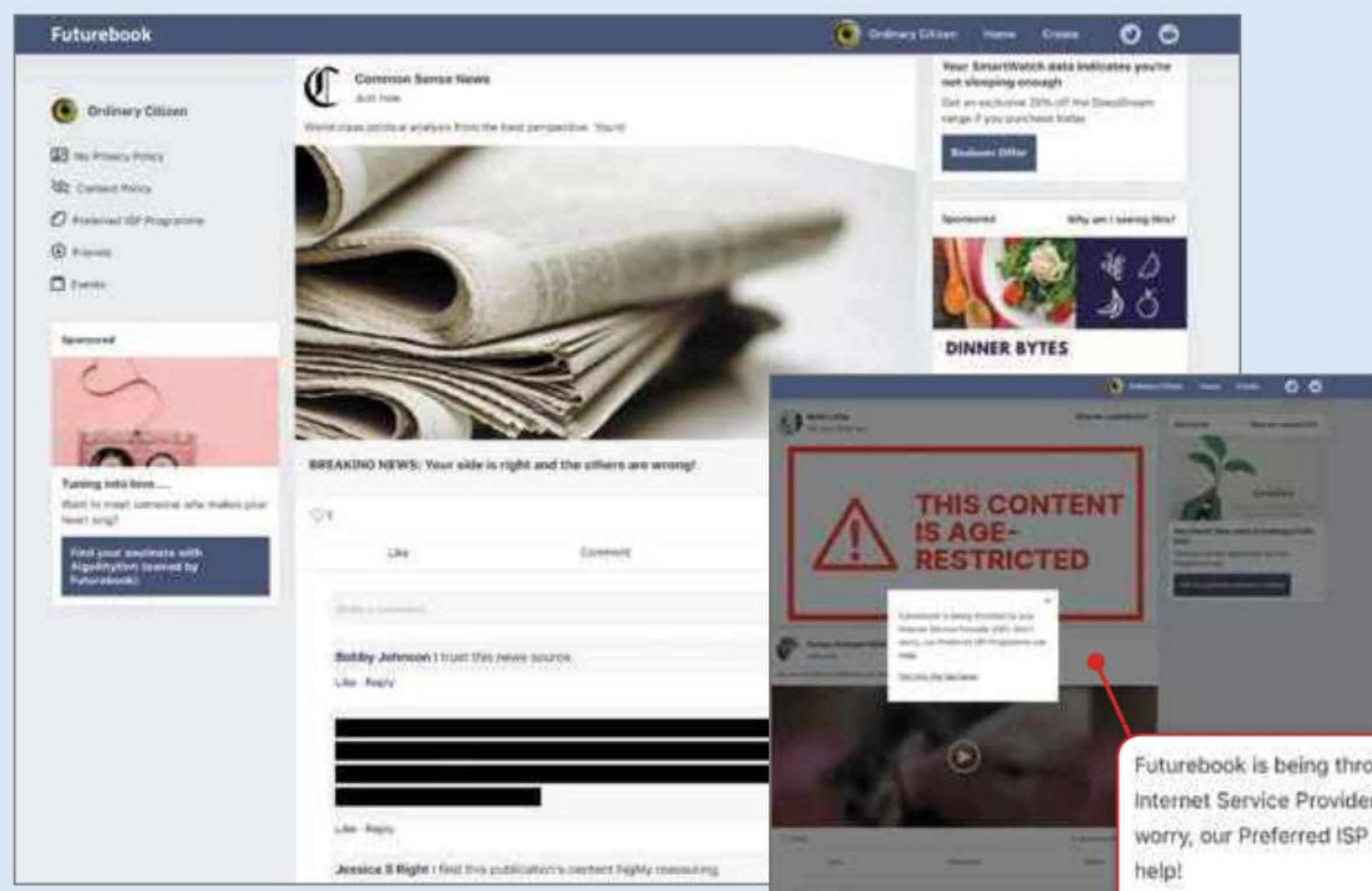
What's New Online

Get a glimpse of a dystopian web

No one really knows how life will play out once the UK finally leaves the European Union, but that doesn't rule out educated predictions such as Futurebook. This parody site from the Open Rights Group imagines social media in the UK stripped of the EU's consumer and digital-rights legislation.

Replicating the look of Facebook, the site paints a bleak picture of the future, with censored comments and videos, biased news and the inability to leave any posts that feature topics on a "restricted list". Certain content has been blocked "to comply with UK laws and policies" and connection speeds are throttled by all but preferred ISPs – that's presuming the UK won't adhere to the current set of digital policy acts, of course.

In the '[No] Privacy Policy', Futurebook says it collects everything it possibly can about you, down to your dating profile



(it doesn't really). Click the ads and it'll confess it's mining more data and using it how it likes. It's clever but worrying stuff, making you consider how important your rights to privacy are.

Once you're done, click Friends

and you'll be taken to the Open Rights Group website (www.openrightsgroup.org) where you can learn more about the organisation's activities.

www.futurebook.co

Choose how you watch the BBC's *Click* show

bit.ly/click480

The BBC's technology show, *Click*, has marked its 1,000th edition by developing a full-length interactive programme that puts you in the director's chair. Rather than simply watch the show from start to finish (as with the version aired on the BBC News channel), you can go online and delve deeper into the stories that interest you, make decisions that alter what you see and skip past the bits that leave you cold.

Created by the BBC R&D team using a content-creation tool called StoryFormer, the interactive *Click* brings together individual elements of the programme using a branching narrative format along the lines of an adventure game. It's



rather fitting, then, that the programme includes an interview with Ian Livingstone, co-founder of the Fighting Fantasy role-playing-game books. The Beeb says the format could be used more often in the future.

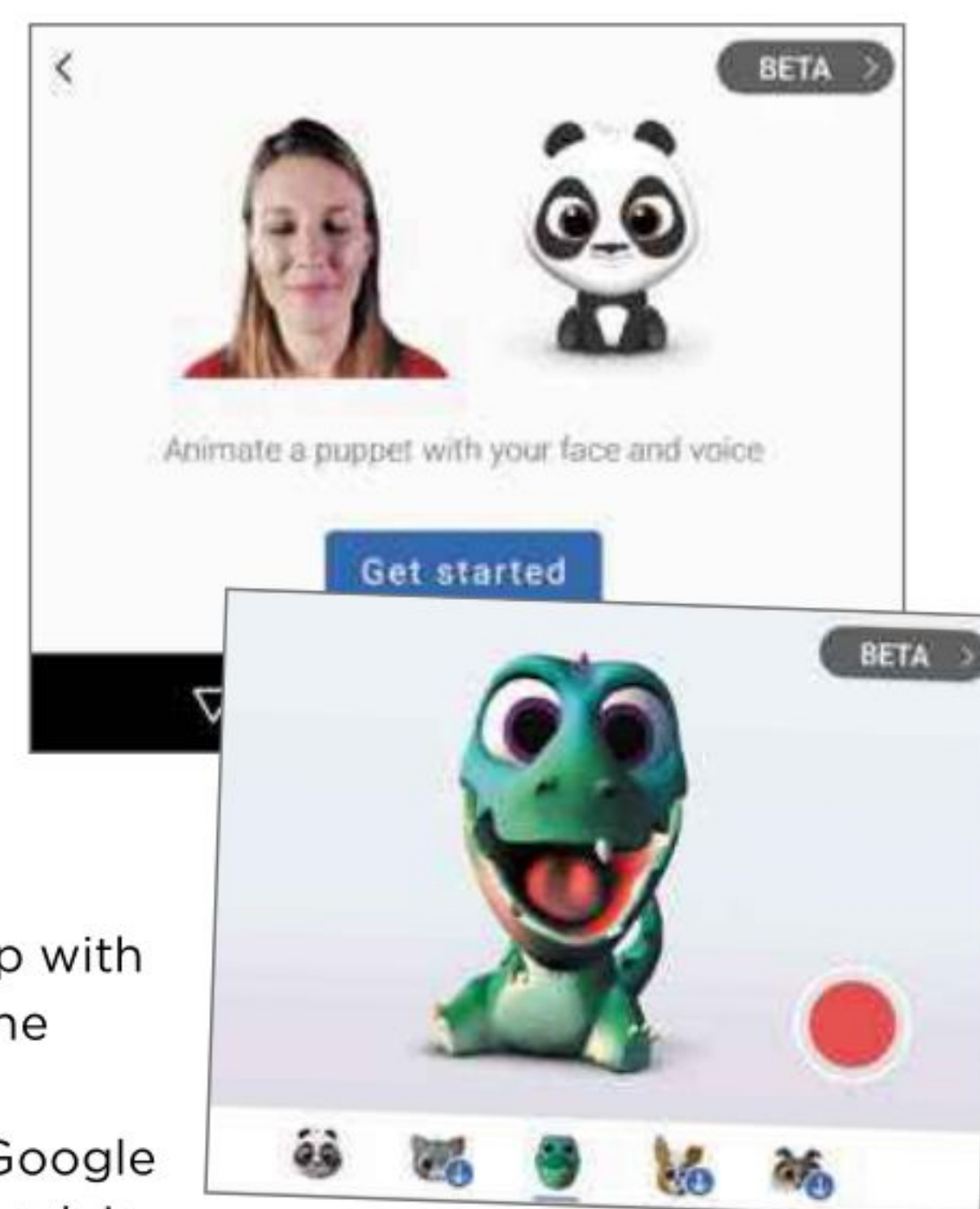
Create 3D animal emoji in SwiftKey

bit.ly/puppets480

When Apple announced iOS 11 in 2017, it introduced 3D animated emoji called Animoji, which use Face ID to scan and replicate your expressions. They turned you into a monkey, dog, cat, fox, robot or a pile of poop, with new characters subsequently added.

Now, Microsoft has come up with its own version. Available in the beta version of the SwiftKey keyboard (download it from Google Play), these animated emoji work in the same way, though this time they're called Puppets and are limited to a dinosaur, panda, cat, owl and dog.

To use Puppets, start a message and tap the panda icon on the SwiftKey toolbar. Allow the keyboard to take pictures and record audio and video, then hold the phone in front of you, choose a character and tap Record. As you talk, the chosen Puppet comes to life, with the resulting video available to share.

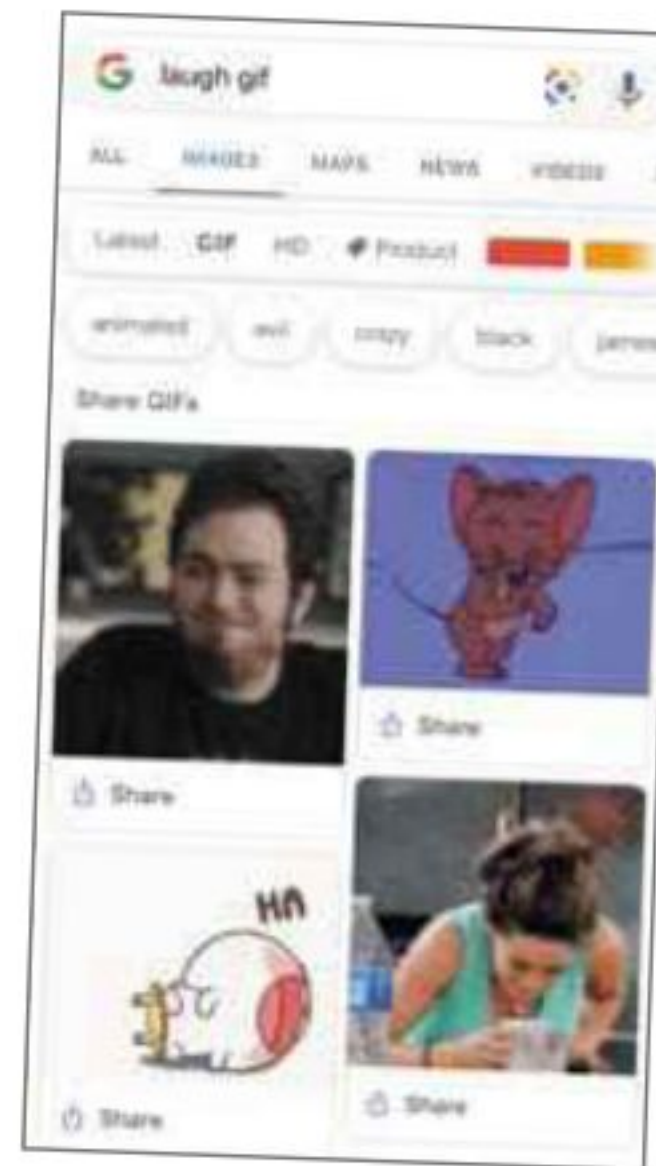


We pick the 10 best things you must do on the web this fortnight

Share GIFs directly from Google Images

images.google.com

If a picture paints a thousand words, then a GIF has the power to revolutionise your online communications, which is why Google Images has made it easier to find and share them. Enter a search term in the Google app for iOS or Android (or use Chrome on Android) and you'll see Share buttons in the GIF section for Messages, WhatsApp, Gmail and more.



NEW VOICE COMMANDS

Get the latest flight info
Use travel-planning app TripIt with Google Assistant to get the latest on your flights. Connect the TripIt action via Google Assistant and say: "Ok Google, talk to TripIt".

Listen to the radio
Siri can now play live national radio stations via Apple Music on iOS 12 as well as on HomePods. It sources the station from radio apps such as the ever-popular TuneIn.

Hear Spider-Man secrets
Sony Pictures' new Alexa skill offers behind-the-scenes Spider-Man interviews with cast members, a phrase of the day, travel tips, quizzes and jokes. Start by saying, "Alexa, open Spider-Man".

Explore awful web design

userinyerface.com

We at *Web User* have seen more than our fair share of poor website design. Even so, the monstrosities displayed by User Inyerface take frustration to a whole new level. Presenting itself as a game, it challenges visitors to get as far as possible through a series of truly terrible user interfaces. You'll be faced with perplexing "click here" buttons

that don't work as expected, an annoying time limit that's tricky to close, confusing tick boxes



and a validation checker, all used to highlight bad design practices. The sad thing is, we've probably encountered them for real, too.

Enter a race with Flappy Bird

flappyroyale.io

Remember the retro-styled game Flappy Bird from 2013, in which you had to fly a bird between columns without smashing into them? Well, if you thought that was difficult, wait until you see this browser-based Battle Royale take on the "classic" mobile game. Adopting BR's "last man standing" (or last-bird-flying) approach, the game pits you against 99 other players in a race to the end. To stay in the air and in the game, you have to repeatedly hit the spacebar, getting past as many pipes as possible. Our heartfelt congratulations if you manage to make it past the first hurdle.



Use privacy-friendly maps

www.qwant.com/maps

Qwant is a French search engine that claims to respect your privacy. It says it will delete geolocation data received by its new open-source mapping service, Qwant Maps, which supports directions as well as letting you edit its data.

View a global film map

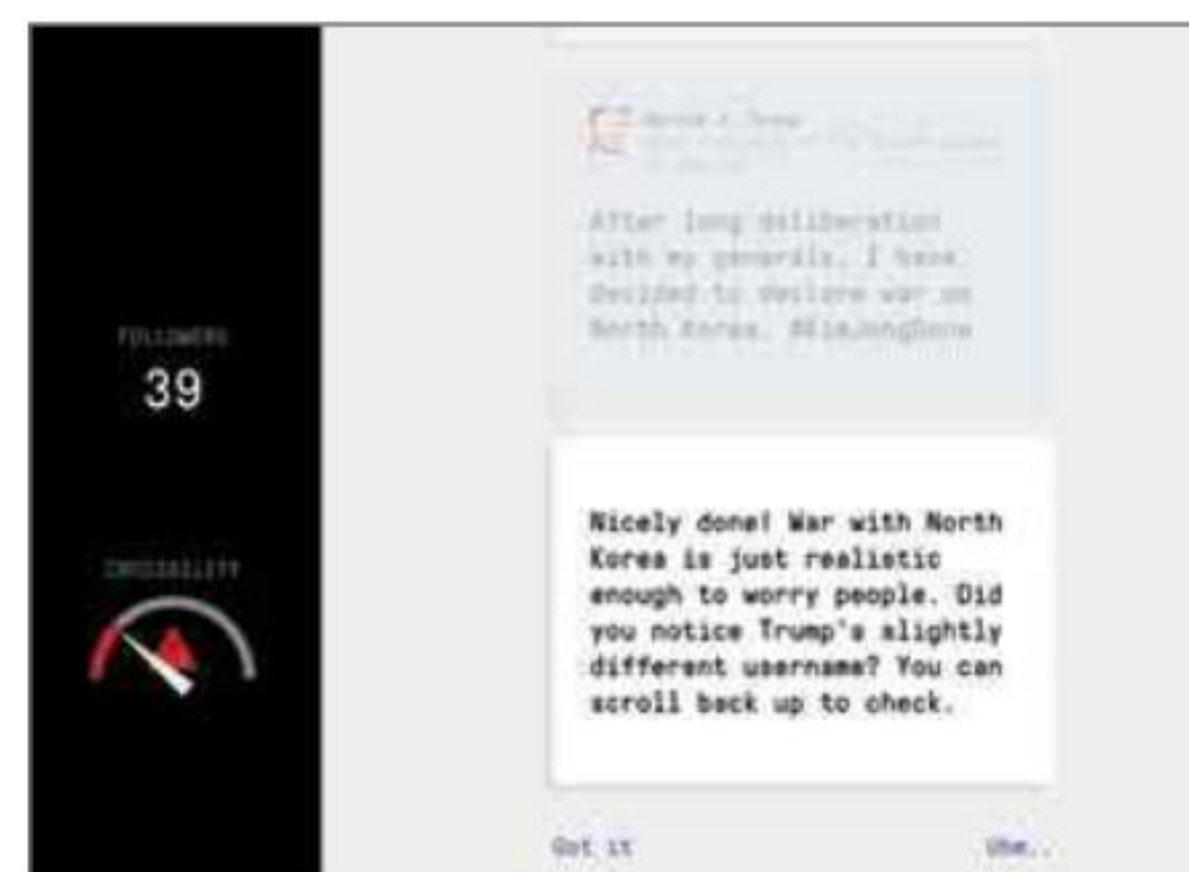
bit.ly/filmmap480

This map show you the 10 movies mentioned most often on Wikipedia for each country in the world and pinpoints filming locations – for example, Bristol for *Avengers: Age of Ultron* and Bilbao for *Highlander*.

Test if you can spot fake news

getbadnews.com

Fake news has become a huge problem online, making it more important than ever to question what you see and read. Researchers at Cambridge University have devised a game in which you earn points by spotting and sharing disinformation to amass more followers. Watch that credibility meter as you troll,



impersonate and conspire, while learning more about the methods used by peddlers of fake news.

Get football fixtures in your calendar

pl.ecl.com

To ensure you don't miss any footy action when the season starts, the Premier League is letting you import its fixture list to your calendar. It works with Google, Apple, Outlook, Hotmail, Office and more, and you can select fixtures for specific clubs.

Google admits listening to private Google Home chats

What happened?

Google has admitted that contractors working for the company listen to recordings made by its voice-recognition system Google Assistant and the Home speakers that are powered by it. The news follows a similar admission by Amazon about its Alexa assistant earlier this year.

Google Home, like Amazon's range of Echo speakers, is activated by a 'wake word' such as "hey Google" or "OK Google". In theory, it only listens to commands that follow these approved wake words, rather than hearing everything else said in its vicinity at other times. Those verbal commands are sent via the internet to Google's own servers, where they're transcribed into written speech by artificial-intelligence systems so that Google Assistant can formulate a response.

Or that's what's supposed to happen, at least. In reality, Google Assistant sometimes wakes accidentally and begins recording. Dutch journalists reviewed a thousand such recordings leaked by a local contractor and found that more than 10% weren't intentional commands for Google Assistant. Additionally, the system's AI speech-recognition system isn't always sharp enough to transcribe the audio, which means the recordings are handed to human workers – usually contractors

rather than full-time staff – to transcribe by hand. This means that a human is sometimes hearing commands you never intended to share.

Google said human workers only listen to around 0.2% of audio clips sent by Assistant back to homebase, and that the audio is not associated with users' names or accounts. It also insisted that human reviewers are told to ignore and not transcribe any background conversations or recordings that are clearly mistakes.

How will it affect you?

There's currently no way to see if recordings from your Home speaker have been sent to a person to transcribe rather than AI technology. It would be ideal if Google had a way of signalling this to users, so we could see how often this occurs, rather than relying on data leaked to Dutch investigators.

If you think a Google Assistant-powered device might be listening to your conversation, remember that it shows when it's recording. On a Google Home device, the lights will flash; on an Android smartphone, an indicator appears on the screen. If you see signs that the system is recording, feel free to tell Google what you think of it.

You can find out what spoken information Google has recorded via Assistant. Head to myaccount.google.com/activitycontrols and click Voice & Audio Activity. Here, you can see every snippet of audio that Google has recorded, whether by voice search or a Home device, and what it translated the text to. You can even play back the clip. You can also turn off all audio collection; if you have a Home device, this will render it pointless, but might be handy if Google Assistant on your phone keeps enabling and recording you.

What do we think?

It may seem obvious now, but sending recordings of your audio to Google or Amazon could mean a person working

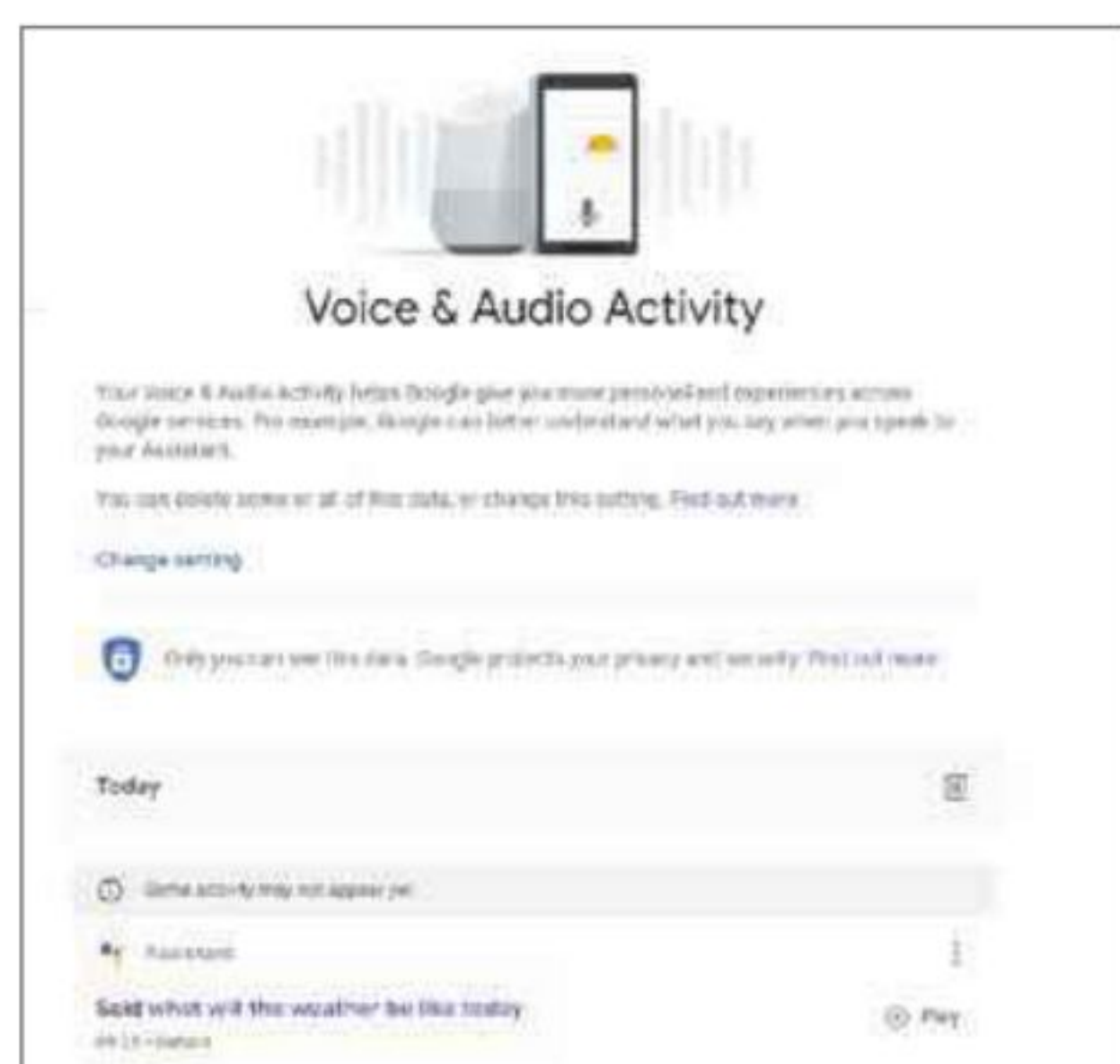


for the company may hear it. That's not made clear to anyone using these devices at the point of purchase. There's no warning on the side of the box that a contractor may hear your silly questions – or an argument with a spouse you didn't want it to record. Even with the privacy protections Google claims to have in place, that's unnerving. Voice assistants can be handy, but that convenience – as ever – comes with serious privacy tradeoffs.

These stories are also timely reminders that AI isn't as smart as tech giants like to pretend. The speech-recognition systems used by Google and Amazon need human support. Understanding different languages, accents, and slang or jargon isn't easy for anyone, let alone a computer system, so it's no surprise that human help is needed.

It's good that Google and Amazon are working to improve their systems, but these challenges certainly aren't mentioned in the fancy adverts that make Google Home appear almost magical in its abilities.

See our news story on page 10 for details of the latest privacy fears over Amazon's Alexa assistant teaming up with the NHS.



You can review voice recordings captured by Google Assistant and delete them

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

Android malware infects 25 million phones

What happened?

Security researchers have uncovered a new form of Android malware that infects apps to replace parts of their code with its own – affecting as many as 25 million devices. It was discovered by researchers at security firm CheckPoint and dubbed “Agent Smith”, after the character in sci-fi film *The Matrix*.

The malware uses a trio of known vulnerabilities to infect devices and impersonate official apps, targeting multiple popular Android tools. Once in place, it uses its position to show fraudulent ads, rather than hoovering up your data. While it's difficult to assign blame for such attacks, Agent Smith



appears to come from a Chinese app company.

How will it affect you?

There have been 137,000 infections in the UK, though there are usually several per phone, so fewer devices than that are actually affected. Indeed, the bulk of the infections have targeted victims in Hindi, Arabic and Russian, CheckPoint's

researchers said. The victims installed dodgy apps from unofficial stores, thinking they were legitimate games or apps.

As ever, the researchers warned that it remains dangerous to download apps from third-party stores or from other unknown sources. Most of the infections were spread via an unofficial app store called 9Apps. However,

11 apps with a version of the malware were spotted in the official Google Play store; they've since been removed.

What do we think?

Such malware is difficult to prevent. Google appears to have acted quickly to remove infected apps from its own store, but it's disappointing that they bypassed quality checks in the first place. App developers should also be apologising because the bug that allowed “Agent Smith” to insert malicious code was patched several years ago, yet they failed to update their own apps, leaving users at risk. We expect better from professional developers.

Windows 10 to ditch passwords for PINs

What happened?

Can't remember all your passwords and worried about getting locked out of accounts? The good news is that they may soon be a thing of the past in Windows 10 and other Microsoft products – though you'll still have security for your laptop or PC. Microsoft is planning to ditch passwords for Windows 10 in the next major update to the operating system, which is due to arrive in 2020. Instead, you'll log in with your PIN code, or use facial recognition or your fingerprint.

How will it affect you?

The shift away from

passwords on the PC is likely to come into force next year, but you can already switch to a PIN for logging in now. Though you will still have a password associated with the account, you won't need to type it in every time you start your PC. To set up a PIN, or an alternative login system such as facial recognition, open the Start menu and search for “sign-in options”. There, you can set a PIN, picture password or enable fingerprint or facial recognition, if your device supports either.

A four-digit PIN may seem less secure than a password, but the real risk is passwords being reused across different sites and services, so always use a variety of logins.

What do we think?

This is a practical answer to an irritating problem. Passwords are a pain, and not as secure as many of us think.

Microsoft and other companies have long been pushing two-factor authentication, which is when you use a second, independent method to sign in, such as a security token, your phone or your fingerprint, alongside your password. Here, physical access to the device is acting,



in a way, as that second factor – if most attacks come from online, the fact that you're sitting in front of your PC counts for something. Keeping security solutions simple genuinely helps people and we applaud any move that gives us less to memorise.

Amazon Alexa to dispense NHS health advice

What happened?

"Hey Alexa," you'll soon be able to ask, "what are the symptoms of flu?". To which Amazon's Echo smart speaker will respond with details direct from the NHS. The government has confirmed that the National Health Service is teaming up with Amazon's Alexa voice assistant to provide patients with official advice and information. So not only can Alexa set alarms and play music, but it will also now search the NHS website (www.nhs.uk) to tell you if your symptoms are serious.

Voice searches are becoming more popular, with half of all searches expected to be voice-activated by next year. Officials hope this partnership will benefit vulnerable people such as those with mobility issues or visual impairment. They're also hoping to cut demand on vital NHS services.

Matt Hancock, Secretary of State for Health and Social Care, who has long been keen on introducing tech solutions to the NHS, said: "We want to empower every patient to take better control of their healthcare, and technology like this is a great example of how people can access reliable, world-leading NHS advice from the comfort of their home." He added that "we want to embrace the advances in technology to build a health and care system that is fit for the future".

Not everyone is happy, though. Silkie



Carlo, director of civil-liberties charity Big Brother Watch (bigbrotherwatch.org.uk) called it "a data protection disaster waiting to happen". In response, Amazon only proffered a message that "all data was encrypted and kept confidential. Customers are in control of their voice history and can review or delete recordings."

How will it affect you?

This project simply reads information straight from the NHS website, using Amazon's algorithms to determine whether your query is medically related, so it's identical to searching www.nhs.uk, or calling the non-emergency 111 support line. However, any data-privacy

concerns you have are understandable. We'd recommend only using Alexa for casual symptoms, such as migraines, rather than serious illnesses.

What do we think?

This partnership was inevitable in the age of Dr Google. For years, people have searched their symptoms online. At least the Amazon-NHS pairing offers official medical advice, so people might not end up fearing the worst. But we have serious reservations that it may stop people seeking proper medical consultations, and we'd want to see a firm commitment that all NHS-related queries remain strictly confidential and are not exploited by Amazon.



FIRST LOOK

Nintendo Switch Lite

bit.ly/switch480

Since the 1989 release of the Game Boy, Nintendo has reigned supreme as the king of the handheld gaming system – beating off challengers such as the Sega Game Gear and Sony PS Vita, while still maintaining a foothold in the traditional console market.

Then, along came the Switch. Nintendo's 2017 console had an interesting twist: it was both a portable and a console, able to 'switch' between being played on the TV and on the move. The Switch Lite focuses on the latter function – it's lighter, more compact and has fewer features than its big brother, but internally very little has changed. Both machines run on a Custom Nvidia Tegra graphics processor with 4GB

of RAM and 32GB of internal storage. The only real upgrade here is to battery life, which is increased by around 20-30%.

The new console measures 3.6 x 8.2in and weighs 227g, compared to the Switch's 400g, which makes it great for on-the-go gaming. On the downside, unlike the original, there's no TV output, so you can't dock your console and play on the big screen. Instead, you're limited to playing on its relatively dinky 5.5in touchscreen. On the other hand, that screen has seen a boost in pixels-per-inch, leading to sharper images.

Also missing from the Switch Lite are the kickstand, motion controls and 'HD rumble' feature. The JoyCon controllers, too, aren't detachable, although you do



now get a proper, more precise D-pad.

As if that wasn't trade-off enough, Switch Lite owners will have to be careful which games they buy because only those that support handheld mode work on the portable console – although Nintendo says you'll be warned if you try to buy non-compatible games.

Initially available in yellow, turquoise and grey, the Switch Lite will be released in the UK on 20 September, priced at £200.



WHAT'S THE RUMOUR

Is Apple launching a foldable iPad?

Over the last few months, plenty of technology companies have been rumoured to be working on foldable devices – and you can now add Apple to that list.

Famous for refining existing hardware, Apple is now believed to be working on a foldable tablet, according to a researcher for China's Economic Daily News. The website (bit.ly/lin480) reported that Jeff Lin, an analyst at information broker IHS Markit, "revealed that Apple is quietly building a folded iPad that will support 5G and come with a Series A processor". Lin reckons the device will measure the same size as a MacBook when unfolded.

Perhaps most interesting is the reason for Apple's move into the foldables market: to create a rival to Microsoft's long-rumoured foldable Andromeda device. If true, this could be confirmation that both devices are currently being tested for retail.

Economic Daily News points out that Apple has yet to deliver a traditional 5G-powered iPhone, much less a foldable 5G iPad, but Lin claims that, "the folding iPad is not only highly portable, but also has a larger screen and more business-friendly features".

Given Microsoft's move to attract companies over consumers in recent years, Apple would need to at least attract business customers if it wants to rival Microsoft hardware. As expected, Apple has declined to comment.



LIKELIHOOD RATING



Back when the foldable craze kicked off, we wouldn't put it past any tech firm to churn out a foldable device. Since then, however, Samsung has run into trouble with its flagship foldable phone, while cheaper rivals just aren't up to snuff. Apple isn't likely to gamble on technology that barely operates – it has a reputation for premium hardware to uphold. But if anyone can make the technology work for a mainstream market, it's Apple.

WEBOMETER

WE LIKE...

Instagram adds tools to fight bullying

Instagram has introduced new anti-bullying tools to discourage abusive behaviour, which identify potentially hurtful comments and ask users if they're sure they want to post them, while allowing people to "secretly block" offensive users.



Dropbox launches file-transfer service

Dropbox has launched a file-sharing service called Dropbox Transfer as an alternative to email, which lets you send large files of up to 100GB – five times what other services allow. You can sign up for the beta at bit.ly/dropbox480.



WE DON'T LIKE...

Twitch users live-streaming while driving

Game-streaming platform Twitch has banned several users for live-streaming themselves on their phones while driving. Twitch cites "dangerous or distracted driving" as an example of "self-destructive behaviour" in its community guidelines.



Social media users hit by benefit scam

Fraudsters are targeting social-media users with a scam that exploits a loophole in Universal Credit benefit. The scammers have taken as much as £1,000 from their victims after secretly making false Universal Credit claims in their names.



What's new on Kickstarter

Our favourite new project on the crowdfunding site

It's OK

bit.ly/tape480 | From £60

There's something joyfully romantic about the portable cassette player, and a nostalgic Kickstarter entrepreneur has now added a modern twist. The It's OK tape player features Bluetooth 5.0, so your music plays at a higher quality via Bluetooth headphones or speakers. Stylistically and mechanically, there's little to differentiate this from a classic Walkman – you still need to rewind or fast-forward, and there's a 3.5mm headphone jack for traditional listening – so long as those AA batteries last, anyway. Pledges for It's OK start at £60 for one tape player and a blank cassette.



Stay Safe Online

News about the latest threats and advice from security experts

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

NHS anaesthetic machines vulnerable to hackers

A security flaw has been discovered in a number of GE Healthcare devices used by the NHS, which could allow hackers to remotely control the amount of anaesthetic delivered to patients.



The vulnerability requires a "low skill level to exploit" and could enable hackers to silence device alarms, alter date and time settings, adjust anaesthetic doses and switch anaesthetic agents, according to cybersecurity firm CyberMDX. GE Healthcare, a US-based provider of healthcare products, told the BBC that there was no "direct patient risk", but CyberMDX said the devices can be remotely controlled if simply

left connected to a hospital's network.

Nottingham University Hospitals (NUH) confirmed that "a small number" of the vulnerable devices were active in its hospitals, but are in the process of being phased out. "None of the anaesthetic machines are connected to the internet or the NUH network so there is very little risk around these machines within NUH," a spokesman said.

bit.ly/anaes480

British Airways receives record fine for data breach

British Airways has been fined £183m over a major security breach last year – the biggest penalty ever handed out by the Information Commissioner's Office (ICO). The airline says it was "surprised and disappointed" by the decision and plans to appeal, but experts say BA could have been fined more than double that amount, under the Europe-wide General Data Protection Regulation (GDPR).

Last September, the airline revealed

that the personal and payment data of tens of thousands of customers had been stolen,

after hackers carried out a "sophisticated, malicious criminal attack". Apologising to those affected, BA bosses said that the stolen data did not include travel or passport details.

According to the ICO, BA customers were diverted to a fraudulent site, where the details of around 500,000 people were harvested – far more than BA initially suggested. Following the announcement of the fine, BA chairman Alex Cruz said: "British Airways responded quickly to a criminal act to steal customers' data. We have found no evidence of fraud or fraudulent activity on accounts linked to the theft".

bit.ly/ba480



Credit: Fasttailwind / Shutterstock.com

Security Helpdesk | Your questions answered by security specialists

THIS ISSUE'S EXPERT:
David Emm, Principal Security Researcher at Kaspersky Lab
(www.kaspersky.co.uk)

KASPERSKY Lab

Q Can we trust Alexa to give us medical advice from the NHS (see news story on page 10)?

Paul Giddings, Facebook

A We know that people are becoming more and more reliant on smart devices such as the Amazon Echo, and the

popularity of voice assistants such as Alexa is growing. While these devices offer many benefits, primarily convenience, they are at their core merely smart listeners, and recent headlines have resulted in some scepticism about their increasingly central role in our lives.

We also know that Amazon is storing and analysing the data that these devices collect, which raises alarms around cybersecurity. If these devices are giving out medical advice, they will be privy to sensitive health data, so it must be made clear to the public how the data will be protected.

Regardless of the benefits,

“ It must be made clear to the public how our health data will be protected ”

it is vital that Amazon is totally transparent, providing consumers with the assurance they need that their data is well safeguarded. It is also important that people are provided with a way of opting out of their data being stored.

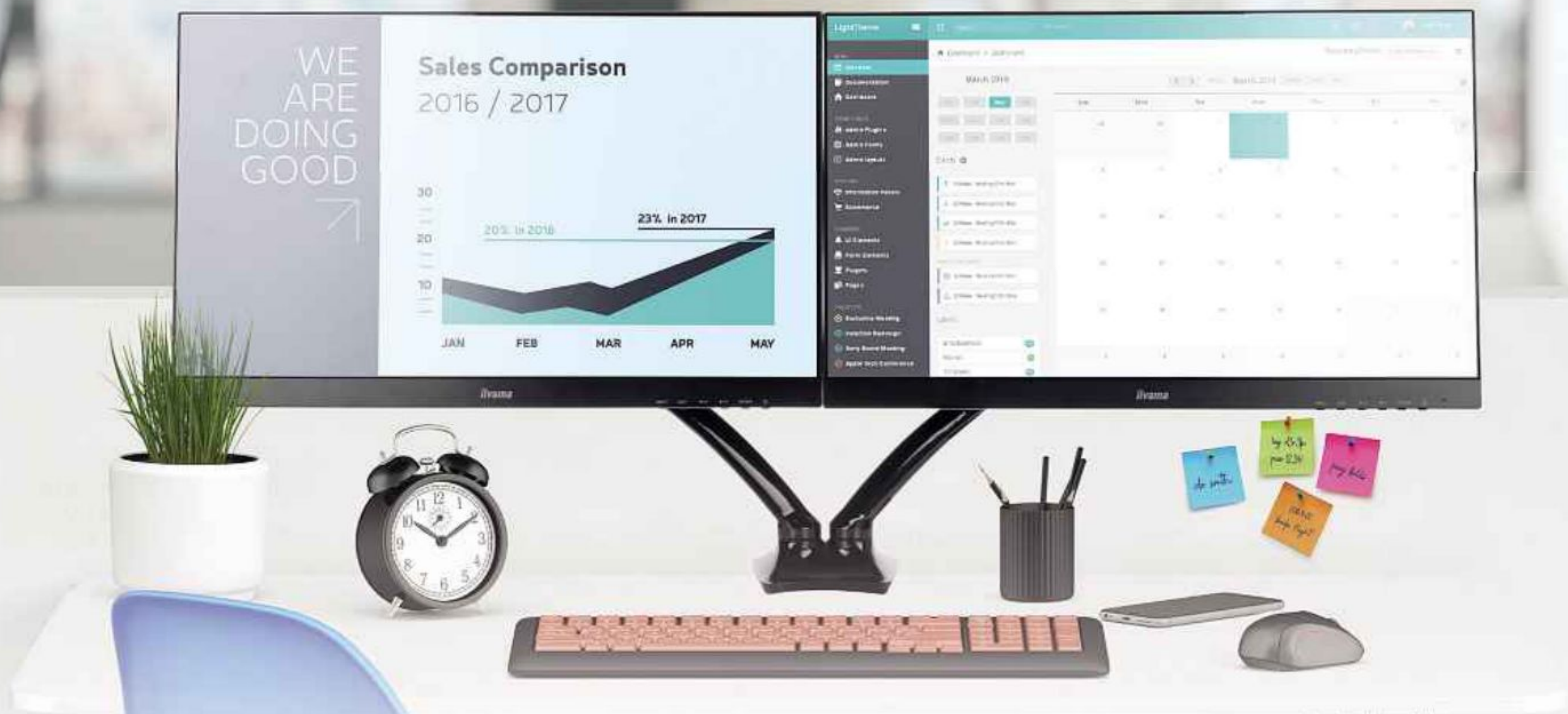
There's a world of difference between the temporary local storage of spoken data, to determine if the command word has been

used, and bulk retention of data for long periods, or permanently – even if the listening process is legitimate and consumers have opted in. Amazon has already been criticised for not making it clear what its devices record and store, and at Kaspersky, we are concerned that the company is moving in the wrong direction – away from data visibility, privacy and consent.



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★ Best New Websites

Site of the Fortnight

CHARITY

RELAUNCH

Make-A-Wish UK

www.make-a-wish.org.uk

Charity websites sometimes cram in so much information that it dilutes their message, but that certainly isn't the case with the UK arm of the Make-A-Wish Foundation, which is simple, bold and direct. While the homepage features stories of critically ill children being helped by the charity, the site's many other sections are now tucked into a tidy 'star' menu, where you can learn more about the Make-A-Wish charity's work and how to get involved, and submit a wish application for a child in your care. By putting a positive spin on sad tales, this charming site does a great job of promoting a very worthy cause.

Our rating



Donate to Make-A-Wish now

And help us grant life-changing wishes for children with critical illnesses



DONATE

You can set up a regular donation to Make-A-Wish UK or make a one-off payment

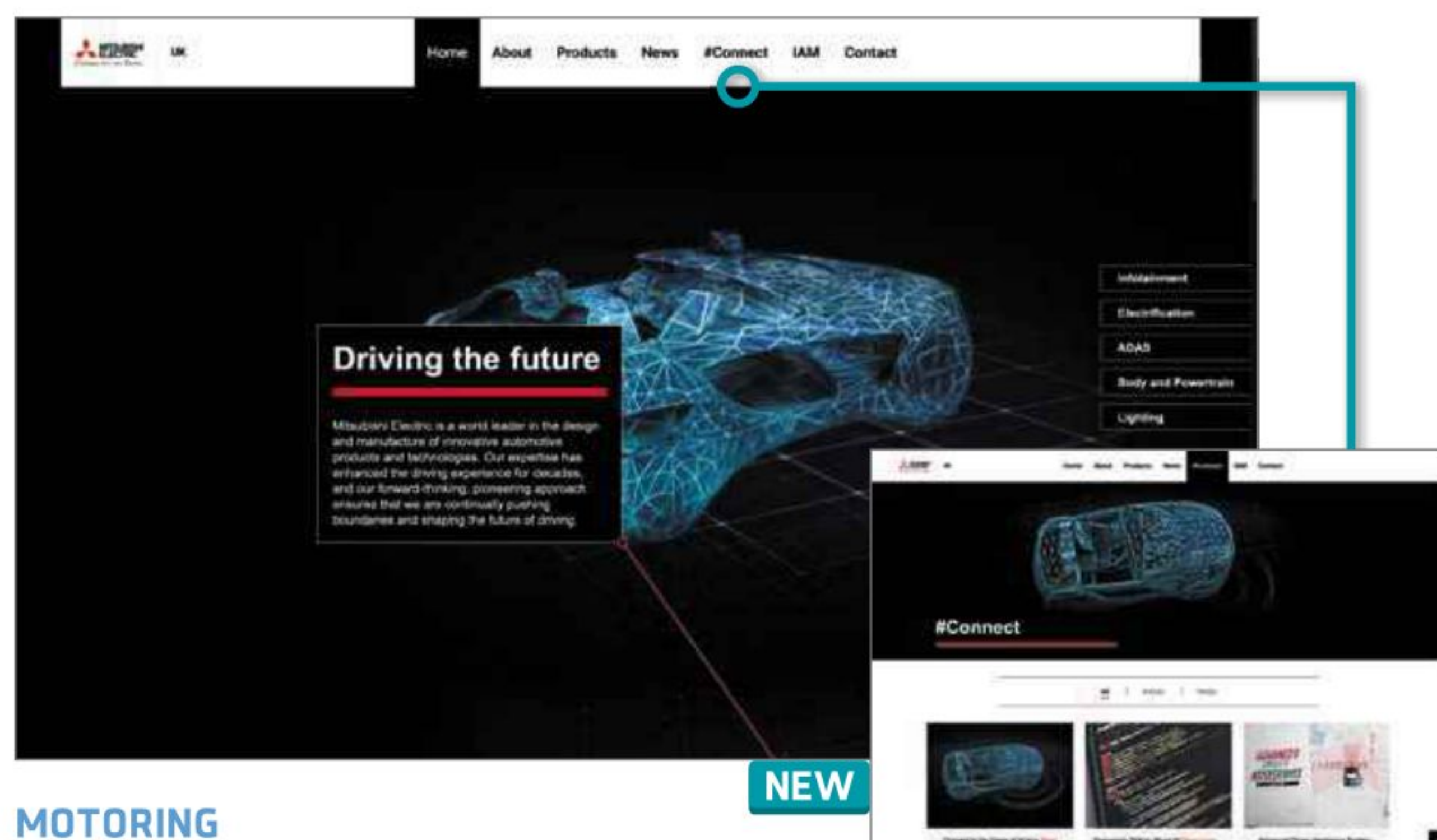
STORIES

Read stories about poorly children who are requesting or have been granted a wish



Helen proudly showing off her collection of Bing Hop Nappy Toys

Make-A-Wish
UNITED KINGDOM



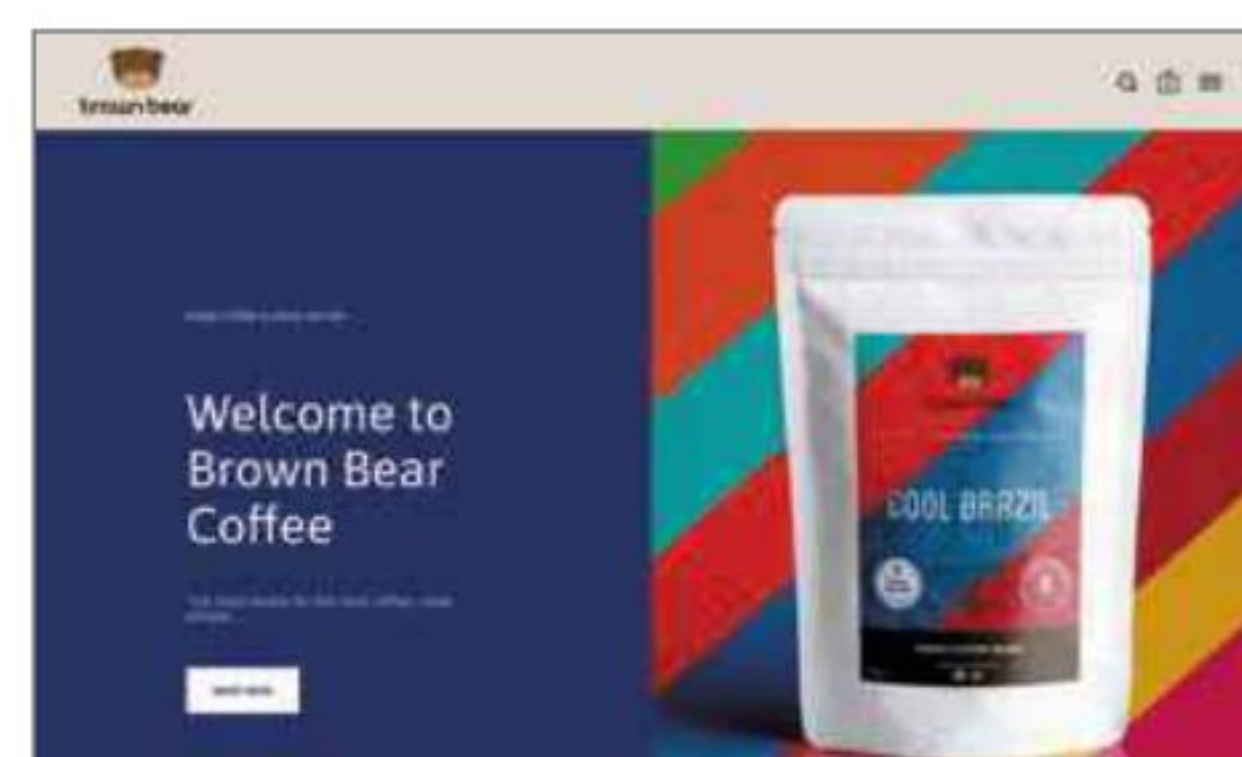
MOTORING

Mitsubishi Electric Automotive

automotive.mitsubishielectric.co.uk

Mitsubishi reckons its electric vehicles are going to be driving the future – hence the glowing wireframe graphics that dominate the homepage of this new website. Scroll down to view the manufacturer's work via brief descriptions of its products linked to in-depth explanations that are packed with images. While there are no details of the actual cars, there's a bustling news section and, more importantly, an insightful blog called #Connect, which takes a look at where the industry is heading. You can also click through to the main Mitsubishi Electric website to discover the company's history and non-vehicular technology, and check out its social-media accounts.

Our rating



RELAUNCH

FOOD & DRINK

Brown Bear Coffee

www.brownbear.co

If you're like a grizzly with a sore head until your morning cup of joe, this site could be a welcome awakening. It sells its own brand of coffee using gorgeous product shots, delicious descriptions and customer reviews, and an easy ordering process. There's a sumptuously presented coffee guide hidden away at the bottom of the screen where you'll learn about coffee chemistry, different types of bean, elements that make a perfect cup and the best ways to serve. There's also a discount for first-time buyers, as well as rewards for opening an account and making subsequent purchases.

Our rating



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

TEXT WISH TO 70111 TO DONATE £3 A MONTH

Donate **Menu**

Find an event
From walks and runs, to gala dinners and bake sales in your community, we have a range of events that you can take part in.

Fundraise in your Community
Planning to hold your own event in the local community? We've got lots of fundraising tips and ideas to get you started and materials to support you on your journey.

Volunteer your time
Volunteers are at the heart of our organisation. Find out more about how to volunteer your time and really make it count.

MENU
Learn more about Make-A-Wish UK's work and all the ways you can get involved

APPLY
If you know a child who would benefit from a wish, you can apply through the site

Wishes are often around four key themes

- I wish to meet...**
To meet someone special or important like a hero, celebrity or influencer.
- I wish to be...**
To be someone or something – such as a superhero, princess or a character.
- I wish to go...**
To go somewhere and spend time doing something special.
- I wish to have...**
To own something special or particular like a toy.

Whatever the child's wish, we make the experience a truly individual and memorable one.

Read about some of the wishes we have granted

Read Kelsey's Story **Make Moments Happen**

Welcome to the Insider Programs at Microsoft

Bing Insider
Want to help shape the future of Bing? Get early access to new features, test them out, and give us your feedback. You'll also get exclusive content and more.

Office Insider
Want to help shape the future of Office? Get early access to new features, test them out, and give us your feedback. You'll also get exclusive content and more.

Edge Insider
Want to help shape the future of Edge? Get early access to new features, test them out, and give us your feedback. You'll also get exclusive content and more.

Windows Insider
Want to help shape the future of Windows? Get early access to new features, test them out, and give us your feedback. You'll also get exclusive content and more.

COMPUTING

Microsoft Insider Programs

insider.microsoft.com

Microsoft's Insider Programs for Bing, Office, Edge and – of course – Windows let you peek at their development and test features before they become official. The idea is that you leave feedback so that Microsoft can make improvements and, by bringing these programs together in a single-page hub, they're now easier to find. In each case, you can read what's involved and learn more before deciding whether to register for each individual program. Microsoft is likely to add more information to this page as new Insider Programs become available.

Our rating



Get Your Boiler Quotes from BoilerQuoter - the UK's NO.1 Boiler Comparison Website!

Save up to 10% on your boiler by getting your boiler quotes from BoilerQuoter - one of the UK's most trusted comparison websites.

When you compare boiler quotations through BoilerQuoter, you'll see instant comparisons with all the major boiler brands, including Baxi, Worcester Bosch, Vaillant, and more. We also offer boiler installation, repair and servicing quotes from local, trusted engineers. But that's not all. The BoilerQuoter website is a full-fledged boiler marketplace, too, with a range of boiler parts and accessories available for purchase.

Our online comparison service is quick, easy and completely free to use. So what are you waiting for? Start comparing now and looking for your perfect boiler. Installation and servicing quotes available from local, trusted engineers.

COMPARISON

BoilerQuoter

boilerquoter.co.uk

Comparison websites are built to make life easier – with insurance or utilities, for instance, you can usually get instant quotes. Annoyingly, at BoilerQuoter, you're left to simmer – enter your details and requirements, and you have to wait while national and local companies get their prices together. Still, the site redeems itself with a list of local engineers and solid advice about heating, boiler brands, insurance cover and repairs. In fact, these should tell you all you need to know about boilers including typical prices. Perhaps use this knowledge to get quotes of your own.

Our rating



Philip Morris & Son

End of Season SALE

SHOP NOW

New Arrivals

Best Sellers

SHOPPING

Philip Morris & Son

www.philipmorrisdirect.co.uk

The home and country department store Philip Morris & Son operates from a Tudor building in Hereford, yet its new online store feels very modern. Designed to be more mobile-friendly, this upgrade makes it easier to find items and specific brands thanks to improved navigation and a smarter layout. Items can be previewed, compared and added to a wishlist, and the checkout process is intuitive, but we think it should better promote the “virtual reality” Street View tour of the shop that lets you nose around the departments, rather than hiding it away under About Us.

Our rating





NEW

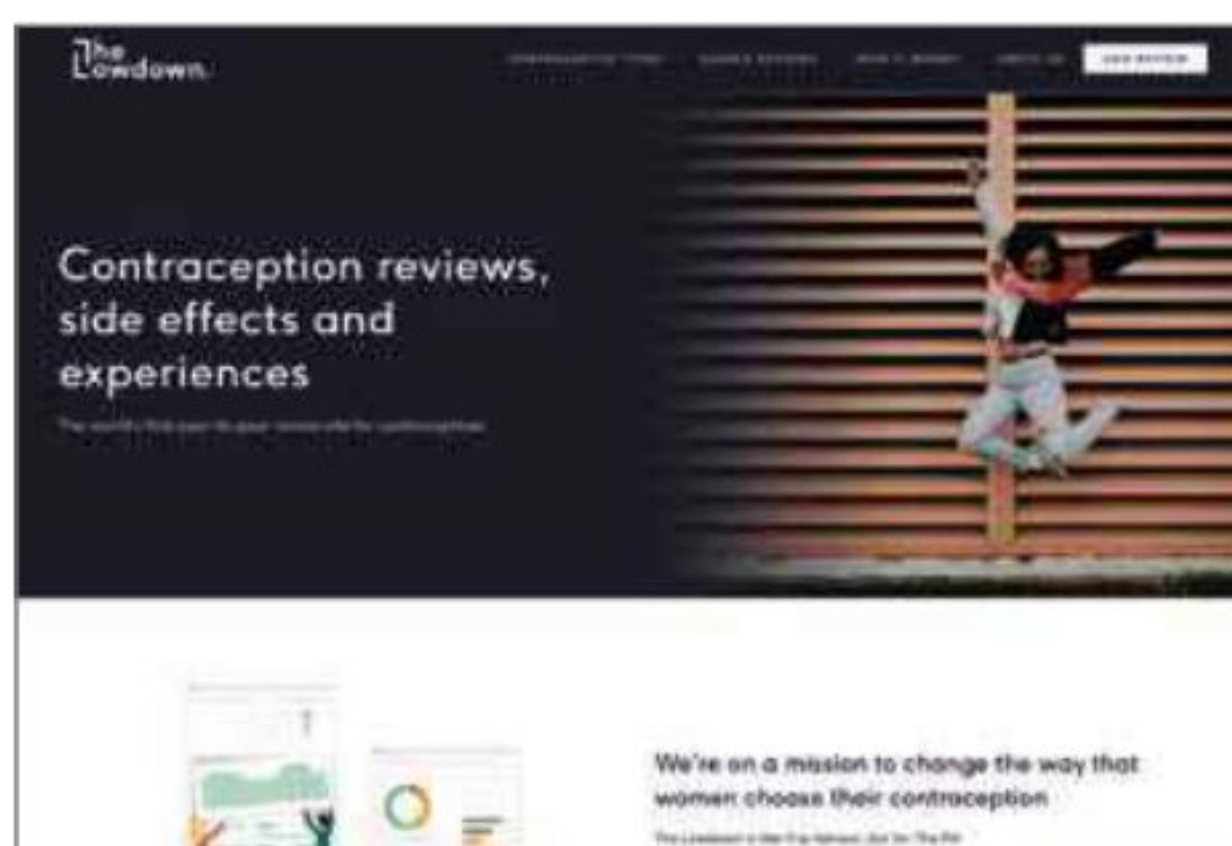
TOURISM

Visit Champagne

www.visitlachampagne.travel

Champagne is more than a sparkling wine – it's a region of France rich in architecture, history and cuisine. The tourist board's new marketing drive includes this glossy, eye-catching site that fizzles with sophistication as it explores the main cities and the heritage, wine cellars, vineyards and events that take place there. Drop-down menus make navigation easy while a 'plan your trip' section lets you view (expensive-looking) accommodation. Some of the language is a little too flowery and the calendar needs better highlighting of dates, but it gives a good flavour of what you can expect.

Our rating



NEW

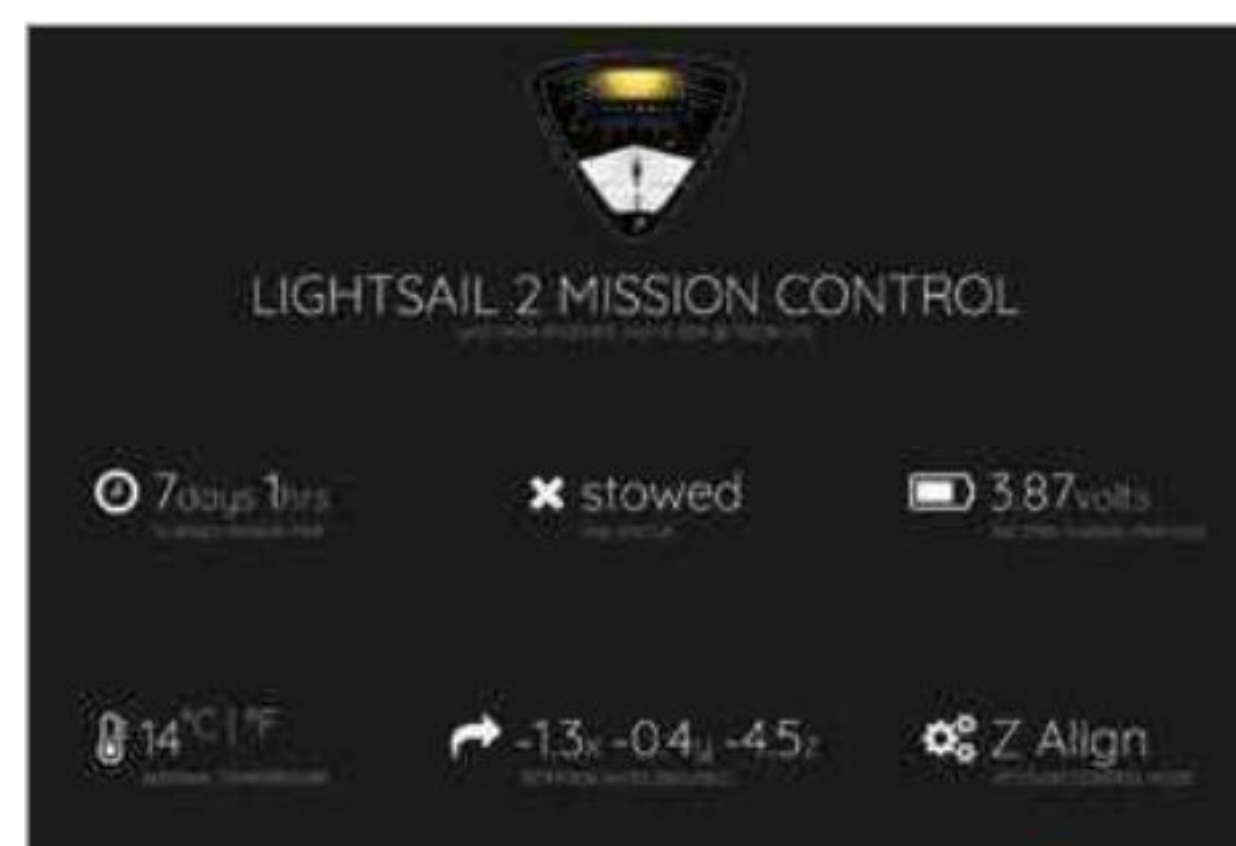
HEALTH

The Lowdown

thelowdown.com

Since a lot of contraception has side effects, Alice Pelton has set up The Lowdown so that women can anonymously share their experience of 15 methods and 48 brands. Dubbing itself a "TripAdvisor for contraception", it's incredibly intricate in its level of detail, giving an overall user-rating of each type along with information about how it works, its clinical effectiveness and how often it is taken. The side-effects are given as percentages based on the reviews and there are handy charts for moods, periods, weight and sex drive. Along with a wealth of search filters, it provides a unique and informed insight.

Our rating



NEW

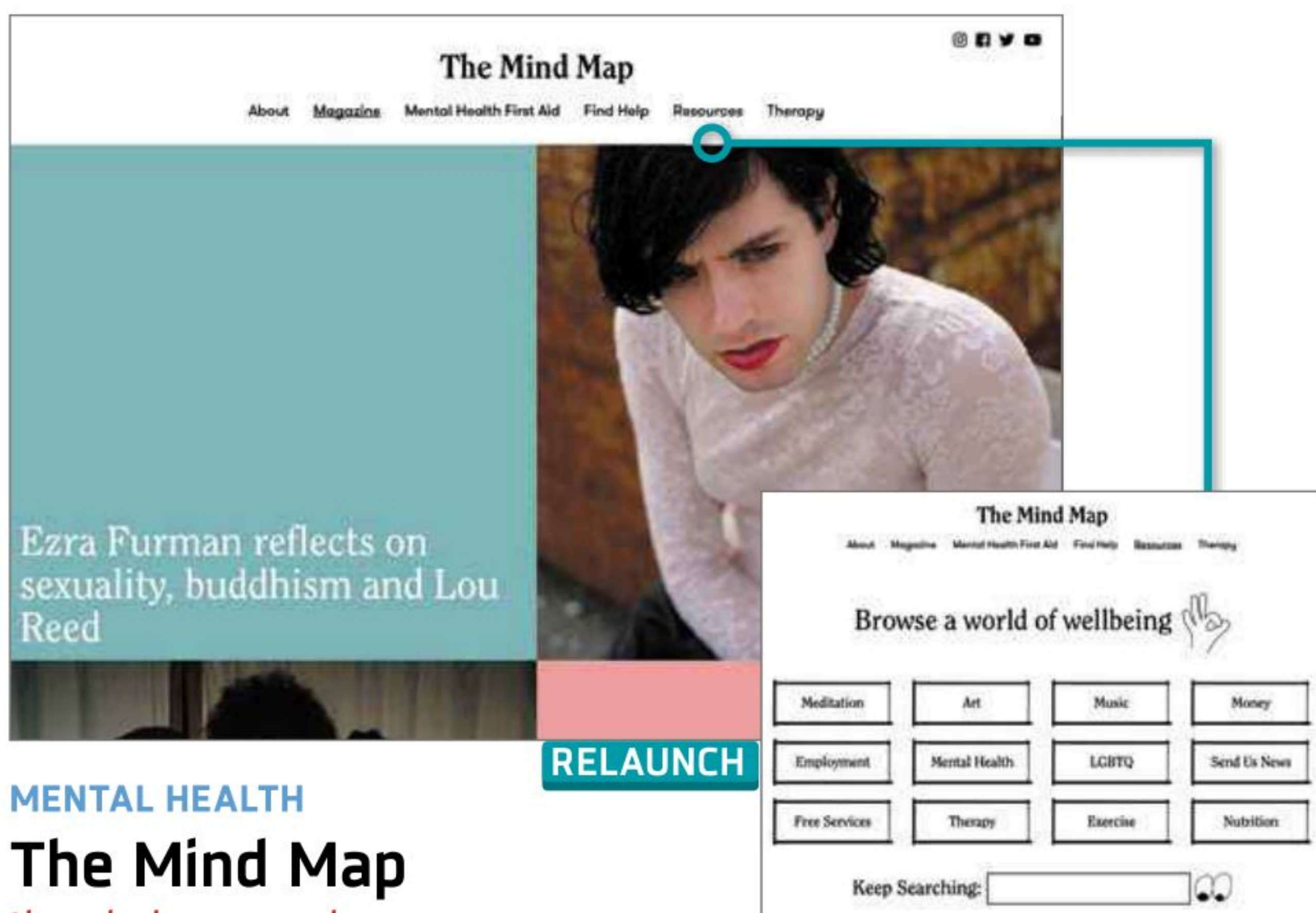
SPACE

Lightsail 2 Mission Control

bit.ly/lightsail480

On 25 June, Lightsail 2 became the first spacecraft in Earth orbit to be propelled solely by sunlight, following a crowdfunding campaign by The Planetary Society. This new website publishes the data that's being sent back, presenting it in such a clear way that it never threatens to overwhelm. Aside from viewing Lightsail 2's current location, you can see the elapsed mission time, sail status, internal temperature and even the battery charge. Recent data can also be downloaded and there are several interesting articles, including images taken of Earth.

Our rating



RELAUNCH

MENTAL HEALTH

The Mind Map

themindmap.co.uk

Primarily aimed at people aged between 16 and 30, The Mind Map plots a way to better mental health by offering resources, courses and subsidised counselling. Visitors can discover free mental-health services and book an online or personal session with an accredited therapist. But the hub's main selling point is a magazine which, aside from offering advice such as breathing techniques for anxiety, interviews musicians, actors and sports people about their mental health. Most are Q&As which, as well as being comprehensive and interesting, assist in breaking the stigma many find still attached to mental-health issues. It's a direction we applaud.

Our rating



NEW

TOURISM

Taste of the North York Moors

www.tasteofthenorthyorkmoors.com

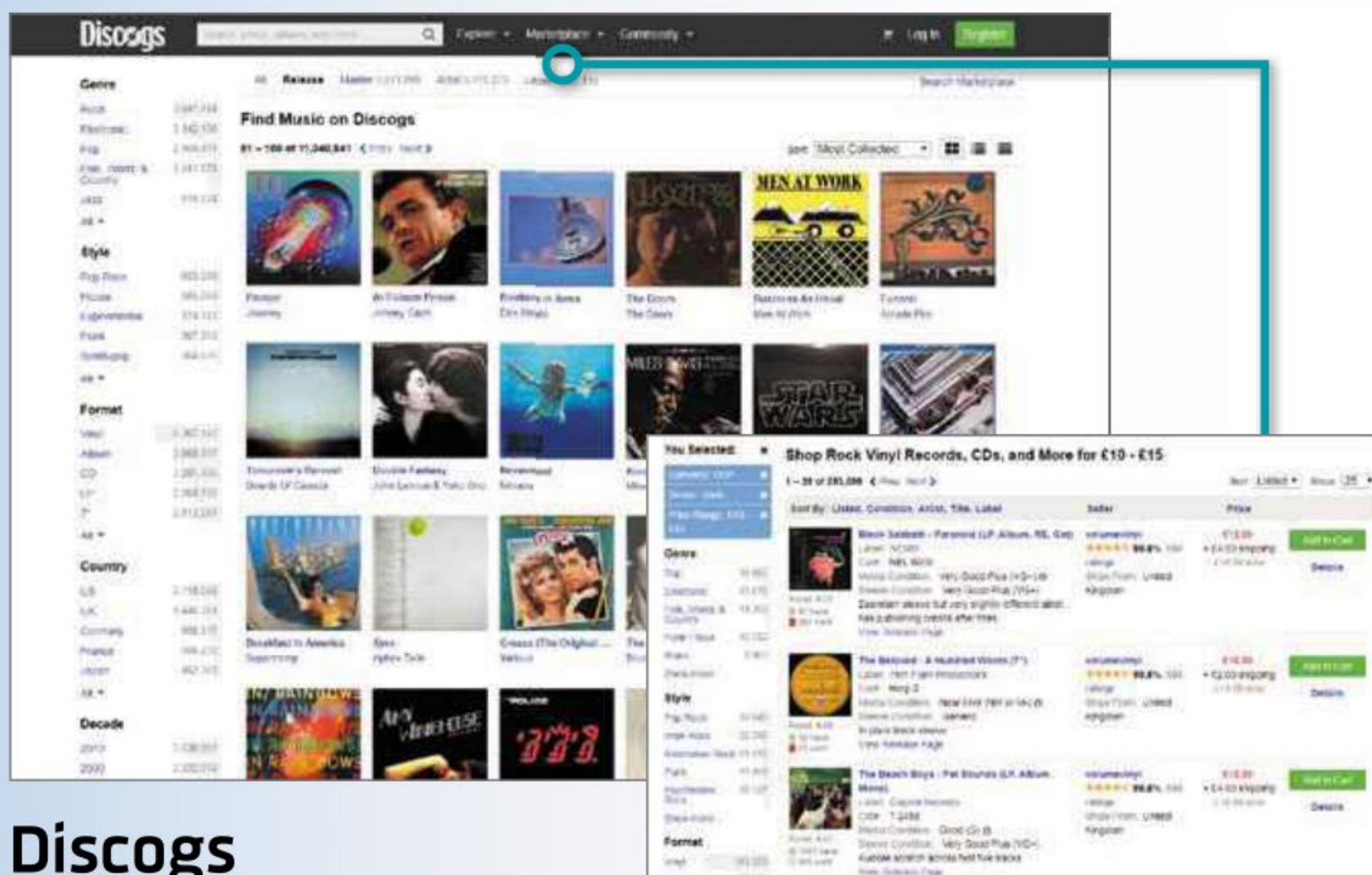
This website is like blue cheese – it initially doesn't look very appetising but is rather tasty once you take a bite. While there are lots of lovely photos of different independent producers operating in the North York Moors National Park, the site lacks immediacy and organisation. The descriptions of individual businesses are pleasantly personal but a bit overlong, although the map gives a good sense of context and the contact details and links allow for greater culinary exploration.

Our rating



ESSENTIAL BOOKMARKS THIS ISSUE: Must-visit music sites

NEW!



Discogs

www.discogs.com

This massive database of vinyl and CD recordings is an invaluable resource for any serious music collector. It provides track lists, credits, barcode details and other useful information for more than 11.3 million singles and albums by 6.3 million artists, including every international version, promotional release and limited-edition pressing. Discogs' content is compiled and edited by its users to make it as accurate and up-to-date as possible, and the site also offers a marketplace for buying and selling records and CDs. Covering every musical genre you can think of, it's a brilliant means of tracking down an obscure 12in-only B-side, the catalogue number of a Japanese import or the contents of an old compilation.



Mixcloud

www.mixcloud.com

Most web users are familiar with SoundCloud (soundcloud.com), but the cool kids (and adults) hang out at the UK-based Mixcloud, where you can enjoy more than 15 million radio shows, DJ mixes and podcasts for free. Despite the impression given by the homepage, the music here isn't just "banging" trance and R&B, but spans everything from pop, rock and soul to classical, jazz and world, with mixes streaming instantly in your browser. Mixcloud is also a great place to find talk shows and spoken-word content – the most popular examples globally include programmes from Radio Orkney and BBC Shetland – and lets you upload your own content to share with the world.



Bandcamp

bandcamp.com

Spotify may be the most popular music-streaming service, but it's been criticised for paying artists as little as £0.00376 per stream. Bandcamp is a much fairer and potentially more lucrative option for new bands, solo acts and independent labels because although it lets them share their music for free, the artists can earn money through selling downloads of their songs and albums, as well as merchandise, getting paid directly by fans. Bandcamp then takes a 10-15% slice of the profits. Music lovers, meanwhile, can discover and support up-and-coming acts before everyone else, and stream tracks for free in their browsers. Bandcamp fans have so far paid £315m to its artists and labels.



Tunefind

www.tunefind.com

Have you ever had a song from a TV show stick in your head, but not had a clue what it's called or been able to remember any lyrics? If so, you'll love Tunefind, a music search engine that identifies tunes played in television series, movies and games. Tunefind provides links to stream or buy the tracks on services including Spotify, Apple Music and YouTube, and currently lists 190,000 tracks by 61,400 artists from 85,500 episodes and films. Users can vote to confirm the accuracy of the service's suggestions and ask questions about the music used in specific scenes. When we visited, 'trending music' included songs heard in the ITV2 reality show *Love Island* and the new *Toy Story* film.



Official Charts

bit.ly/archive480

The Official Charts site publishes the UK's weekly singles and album charts to 2.5 million visitors, but its brilliant Archive tool is less well known. You can view the top-selling songs and LPs for any date you specify, going back to 1952 for singles and 1956 for albums. We can tell you, for example, that 45 years ago, George McCrae topped the hit parade with 'Rock Your Baby', while Paul McCartney and Wings had the number one album, *Band on the Run*. Clicking the plus sign by an entry reveals additional stats, and you can also buy and listen to tracks, while charts after 1994 include the whole Top 100. Be warned – it's very addictive!

Build a Better Site

Specialist tips, top tools and practical help

Top Tips of the Fortnight

Gather your SEO tools

If you're interested in improving your website's position in Google search results, you'll be well aware of the bewildering array of tools that are available to help you.



We're so spoilt for choice that it's not the availability of useful tools that's a problem, but how to keep track of them all. One answer is to install SEO Tool Extension in your browser. This adds a

directory of useful links to the extension's button, which makes finding and using such tools far simpler. Download it for Chrome from bit.ly/seochr480 or Firefox from bit.ly/seoff480.



Learn JavaScript more easily

JavaScript makes your website more dynamic, but it's not easy to learn, especially if you have no other programming experience. Ultimate Courses (ultimatecourses.com) brings coding mastery a step closer with its free JavaScript Basics course (bit.ly/jvsb480). It consists of 63 seven-hour lessons, which should provide a solid grounding to get you started.

Deal of the Fortnight

Ionos (www.ionos.co.uk) is offering a year of hosting with its Business package for £1.20 per month. It includes a domain, an SSL certificate and 100GB of storage space.

Web-building Helpdesk

Q I receive site stats from my host, Google Analytics and WordPress, but they're all different. Which one can I trust?

Howard L, via email

A We've found stats from web hosts to be the least reliable, though arguably it depends on your host. WordPress's stats usually seem good, but the reporting tool is relatively simplistic and it can be difficult to extract meaningful information from it. We'd plump for results from Google's Analytics because it's an industry standard that people will be happy to compare to other sites, and its website can be used to arrange your data into handy graphs and charts. Whether it's actually accurate, however, is difficult to prove.

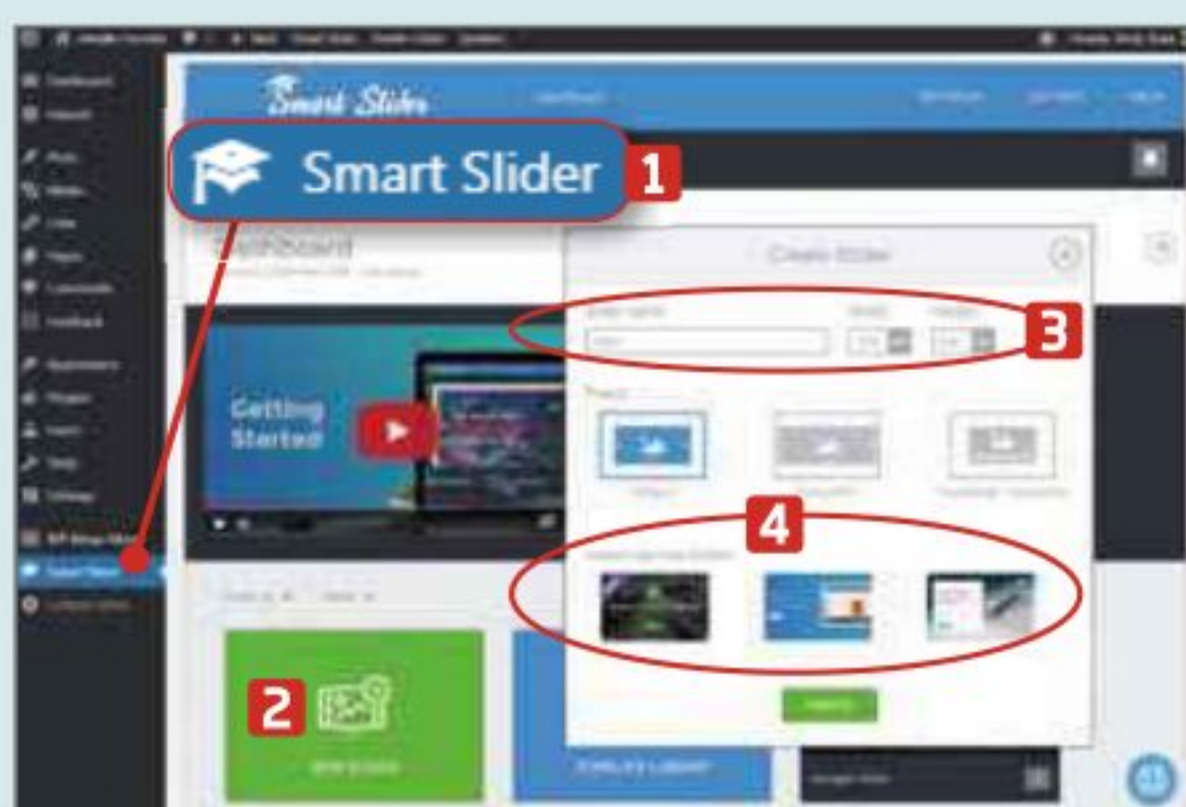


Andy Shaw, Technical & Reviews Editor

MINI WORKSHOP | Build a sliding gallery on a WordPress website

Smart Slider 3: bit.ly/smsl480 |  10 mins | [WordPress website](#)

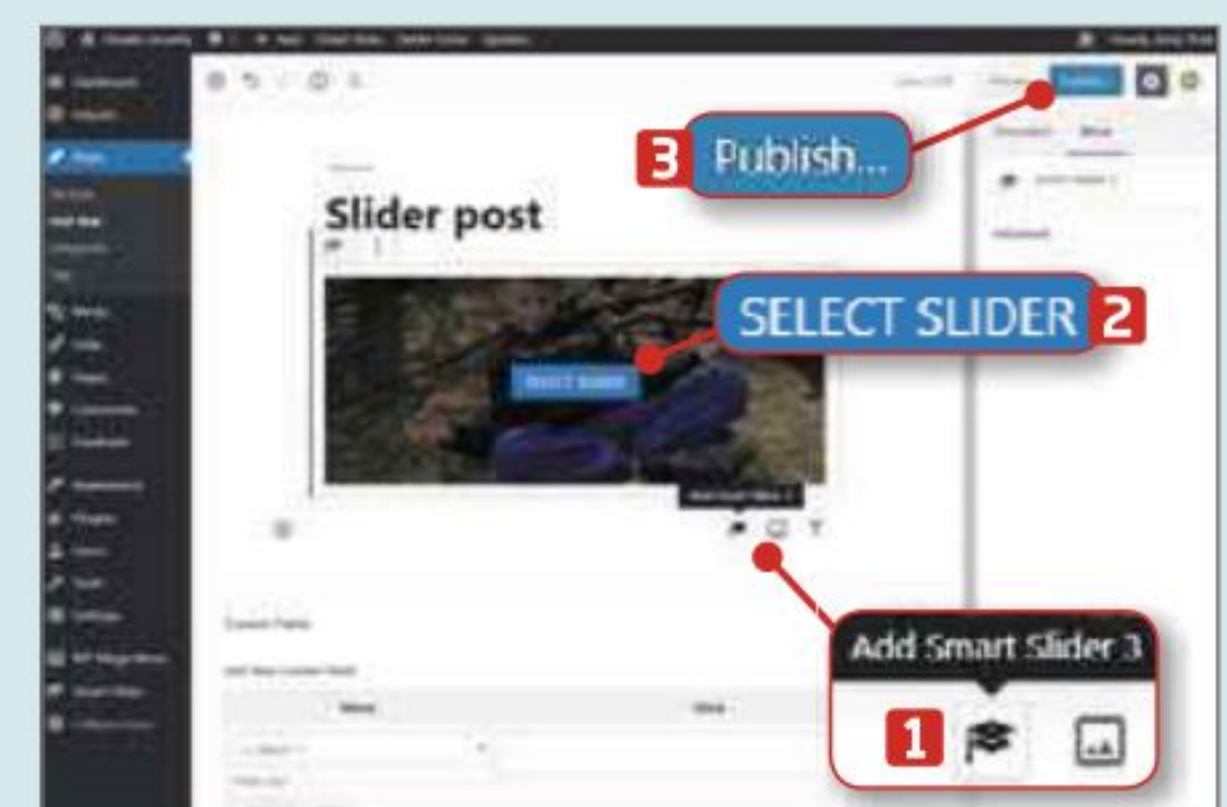
If you've got a WordPress website, it's really easy to add an attractive sliding gallery to your posts and pages, which you can use to show off your photos and promote other pages on your site



1 Install and activate Smart Slider 3 in the usual way. A new option is added to the WordPress menu. **1** Select it, then click the New Slider button. **2** You can change the name and size of the slide, **3** or choose a template **4** if you want some help with your design. Click Create.



2 Click Add Slide. Choose Image **1** to select one or more images from your Media Library, or Library **2** to go to Smart Slider's collection of templates. The images you choose appear in the bank below. **3** Click and drag to reorder them.



3 To publish your slider in a post, create the post and give it a heading. Click the Add Smart Slider 3 icon. **1** A blank slider appears. Click the Select Slider button **2** and choose the slider you made in the previous steps. When the rest of your post is ready, click the Publish button. **3**

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What To Watch Online

Pick of the fortnight

NETFLIX



Discover the truth about your private data in *The Great Hack*

From 24 July

What happens to the personal info you share online every day via logins, searches and social-media posts? Who's got it, what are they doing with it and who are they giving it to? New Netflix documentary film *The Great Hack* (bit.ly/greathack480) reveals the terrifying truth about your data, which is now the world's leading commodity – the oil of the 21st century.

Oscar-nominated directors Karim Amer and Jehane Noujaim weave their film around interviews with key players in last year's Cambridge Analytica scandal, which saw the British political spin firm secretly harvest the private info of 87 million Facebook users. But *The Great Hack* is far more than a *Panorama*-style parade of talking heads, instead weaving intense drama from its opposing players, much like 9/11 docu-drama *The Looming Tower* (now on Amazon Prime Video at bit.ly/tower480). By the end it's clear that the Facebook case was just the tip of a horrifying iceberg.

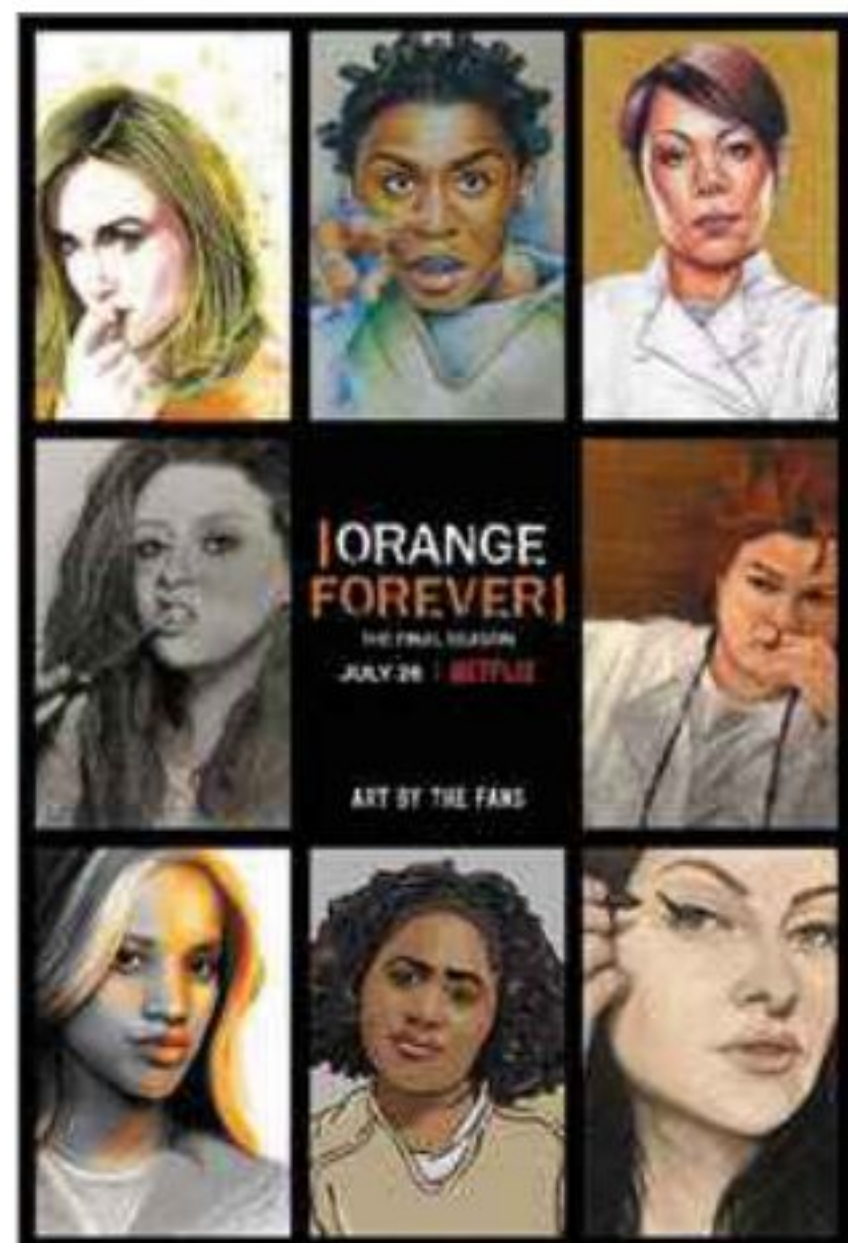
There's no trailer yet but the film has its own website (www.thegreathack.com), complete with data privacy survey – and we couldn't help notice it's not HTTPS encrypted, so our browser gave it a slap on the wrist ('Not secure'). How ironic!

N Bid farewell to *Orange is the New Black*

From 26 July

One of the original Netflix Originals – and, according to Netflix, the most-watched Original of them all – is coming to an end with its seventh season.

Emmy Award-winning prison drama *Orange is the New Black* returns to Litchfield womens' prison for 13 final episodes, all landing on Netflix on 26 July at bit.ly/orange480.



The story still focuses on Paper (Taylor Schilling), despite

developments that we won't spoil in case you fancy watching from scratch. If you're a fan, you'll want to follow the [@OITNB](https://twitter.com/OITNB) Twitter account, which is

packed with screenshots, quizzes and clips. You can also watch every season's trailers on Netflix for free, plus behind-the-scenes videos, and subscribers can watch all seven seasons from the start to the hopefully not-too-bitter end.

NOW TV Watch *Lost*-style plane mystery *Manifest*

From 25 July

Passengers survive a turbulent flight, only to discover their lives shrouded in supernatural mystery – ah yes, that'll be *Lost*. Except it's not, it's *Manifest*, whose



petrified patrons land in a world that's aged five years, where everyone thinks they're dead. The show, which debuted in the US on Hulu earlier this year, is produced by *Back to the Future* writer Robert Zemeckis – so its time-travel pedigree is second to none. Strap in for the official trailer at bit.ly/manifest480.

Annoyingly, you'll have to wait a week between episodes, which arrive on Now TV courtesy of Sky One, although if you have a VPN, you can hypothetically watch the whole 16-episode first season on Hulu. As ever with Sky's TV shows, you'll need Sky Go or a Now TV Entertainment Pass to watch online; the latter is currently £7.99 per month after 14 days free (bit.ly/nowent480).

N Watch Netflix's new comedy film *Otherhood*

From 2 August

Patricia Arquette (brilliant in Now TV's *Escape at Dannemora*, bit.ly/escape480) stars in this new Netflix comedy film as one of three

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



mums taking a road trip to New York who turn up unannounced on their adult sons' doorsteps.

Netflix hadn't released a trailer at the time of writing but we do know that the film – which co-stars Felicity

Huffman (powerfully loathsome in Netflix's *When They See Us*) and Angela Bassett (*Black Panther*) – is based on the 2008 novel by British writer William Sutcliffe, *Whatever Makes You Happy* (bit.ly/whatever480).

N Seek interstellar alien life in *Another Life*

From 25 July

Katee Sackhoff (Starbuck on *Battlestar Galactica*) is back in a spaceship, leading her crew on a dangerous interstellar bid to save humanity after a massive alien artifact lands on Earth. "This mission can not and will not fail," she declares in the trailer for new Netflix show *Another Life*, and you can't help but believe her: bit.ly/lifetrail480.

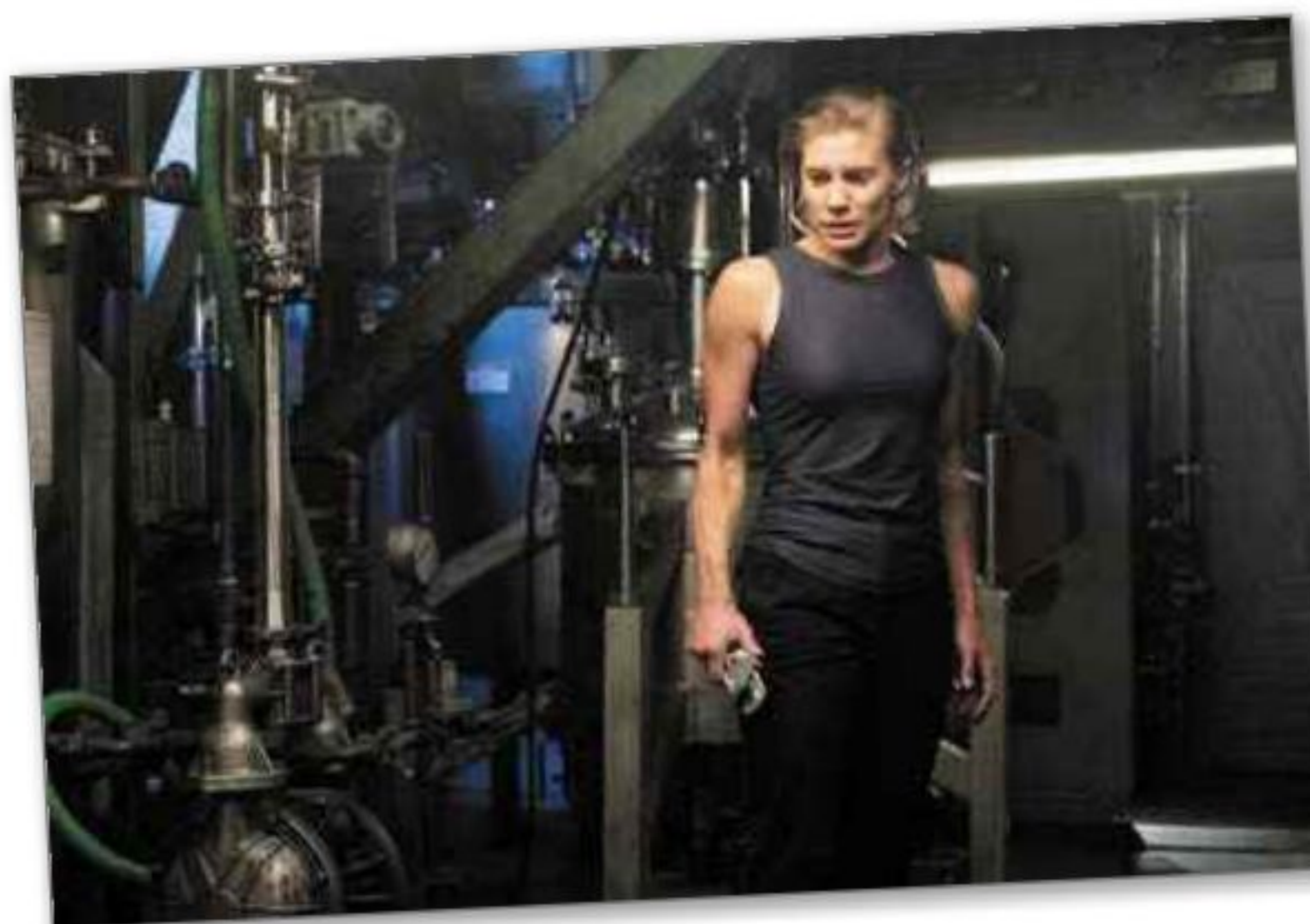
Amazon and Google end stand-off

Amazon and Google have agreed to end their four-year spat and provide their on-demand video services to each others' TV platforms.

Google's YouTube app is now available for Amazon Fire TV devices, while Amazon's Prime Video app now streams to Chromecast. The Prime app will be available for Android TV devices soon.

The move ends a petty stand-off that began in 2015, when Amazon refused to stock Chromecast devices. Google hit back by pulling YouTube from Amazon Echo and Fire TV.

The tit-for-tat row has done neither company any favours. Rival products such as Roku have stepped into the breach, offering both Amazon and YouTube. The Now TV dongle still doesn't include Amazon, however.



See superheroes go bad in *The Boys*

From 26 July

How do you solve a problem like superhero saturation? You ignore it and double down on your supes. New Amazon Prime show *The Boys*, based on the Garth Ennis comics (bit.ly/boyscomics480), makes its superheroes the bad guys and sends in a whole new set of super-powered vigilantes to save the day.

The concept isn't super-original (*Superman* was doing Bad Supe vs Good Supe back in 1983, bit.ly/badsupe480) but *The Boys* is a modern, funny, knowing take on the idea. Season 1's eight episodes arrive on Amazon Prime Video on 26 July at bit.ly/theboys480, where you can watch a couple of trailers for free. The official trailer is also on YouTube at bit.ly/boystrail480.

In case you missed it...

The fifth and final season of *Poldark* is now available on the iPlayer at bit.ly/poldark480. Episodes arrive weekly on Sundays, in the slot vacated by the wonderful *Gentleman Jack*, which is now available until 6 August at bit.ly/jack480.



Meanwhile on Now TV, you wait ages for an HBO comedy about marriage break-ups, then two arrive at once. Sarah Jessica Parker's drama-with-laughs *Divorce* is now on Season 3 at bit.ly/divorce479,

while US stand-up comedian Pete Holmes is back for a new season of offbeat sitcom *Crashing* at bit.ly/crashing479.



Product Test

We test and compare the latest products

Raspberry Pi 4 Model B

Everyone's favourite affordable computer gets a significant upgrade, but it's not yet ready to replace your desktop PC

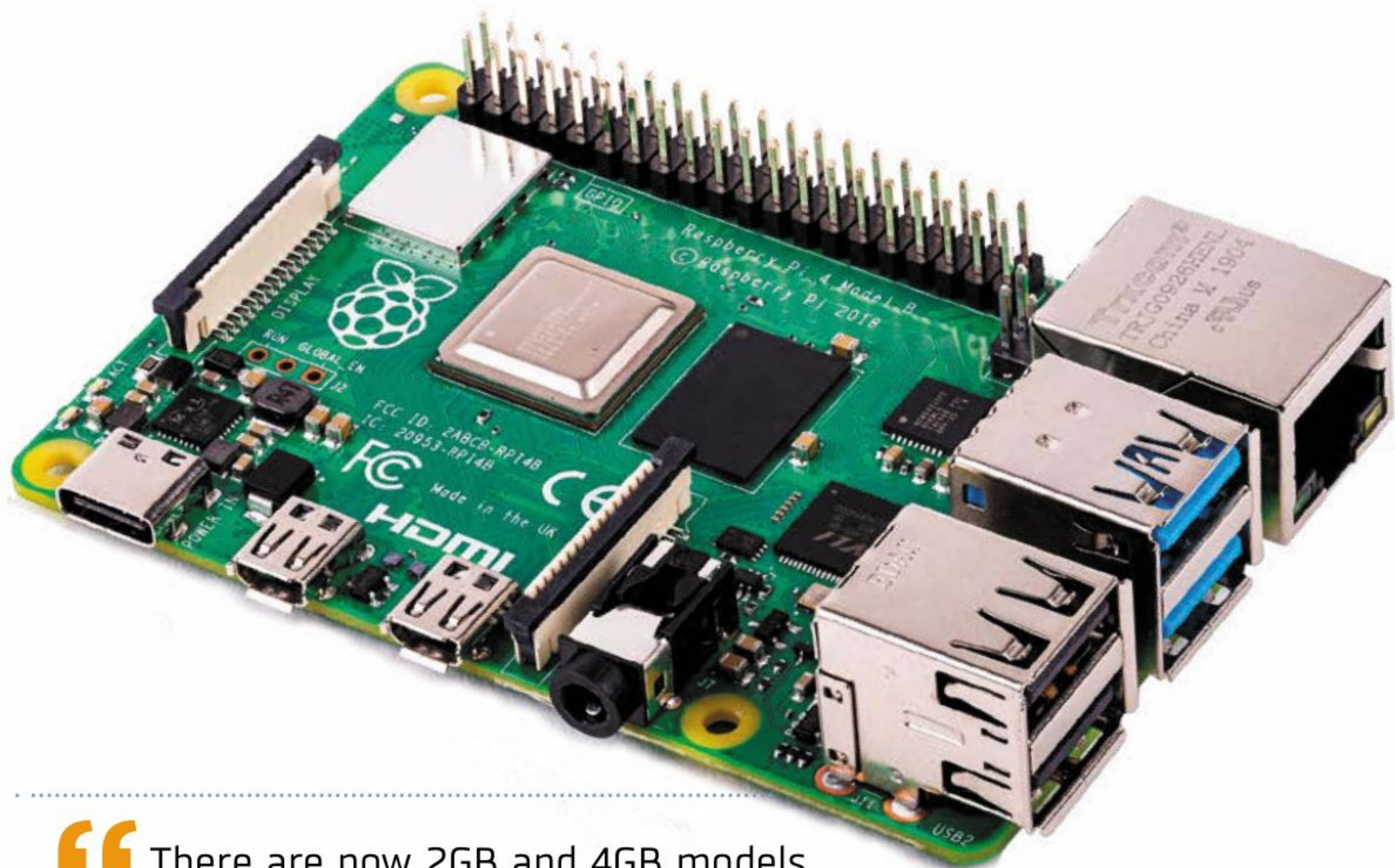
Ever since the first Raspberry Pi landed on our desks, we've marvelled at how a fully functioning computer could be so small and cheap, and each new generation of the device has come on in leaps and bounds.

While every model of Pi defines itself by providing an affordable introduction to Linux, programming and tinkering with computer hardware, this latest Raspberry Pi 4 Model B comes closest of all to a standard desktop PC.

New connections

The new device looks almost identical to last year's Pi 3 Model B+, but the hardware has been updated in several ways. In place of the old HDMI socket, it now has two micro-HDMI ports, which make it capable of running two 4K displays at 60Hz. The power socket has been upgraded to a modern USB Type-C connector, and two of the four USB ports now support USB 3. These are limited to 5Gbps, but that's still a lot quicker than the legacy USB 2 ports that sit next to them.

The built-in Bluetooth module has been upgraded from version 4.2 to version 5, and includes support for



“ There are now 2GB and 4GB models available that provide headroom for bigger, more demanding tasks ”

Bluetooth Low Energy. Dual-band 802.11ac Wi-Fi is unchanged since the previous version, but the Gigabit Ethernet port is no longer capped at 300Mbps, and can now send and receive data at a full 1,000Mbps.

Some of these tweaks mean that the new Pi won't fit perfectly with cases and accessories designed for older models, but we think the changes are worth it.

In the case of the twin micro-HDMI ports, you'll need a new cable if you're upgrading from an older Pi, but the option of connecting two monitors makes up for it.

The micro-USB power connector also needs a new power cord but as the older port is no longer conveniently universal, it should be easier to find a Type-C power supply with enough juice to keep the Pi 4 running at full speed.

The Raspberry Pi Foundation has worked hard to source affordable cables, so you should find them for sale alongside the Pi 4 itself at the usual approved retailers.

Upgraded components

Moving to the core components, the Pi 4 has a more powerful processor. Its 1.5GHz Broadcom BCM2711 CPU may not sound like a huge step up from the last generation's 1.4GHz model, but clock speeds don't tell the whole story. The older model was based on the



mid-range ARM Cortex A53 microarchitecture, while the new one uses an A72 design that's optimised for performance. This gives the new Pi a substantial speed boost over previous models. It also means you get more powerful graphics hardware, which supports OpenGL ES 3 graphics (up from the older ES 2 standard) and gains the ability to decode 4K H.265 video at 60fps, on top of the older Pi's support for decoding and encoding H.264 streams.

The basic model still comes with 1GB of memory, but there are now 2GB and 4GB models available, too. These additional memory options provide headroom for bigger, more demanding tasks, though it's worth noting that the memory modules are soldered into the board, so you can't start small and upgrade later. The 1GB version only costs £34 – the same as the Raspberry Pi 3 Model B+ – while the 2GB and 4GB versions cost around £44 and £54 respectively.

Performance results

The Raspberry Pi 4 Model B is certainly faster than its predecessors, showing major improvements in almost every type of operation in our benchmark tests. To give you an idea of what this means beyond mere number-crunching, we tried running

our standard desktop benchmarks, using the native versions of ImageMagick, Handbrake and VLC included with the latest release of Raspbian (the Raspberry Pi Foundation's own version of Linux, created especially for running on a Raspberry Pi). However, the results didn't indicate enough power to replace a desktop PC – the Raspberry Pi 4's processor certainly has its strengths but the system as a whole clearly isn't designed for chewing through such processor-dependent tasks.

The Pi 4 scored a mere 4.9 in the image-editing test, 8.3 in the video-editing test and 7 in the multitasking test, for an overall score of 7. To put that in context, our baseline PC (a Core i5-4670K desktop) processed our folder of images in 1min 44secs, while the 4GB version of the new Raspberry Pi took around 35 minutes. When we

attempted to run this same test on a Raspberry Pi 3 Model B+ with 1GB of memory, the benchmark simply wouldn't run.

We should mention that the Pi gets hot quickly under this sort of intensive load and a thermal throttle warning popped up several times during our tests. The Pi doesn't come with a heatsink or fan, but you could improve performance for this type of work by adding one. You still wouldn't get anywhere near to the performance of a typical Windows desktop, though.

As you move around the Raspbian desktop, everything feels slick and responsive and the enhanced video hardware lets you enjoy HD movies on one monitor while you're working on a second. If you go for the 2GB or 4GB model, you can open a good number of browser tabs, too.

• **Next Issue: How to set up your new Raspberry Pi 4**

PRODUCT INFO

Raspberry Pi 4 Model B

Price: £34 (1GB);
£44 (2GB); £54 (4GB)
Buy from Pimoroni:
bit.ly/raspi480

SPECIFICATIONS

- 1.5GHz quad-core Broadcom BCM2711B0 processor
- Broadcom VideoCore VI graphics
- 1, 2 or 4GB of memory
- 2 x micro-HDMI
- 2 x USB 3 and 2 x USB 2 ports
- microSD slot (for storage)
- Dual-band 802.11ac Wi-Fi
- Bluetooth 5
- Gigabit Ethernet
- 88 x 58 x 19.5mm

FOR

- ✓ Significant hardware upgrade
- ✓ USB 3
- ✓ Dual-screen support

AGAINST

- ✗ Still not a serious replacement for a desktop PC

SMALLER AND CHEAPER

Raspberry Pi 3 Model A+,
£23.50
bit.ly/pi3a480



MORE POWER

Asus Tinker Board, £59.99
bit.ly/tink480



OUR VERDICT



This is the fastest Pi ever, but it's still far slower than a mainstream desktop. You'll have no problems writing emails or creating documents, but even middleweight tasks such as photo editing, encoding MP3s or zipping a bundle of files will slow it right down.

It may only take a few more iterations for the Pi to become a mainstream personal computer, but we're not there yet.

However, if you stick with the device's core remit of providing a cheap and fun way to tinker with Linux, build programming skills

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

and partake in home-electronics projects, this new model is slicker and more versatile than ever.

Amazon All-new Fire 7 Tablet

Amazon's 'All-new' 7in tablet isn't a big step forward but remains unbeatably good value for money

Pop over to Amazon to check out its 7in tablets and you'll be directed to this newly launched 9th-generation model. Despite being described as All-new, its sturdy but chunky plastic casing is exactly the same size as the outgoing 2017 version, and it has the same

underwhelming 7in screen with a resolution of 1,024 x 600 pixels. As before, there are two fixed-focus cameras – one at the front and one at the rear – plus a microSD card slot, a single speaker and a 3.5mm headphone jack. It runs Amazon's own operating system (based on Android) and app store, offering direct access to Amazon's music, video, ebook and shopping services, but restricts access to the full range of apps available on the Google Play Store.

What's new?

Turning to the new features, the Fire 7 has full, hands-free Alexa compatibility, more storage and comes in new colours – a rather muted selection of Black, Plum, Sage and Twilight Blue.

However, its most alluring feature is its £50 asking price. While the tablet itself is basic, no other manufacturer makes anything as good as this for the price. Bear in mind, though, that the £50 version comes with the lower storage option (16GB instead of 32GB) and Amazon's 'Special Offers' advertising. The model with increased storage costs £10 more, as does removing the adverts.

The Fire 7's core features have changed little over the years and it's starting to look a bit dated: the screen is fuzzy and pixelated by modern standards; the broad black bezels are ugly; and the 2MP fixed-focus cameras are

functional at best.

That said, storage is up from 8GB to 16GB, and the 32GB version is worth paying the extra £10 for. The microSD slot can be used to expand the device by up to 512GB. The 7in model is the last of Amazon's tablets to get hands-free Alexa activation built-in and it's a welcome addition, but the microphones aren't as sensitive as those of an Echo device, so you need to be close to the tablet for it to work.

Core performance hasn't moved on much either and while it's bearable when used

for browsing the web, streaming video, reading ebooks and playing casual games, anything more sophisticated feels frustratingly sluggish.

Battery life is also underwhelming – we struggled to run our standard benchmark to get an exact figure but it's less than 8.5 hours.

Meanwhile, the screen only managed to reproduce 60% of sRGB colours in our test and it's not very bright, peaking at 374cd/m² (candles per square metre), though contrast is better at 1,205:1.



PRODUCT INFO

Amazon All-new Fire 7 Tablet

Price: £49.99 for 16GB with Special Offers or £59.99 without Special Offers; £59.99 for 32GB with Special Offers or £69.99 without
Buy from Amazon: bit.ly/newfire480

SPECIFICATIONS

- Quad-core 1.3GHz ARM MT8163 processor
- 7in 1,024 x 600 pixels IPS screen
- 1GB of memory
- 16GB or 32GB of storage
- Dual-band 802.11n Wi-Fi
- 2-megapixels front and rear cameras
- microSD memory card slot
- FireOS 6.3.1.2 operating system
- 115 x 192 x 9.6mm
- 286g

FOR

- ✓ Incredibly cheap
- ✓ Robust and well-made
- ✓ Generous 16GB or 32GB storage

AGAINST

- ✗ Slow and sluggish
- ✗ Mediocre battery life
- ✗ Disappointing screen

OUR VERDICT



The All-new Amazon Fire 7 Tablet would have impressed us more if it had taken greater leaps with its screen, performance and battery life. However, the increase in storage capacity and addition of Alexa is very welcome, and let's not forget that, at its cheapest, this tablet only costs £50.

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

If you manage to temper your expectations, you'll be perfectly happy with the Amazon Fire 7 – it's the very definition of cheap and cheerful.

Get £20 off using code WU20 at the checkout



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Performance
Outside.





Web User's Best Buys

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

HARDWARE, SOFTWARE & SERVICES

INKJET PRINTER

Canon Pixma TS6250

£114.36 from bit.ly/cango479

Tested: Issue 479

This multifunction printer looks smart and is easy to use, whether you're printing from a PC, mobile device or its own touchscreen. With great results and acceptable running costs, it's easy to recommend.

KEY SPECS

4,800 x 1,200dpi print resolution ■ 2,400 x 1,200dpi scan resolution ■ 200-sheet A4 paper capacity ■ Double-sided printing ■ 7.5in colour touchscreen ■ 802.11n Wi-Fi ■ 372 x 315 x 139mm ■ 6.2kg ■ One-year return-to-base warranty



MINI PC

ASRock DeskMini 310

£668.70 from bit.ly/asro477

Tested: Issue 477

The performance of this diminutive PC comes remarkably close to a full-size system, once you've paid for and installed its components. It's compact, quiet and runs Windows well.

KEY SPECS

Intel Core i5-8400 processor ■ 250GB SSD ■ 16GB memory ■ Intel UHD Graphics 630 card ■ 1 x USB Type-C, 2 x USB 3.1, 1 x USB 2 ports ■ 802.11ac Wi-Fi, Gigabit Ethernet ■ 158 x 155 x 80mm ■ 1.87kg ■ One-year return-to-base warranty



GRAPHICS CARD

Asus ROG Strix RX 570 OC

£189.99 from bit.ly/asusbox475

Tested: Issue 475

Asus's twin-fan graphics card gets the balance perfectly right. It comfortably plays games that are designed to push a graphics-processing unit to the limit, and for the price it kicks cards with similar specifications right out of the game.

KEY SPECS

AMD Radeon RX 570 graphics processor ■ 2,048 GPU cores ■ 1,300MHz clock speed ■ 4GB memory ■ 1 x DisplayPort, 2 x DVI, 1 x HDMI outputs ■ 200W power ■ 240mm ■ Two-year repair-and-replace warranty



BACKUP SOFTWARE

Acronis True Image 2019

£35 from bit.ly/acro473

Tested: Issue 473

Acronis True Image is a versatile backup tool that does everything from cloud storage to disaster recovery. It's not cheap compared with rival software, but it's flexible and simple to control, and should cover all your backup needs.

KEY FEATURES

Windows, macOS, Android, iOS ■ Local backup ■ Disc-image backup ■ Restore from the web ■ Create disaster recovery ■ AES-256 encryption ■ Continuous, daily, weekly or monthly backups ■ Multiple backup sets



SMARTPHONE

Moto G7 Power

£179.99 from bit.ly/pow472

Tested: Issue 472

Battery life is at the heart of what we love and hate about our phones, and the Moto G7 Power lasted an incredible 26 hours and 22 minutes in our tests. Its specs and price are also great.

KEY SPECS

Octa-core 1.8GHz processor ■ 64GB storage ■ 4GB RAM ■ 6.2in, 720 x 1,570-pixel screen ■ 12-megapixel rear camera, 8-megapixel front camera ■ 5,000mAh battery ■ 159.4 x 76 x 9.3mm ■ 193g ■ One-year return-to-base warranty



WI-FI EXTENDER

Netgear Nighthawk X6S

£145.99 from bit.ly/ngx6s471

Tested: Issue 471

The Nighthawk X6S's unbeatable combination of high speed and top-end features makes it the best Wi-Fi extender available. It's big and boxy, but its performance gives mesh-router systems a run for their money.

KEY SPECS

Works with 2.4GHz and 5GHz networks ■ 4 x Gigabit Ethernet ports ■ Access control ■ Wi-Fi schedule ■ WPS button ■ 277 x 170 x 93mm ■ Two-year warranty



Gold Award winners

The best from our software tests

SANDBOX SOFTWARE

Sandboxie

Free from www.sandboxie.com

Tested: Issue 479

If you can get past the dated interface and upgrade nags, Sandboxie is the most thorough sandboxing tool we've seen for running programs in a fenced-off environment.

NEW!



WEB-DESIGN TOOL

Basic WebPage Builder

Free from bit.ly/bwpb478

Tested: Issue 478

Basic WebPage Builder is ideal for budding but inexperienced web designers. Its impressive range of elements will fulfil most basic needs, with no HTML knowledge required.



PDF EDITOR

Apowersoft Online PDF Editor

Free from bit.ly/apow477

Tested: Issue 477

We were gobsmacked by how much PDF content we were able to edit using this excellent free tool. It offers several advanced features that genuinely impressed us.



CLIPBOARD MANAGER

CopyQ

Free from bit.ly/copyq476

Tested: Issue 476

Intuitively designed and undemanding, CopyQ delivers everything you need from a clipboard manager. It has no trouble with text, images or anything else you throw at it.



TO-DO LIST TOOL

Todoist

Free from www.todoist.com

Tested: Issue 475

Todoist has all the tools you need for managing your daily tasks, wrapped up in an attractive interface. It works well across all phones, computers and other connected devices.



URL SHORTENER

Kutt.it

Free from kutt.it

Tested: Issue 474

Kutt.it offers all the tools you need from a URL-shortening service without any of the clutter of its rivals. It's entirely free and open-source, which gets it a thumbs-up from us.



WebUser

BACK ISSUES DISC 2018



Our **2018 Back Issues Disc** containing all 26 issues from last year is now on sale from Amazon

For more information, visit bit.ly/wudisc18 or search for 'webuser disc'

You can still buy our 2014-2017 Back Issues Discs, search for 'webuser disc' on Amazon



Best Free Software

BACKUP TOOL

AOMEI Backupper Standard 5

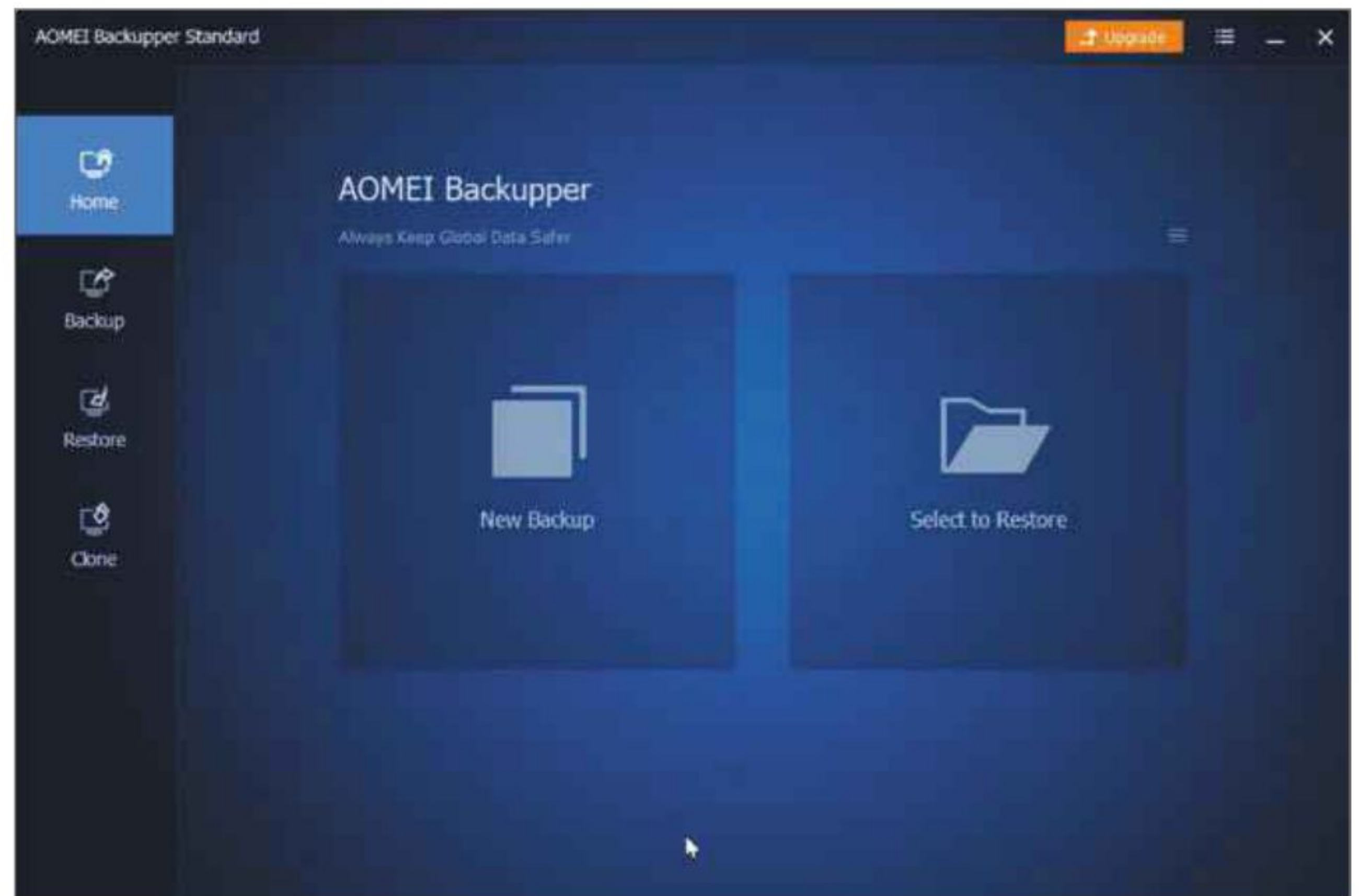
bit.ly/aomei480

Min requirements: Windows 7/8.1/10

File size: 110MB

It's important to back up your PC on a regular basis, to protect your personal data from a potential malware attack or hard-drive failure. The trouble is that few PC users actually have a proper backup plan in place. AOMEI Backupper Standard is a free program that simplifies the process of backing up your PC at a time and frequency that suit you. It can back up your system drive, disks, partitions, files and folders, and also clone drives and partitions.

You can switch between Intelligent Sector Backup (for smaller image file sizes) and Exact Backup (precise but



larger) types, and also use Microsoft's VSS (Volume Snapshot Service) backup method or AOMEI's own. The software lets you compress your backups – you can choose between none, normal or high compression – and split backups into predetermined or custom-sized chunks.

AOMEI Backupper has always had a rather dated interface, but the latest version of the program sports a brand new, more modern look, although it

still works in much the same way as before. The speed of file synchronisation has been improved this time around and you can now execute commands or scripts before and after a backup or synchronisation. The new edition also fixes problems with the program not displaying correctly on high-DPI screens, and failing to perform file-sync tasks because of a long file path.

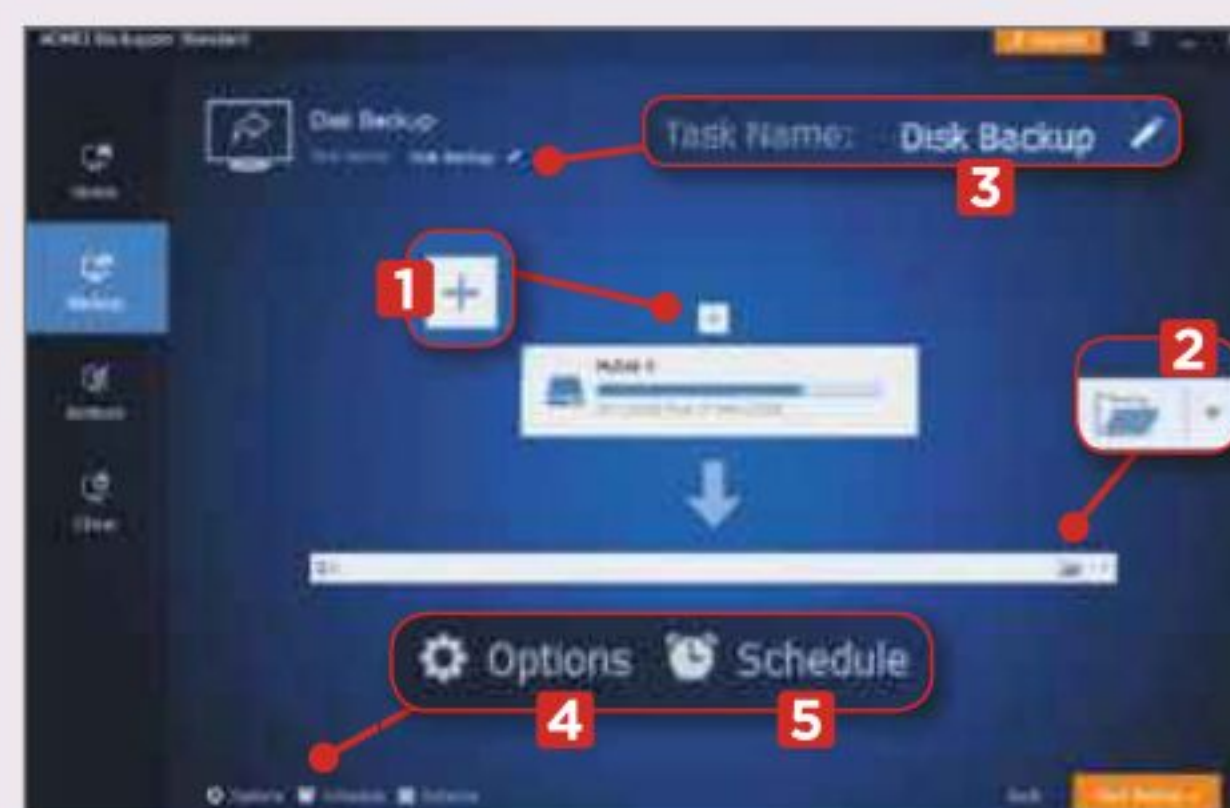
Some features, such as system clone and SMS and email notifications, are only available in the paid-for Pro edition, which costs \$49.46 (£39.51).



MINI WORKSHOP | Back up your PC using AOMEI Backupper Standard 5



1 To get started with AOMEI Backupper Standard, click the Backup button in the left-hand column. **1** You'll be presented with a selection of choices: System Backup, **2** File Backup, **3** Disk Backup **4** and Partition Backup. **5** In this Workshop, we're backing up a hard drive. Select that option (Disk Backup) and choose the drive you want to copy.

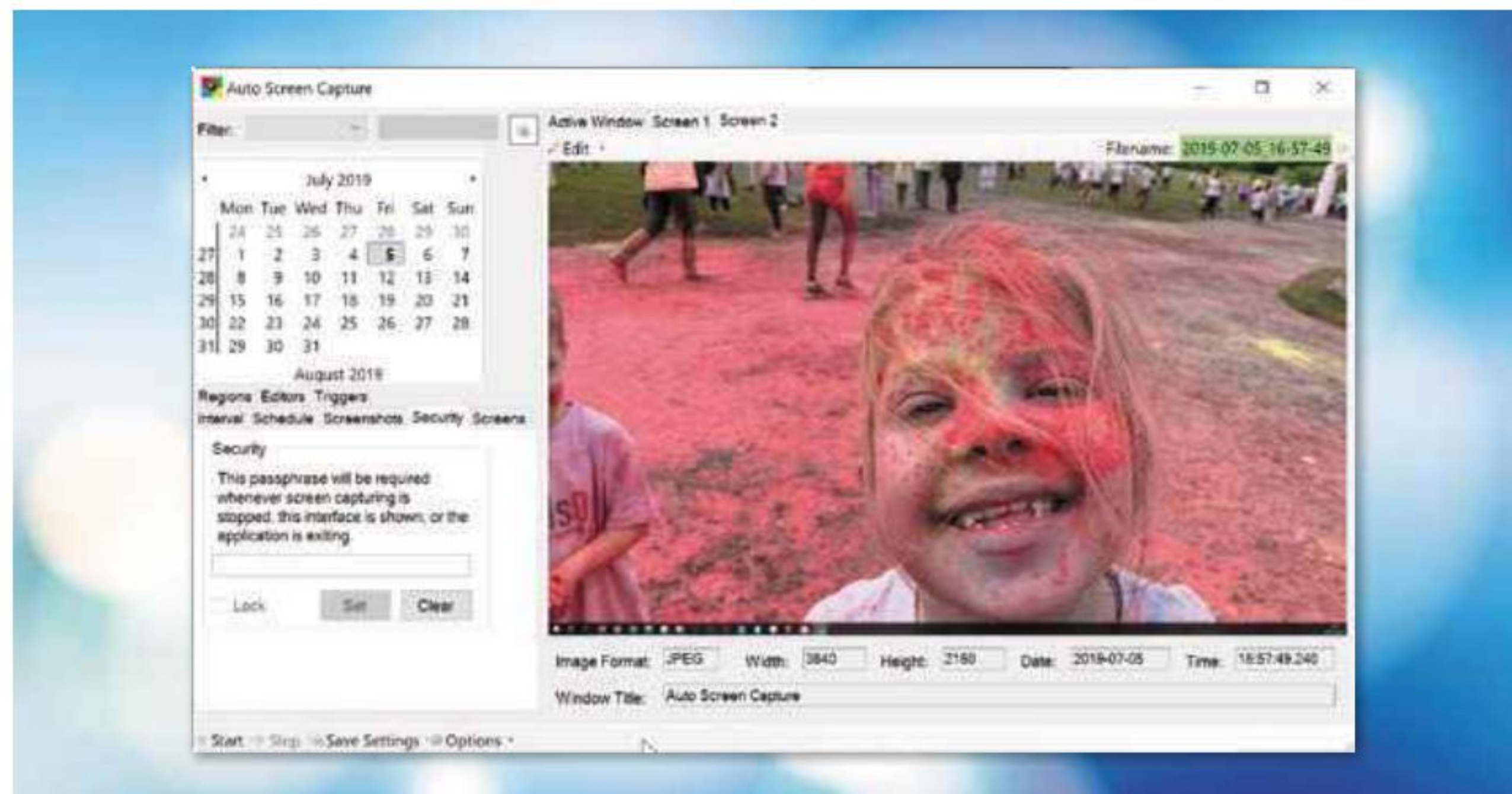


2 If you want to back up more than one drive using AOMEI Backupper Standard, you can add the extra locations here. **1** Choose the folder to save your drive backup to **2** and give your backup a descriptive name. **3** Click Options **4** to add notes and customise the settings. Alternatively, schedule a backup for a later time. **5**



3 AOMEI Backupper Standard can clone a disk **1** or partition, **2** which is handy if you're replacing your existing drive or just want a complete backup. The System Clone option **3** is only available in the paid-for edition. Clicking the top-right menu button **4** lets you access the program settings, reload all connected discs and check for updates.

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



SCREEN GRABBER Auto Screen Capture

bit.ly/ascreen480

Min requirements: Windows 7/8.1/10 **File size:** 312KB

The tiny free tool Auto Screen Capture is much more advanced than Windows' built-in equivalent, and it doesn't require installation. You can take screenshots manually, or schedule capture sessions, and it lets you customise file names, capture multiple regions and more. The newest version lets you apply labels to each screenshot, and the program can delete old screenshots after a certain number of days. Screens and regions can now have their own specified folder path and macro.

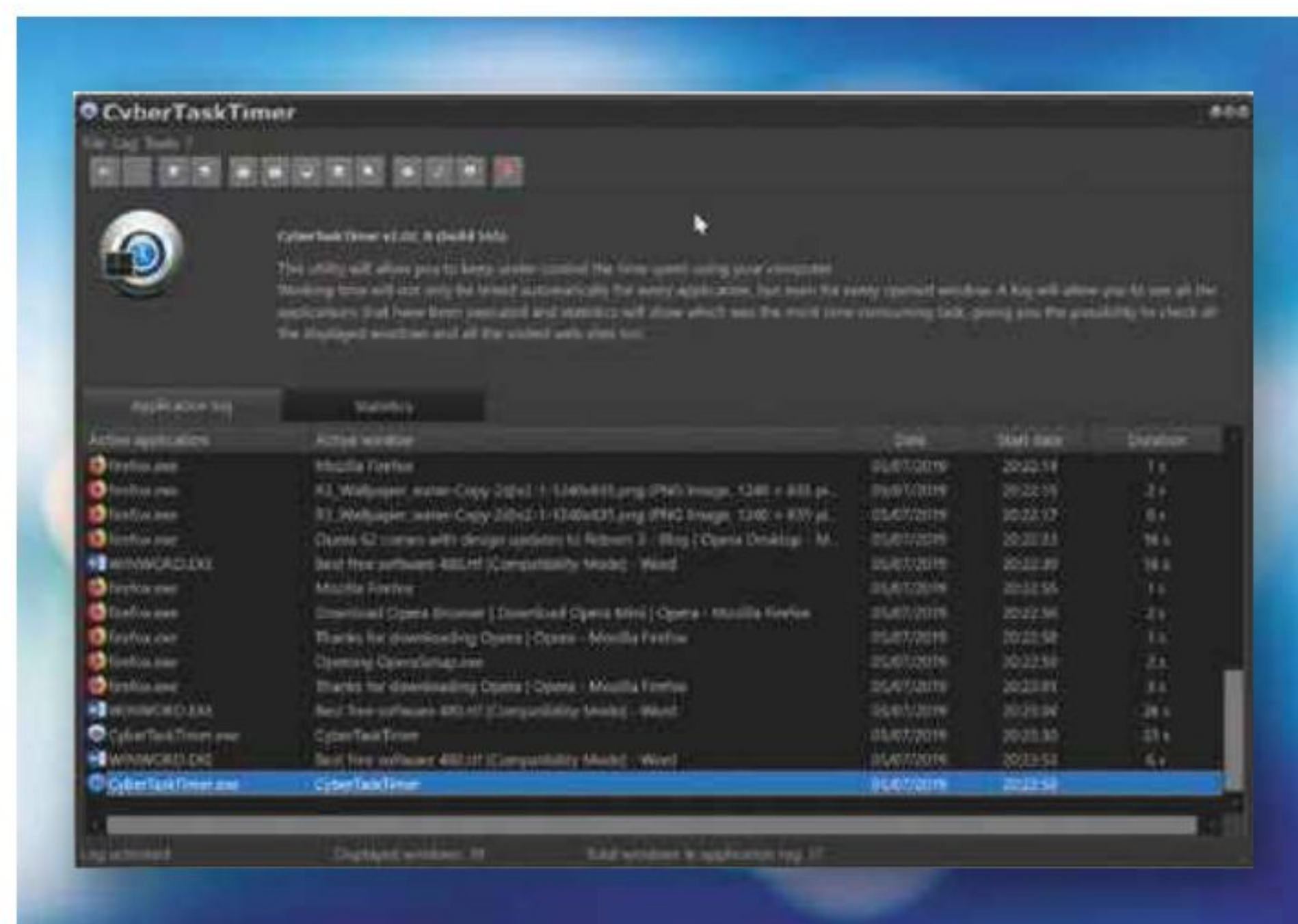
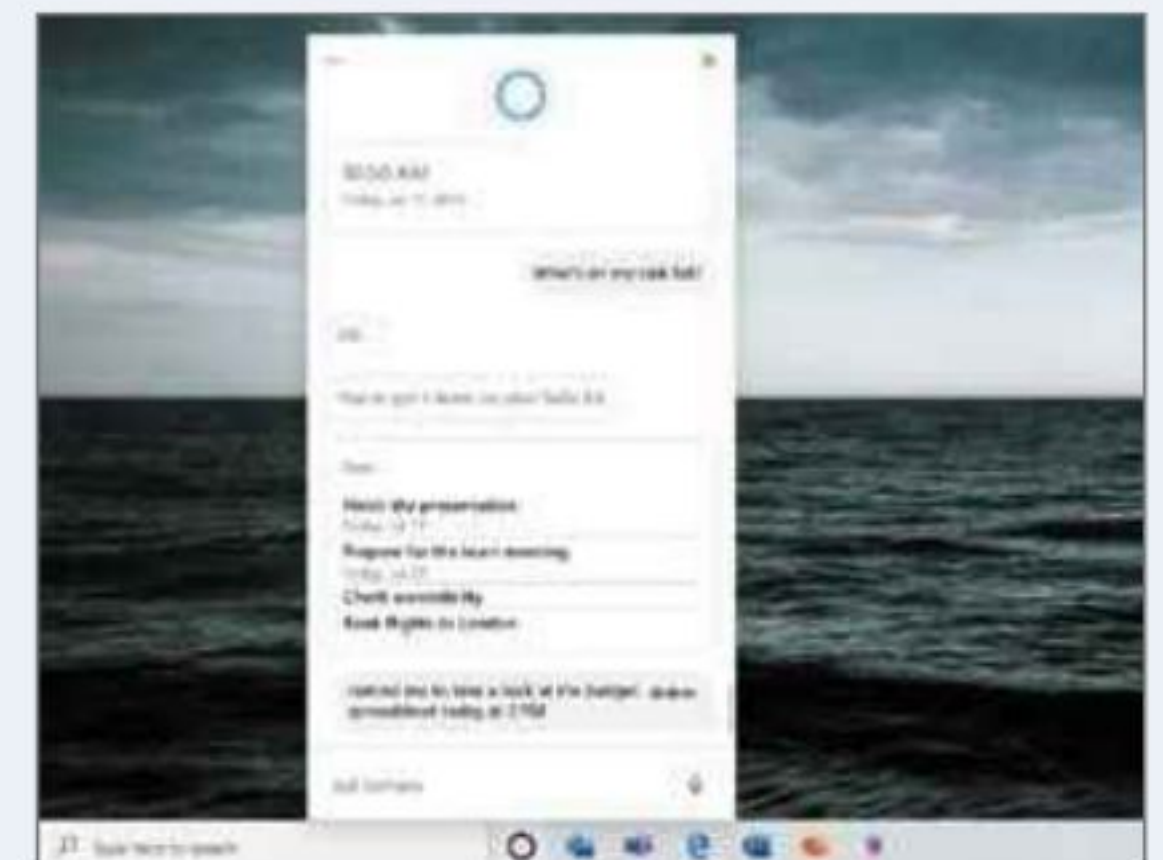
New Windows 10 App

Cortana - Beta

bit.ly/cortana480

File size: 1.75MB

Microsoft's digital assistant Cortana has been part of Windows 10 since its original release, but you can disable it if it's not required. A new beta version has now surfaced in the Microsoft Store, making it easier for Microsoft to update the app separately from Windows 10 in the future. Previously, Cortana was only updated when Windows 10 received an update.



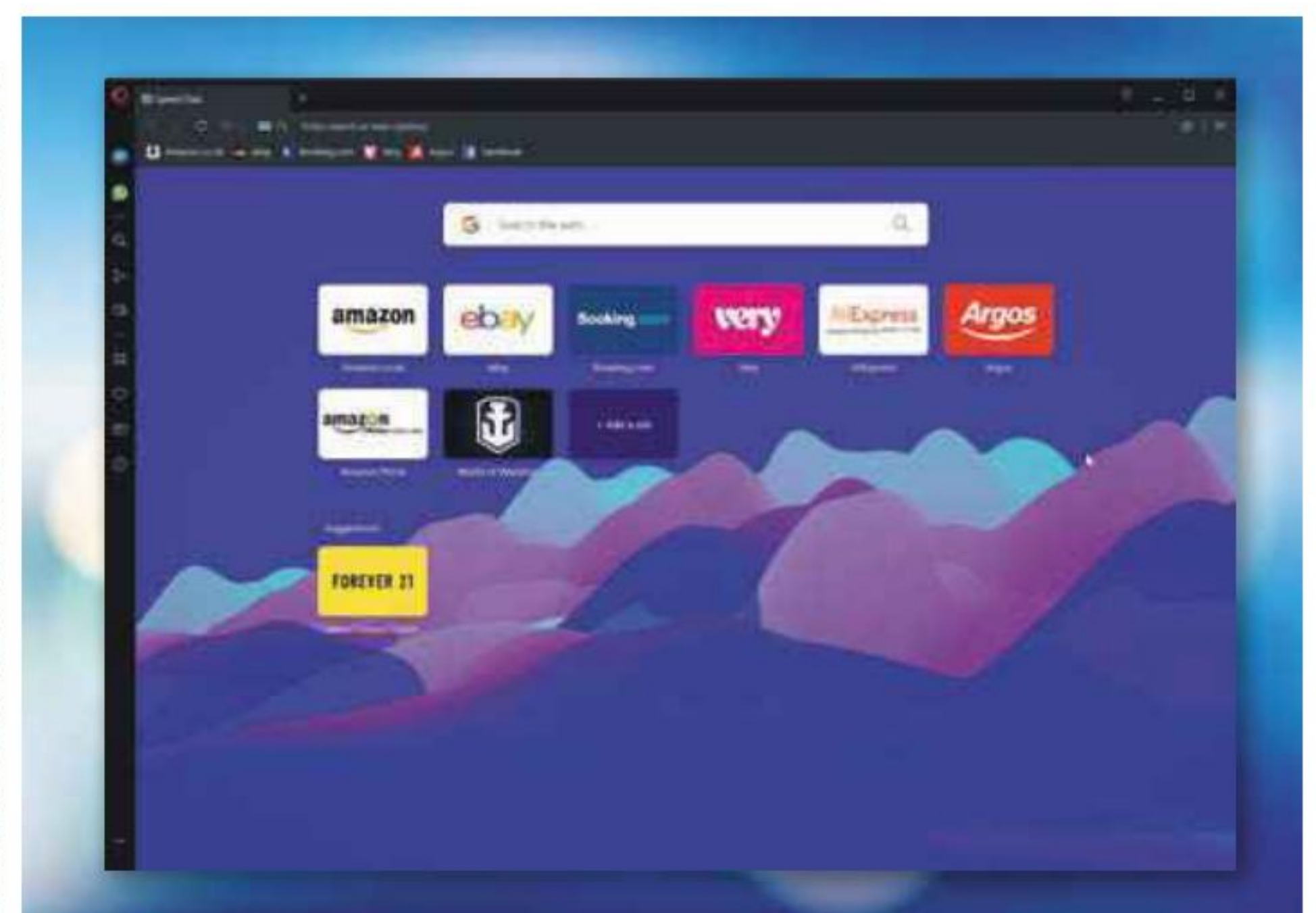
SYSTEM MONITOR CyberTaskTimer

bit.ly/ctt480

Min requirements: Windows 7/8.1/10

File size: 9.9MB

Ever wanted to know exactly how you divvy up your time on your PC? CyberTaskTimer is a free tool that monitors how long you spend in each open application, so you can see at a glance the length of time you were writing in Word compared to flicking through songs in Spotify and browsing Facebook. Recently updated, CyberTaskTimer has a new interface skin, a new options window and database backup



WEB BROWSER

Opera 62

www.opera.com

Min requirements: Windows 7/8.1/10, macOS or Linux

File size: 2.3MB (Installer only)

The latest major update to the Chromium-based browser adds a new Task Completer feature that lets you link your browsing history to Opera's Speed Dial page, so it's easier to return to unfinished tasks. It's still a bit limited – you can only use it to follow up searches on Booking.com – but you can see the potential. This build tweaks the Dark Mode feature and users with sizable screens can make Speed Dial tiles larger.

SOFTWARE UPDATER

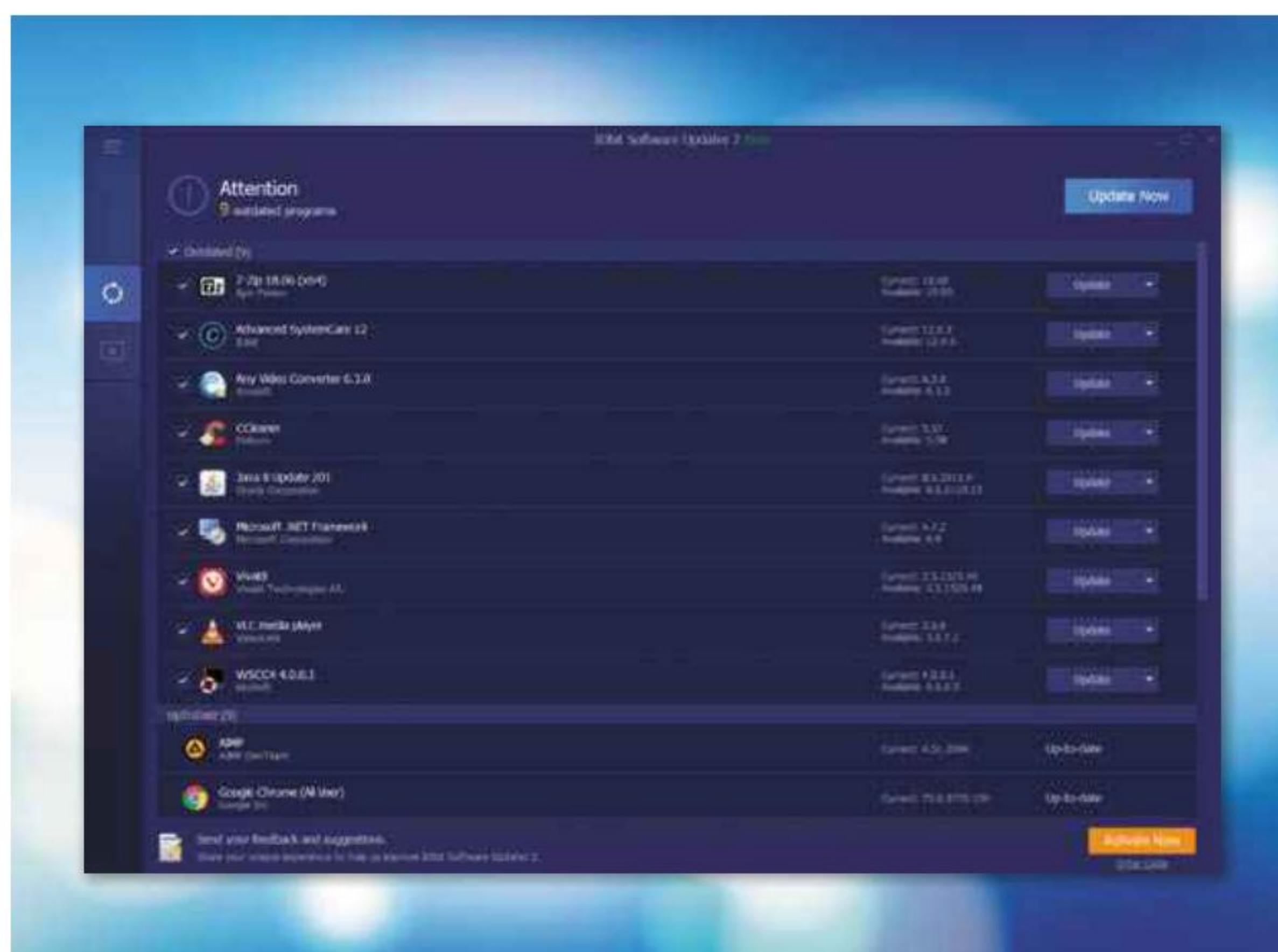
IObit Software Updater 2

bit.ly/updater480

Min requirements: Windows 7/8.1/10

File size: 11.1MB

You should always keep your installed software up to date to avoid problems caused by bugs and security issues. Some programs, including your browser, get updated automatically, but for other applications, you either need to check for updates manually or use a tool such as IObit Software Updater. This free program scans your system and checks for updates to installed software, allowing you to update them with the click of a button. This latest version of the software can update many more programs, and the download speed has been improved as well. It can also check for updates in real time and install them in silent mode.



SYSTEM TOOL

Ribbon Disabler 4

bit.ly/ribbon480

Min requirements: Windows 8.1/10

File size: 44.2KB

Microsoft's ribbon interface was introduced in Office and has since been adopted by many of the company's other applications, including File Explorer. Although plenty of people like the ribbon – or don't mind it, at least – there are many who dislike it, too. Ribbon Disabler is for those Windows users who prefer the old look in Explorer, and it presents you with two choices when run – Disable Ribbon Explorer or Enable Ribbon Explorer. You need to restart your PC (or log out and log back in) to perform the changes. This new version of Ribbon Disabler works with all editions of Windows from 8 upwards.

FILE MANAGER

Altap Salamander 4

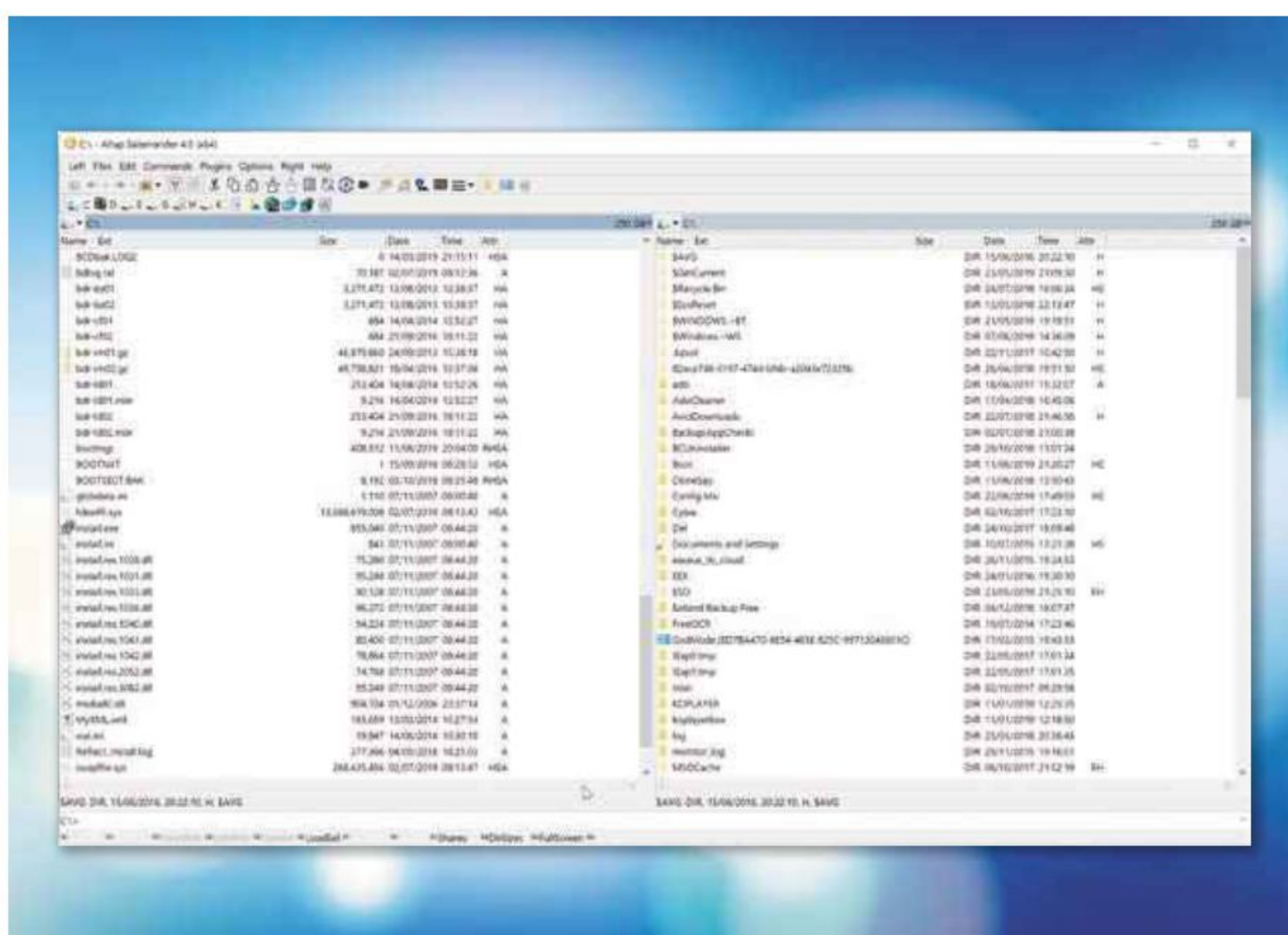
www.altap.cz

Min requirements: Windows 7/8.1/10

File size: 8.2MB

Salamander is a file manager that has been designed with speed in mind. Its interface has twin panes, which makes it easy to copy files and folders between locations, and built-in viewers show you the content of images, text and binary files. The program has built-in FTP and SFTP clients, too.

Salamander's parent company was recently bought out and the new owners have released this updated version of the program as freeware for both commercial and non-commercial use. The update also offers better support for high-DPI screens, while obsolete plugins have been removed and some longstanding bugs fixed.





GAME

Erstwhile Tower 2019

bit.ly/etower480

Min requirements: Windows 7/8.1/10

File size: 684MB

Erstwhile Tower 2019 is an isometric turn-based puzzle game with great graphics and sound. A vehicle carrying a magic substance is making its way up the tower and the aim is to overcome the enemies and traps preventing its progress. The game immediately throws you into the action so it's worth watching the videos on the download page to get to grips with the mechanics.

✓ Install this program...

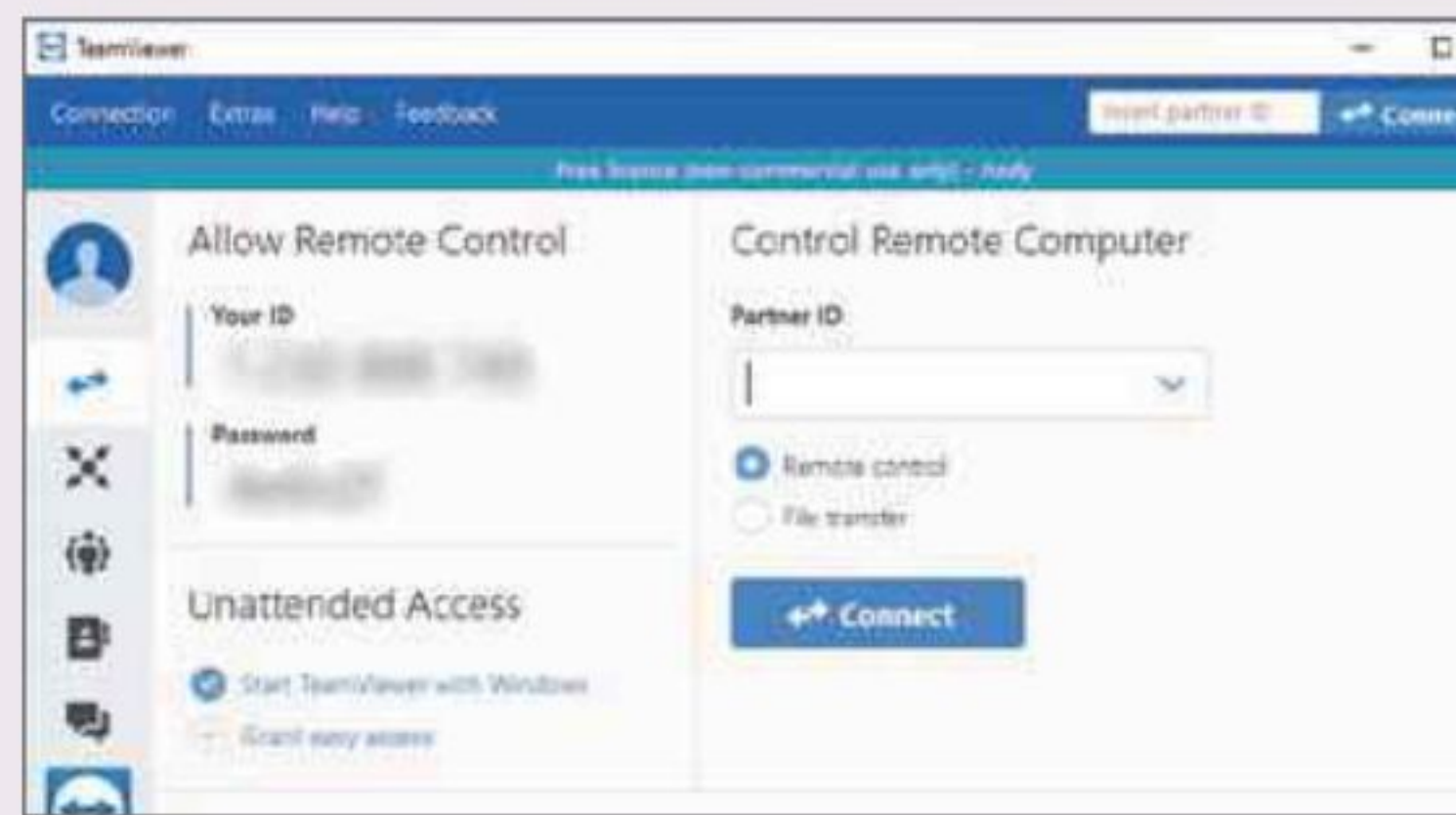
TeamViewer

www.teamviewer.com

Min requirements: Windows 7/8+/10, macOS or Linux

File size: 21.8MB

TeamViewer has long been our favourite remote-access software – provided you're using it for personal rather than business purposes, it's free and packed with options. The program offers handy communication tools, from text chat to video conferencing via webcam, so you can talk to the people you're connecting to remotely. It has a communal file storage area, so you can transfer files from one device to another, and a whiteboard for taking and storing notes. TeamViewer is a reliable, robust program that's one of the true free software heroes.



...Not this one ✗

LiteManager

litemanager.com

Min requirements:

Windows 7/8+/10 or macOS

File size: 41.6MB

Remote-access tool LiteManager has a portable version and a free option that has many of the features of the paid-for software. However, running the main download through VirusTotal brings up 11 potential problems, with some security scanners dubbing it 'riskware', which put us right off installing it.



OTHER OPERATING SYSTEMS What's new for Linux and macOS



LINUX DISTRO

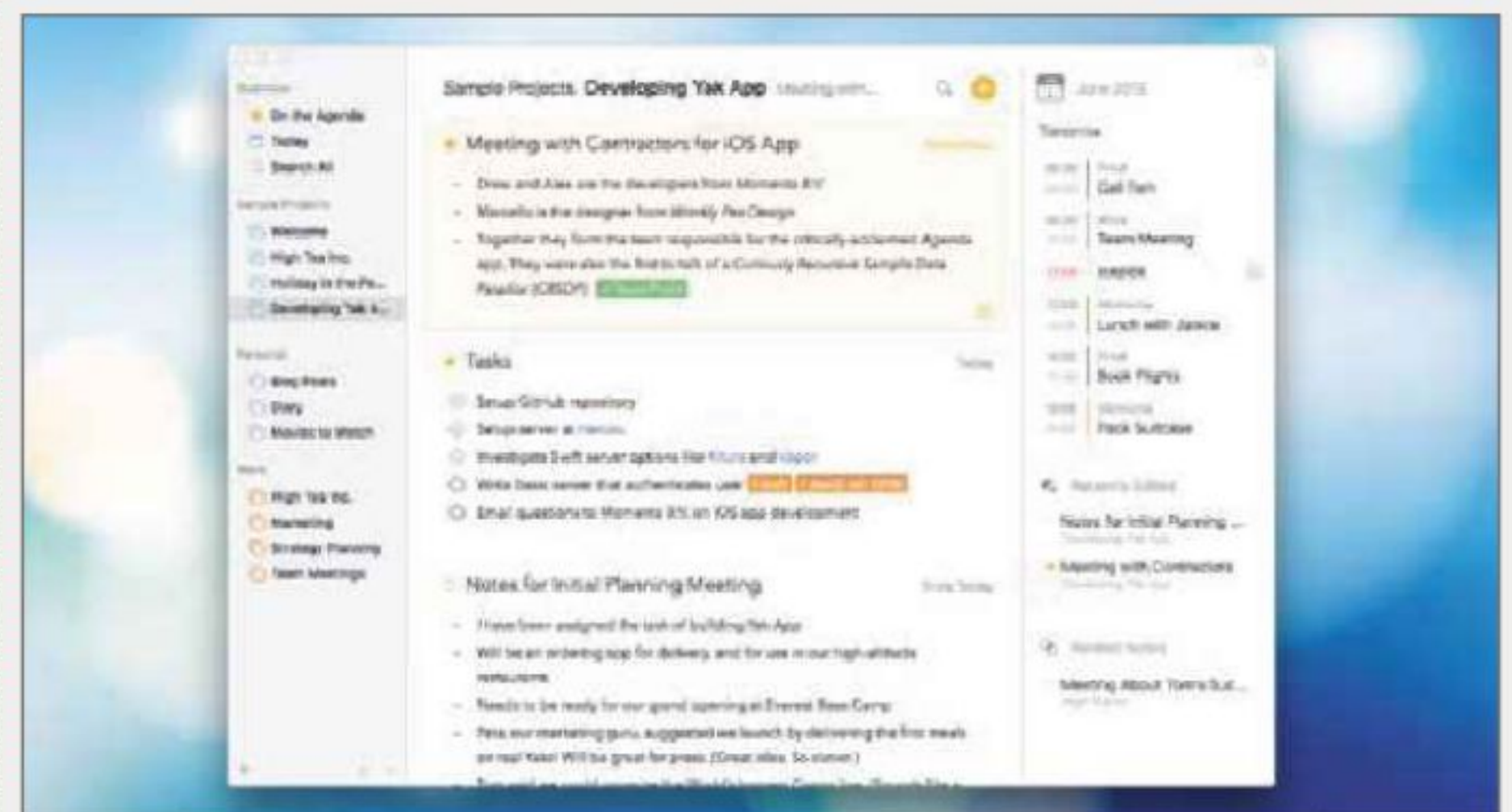
Mageia 7 Linux

www.mageia.org/en

Min requirements: 2GB RAM, 20GB storage

File size: 2.5GB

Mageia 7 Linux is the latest version of a community project that originally began life as a fork of Mandriva Linux back in 2010. After two years in development, this new release is now available in Live and Installer downloads for both 32- and 64-bit systems, and with a choice of Plasma, GNOME and Xfce desktops. ARM (Advanced RISC Machine) support has been improved, and the new operating system also supports the latest computers.



NOTE-TAKING APP

Agenda 6

bit.ly/agenda480

Min requirements: macOS 10.12

File size: 33.4MB

The popular note-taking app (available for both macOS and iOS) now has full integration with Apple's Reminders app, allowing you to add reminders to Agenda tasks. You can edit, complete or reschedule these reminders directly from Agenda. There's also a new calendar timeline with infinite scrolling and the ability to link multiple notes to the same calendar event. You can now enter tabs using Option-Tab, and Dropbox sync is much faster, too.

GET FREE SOFTWARE FIRST subscribe to Web User at subscribe.webuser.co.uk

Best New Browser Tools



CHROME

Secretly watch Netflix at work

Do you ever sit at your desk at work bored out of your mind? Or have you finished all your work and need to look busy? Then try Netflix Hangouts (netflixhangouts.com) – it may just keep you sane.

Netflix Hangouts is a cheeky Chrome extension that makes it look like you're taking a four-way conference call. In reality, though, it's just three videos of people looking at a computer screen, while the fourth box is actually a Netflix video.

Log into your Netflix account as standard, then hit the extension icon to get started. The 'conference call' buttons running along the bottom of the screen are a convincing touch – it is, after all, attention to detail that helps sell a lie.

Please note, if you use this extension, we absolutely can't be held responsible for what your boss will do if he finds out!



Convert and edit PDFs in your browser

PDFs are great – until you need to actually do anything with them. At the exact point you want to edit or convert them, you need to start hunting around for free software, visit sites such as PDF Escape (www.pdfescape.com) or else pay Adobe vast sums of money to manage them.

SmallPDF (bit.ly/smallpdf480) is a Chrome extension that adds that sort of functionality to your browser. Find and save the PDF document you want, then click the toolbar icon. Instantly, you're given options including Compress, Edit, Merge, Rotate and Split. You'll also be able to Sign, Lock and Protect your PDFs.

Conversion, though, is where the extension shines. SmallPDF lets you convert your document into a range of formats – including Powerpoint slides – just by uploading them. Impressively, this conversion runs both ways, so you can transform your Excel spreadsheets and JPEGs to PDF format.



Stop YouTube taking over your life



We'll never know how many hours we've collectively lost to YouTube. Thanks to the site's clever design, with its auto-playing Up Next section and never-ending stream of related videos lurking on the sidebar, it's all too easy to fall down a rabbit hole.

Help is available from Out of the Loop (bit.ly/loop480), which is dedicated to "taking back the control of your life" by stripping out every last distraction from YouTube. With your video placed front and centre of the screen, you'll find it's no longer surrounded by temptingly addictive content that keeps you staring at your computer for too long. The only thing it doesn't remove is the comments – and you'd have to be a masochist to dip into those anyway.

Turn Brexit into breakfast

Whichever way you voted in the 2016 referendum, there's one thing we can all

agree on: Brexit is an unpleasant portmanteau word. If this is the best the wonderful English language can come up with, it's little wonder that it causes so much division.

If you agree, Brexit Means Breakfast (bit.ly/breakfast480) is the browser tool for you. Playing on the popular malapropism made by countless politicians over the last three years, Brexit Means Breakfast completely erases all reference to the controversial word.

Instead, where once Brexit discussions thrived (before collapsing into arguments on either side), you'll find references to the most important meal of the day – which is much more satisfying than combative 'discussions' with Remainers and Leavers.



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

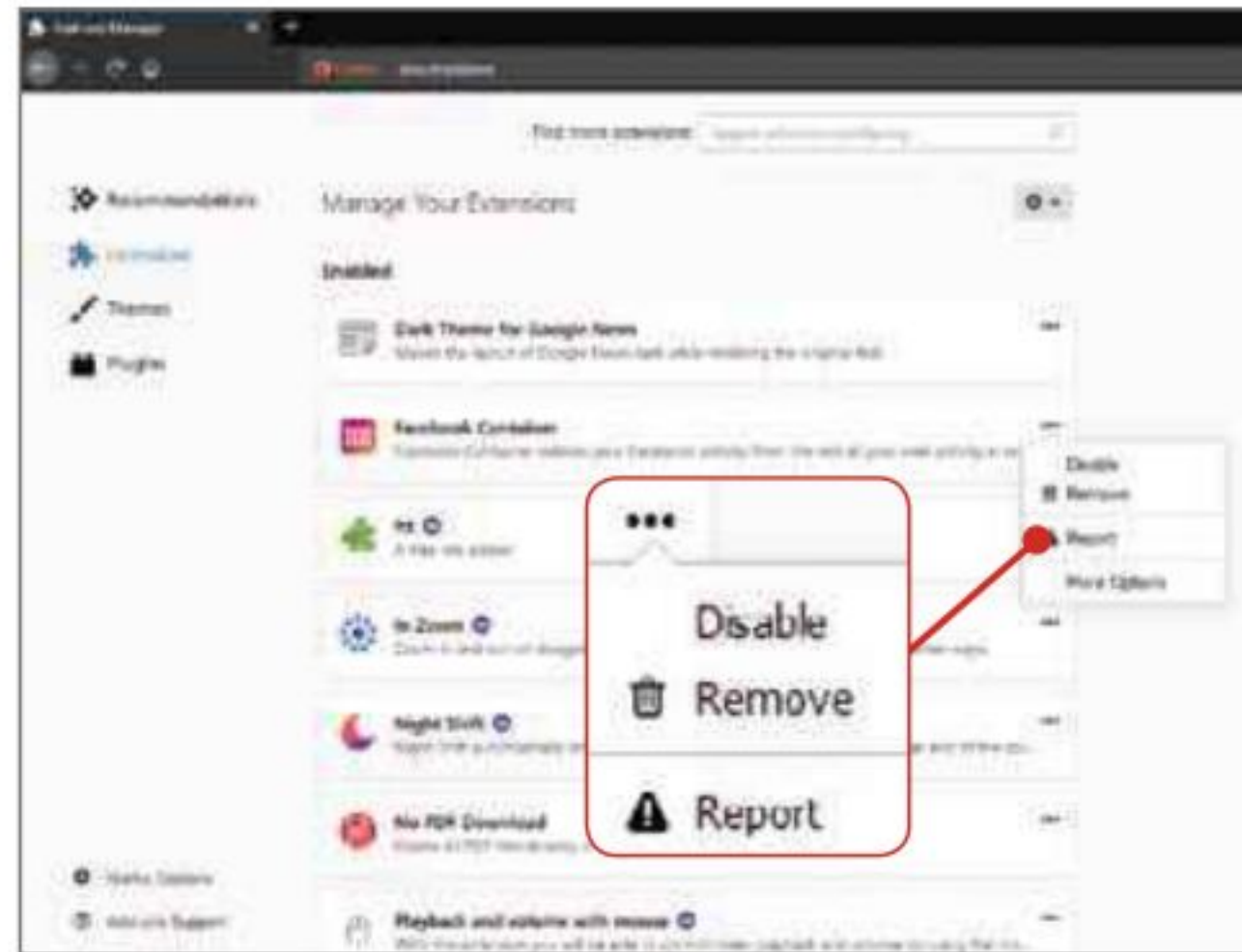


FIREFOX

Discover the new features in Firefox

Mozilla has finally released Firefox 68, and with it comes a new way to view and manage your add-ons by separating them into two categories: 'active' and 'disabled'. Complementing this new, uncluttered layout is the introduction of a three-dot menu button, which replaces the old Disable, Remove and Options buttons. You can also expect to see recommendations for other add-ons – although you can switch these off by going to both `extensions.htmlaboutaddons.discover.enabled` and `extensions.htmlaboutaddons.recommendations.enabled` and changing their values to False.

Reader View has also received an upgrade with the all-new dark mode. Open any supported page, press the book icon to switch to Reader View, then click the 'Aa' button. Now you can switch between Light, Dark, and Sepia themes (and save your eyesight in the process).



Make your new tabs more interesting

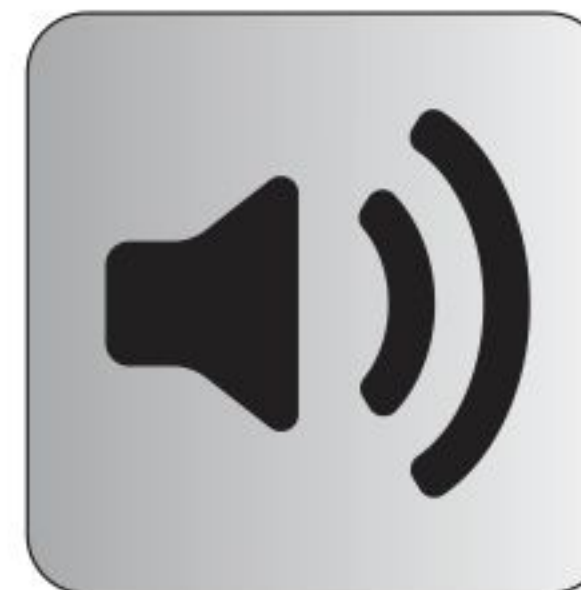
Tired of looking at the same old New Tab page? Less Boring New Tab (bit.ly/tabs480) has heard your grumble: once you've installed this add-on, opening a new tab will present you with a bright screen that shows the date in big, bold letters along with a range of customisable options.

Aside from changing the background colour, you can choose to add images and text – displayed as sticky notes – to the screen. You can create as many image or text notes as you like, and they'll still be there the next time you open a new tab. We like to use it for pinning our day's to-do list, but if a collage of your cat Jerry is going to keep you motivated then who are we to judge?

Get audio alerts for your downloads

Navigation sounds are important: they help to make the web more accessible and can also make it easier to keep

track of events such as downloads. Extra Sounds (bit.ly/sounds480) enables a satisfying navigational noise for five key events: start of navigation (such as when you click a link or open a new tab), end of navigation, download started, download complete and download error. These last two sounds are particularly handy because they make you instantly aware if something goes wrong while your file is downloading.



There's nothing to set up because the add-on works automatically once installed, but we'd like to see some more customisation options in the future.



OTHER BROWSERS

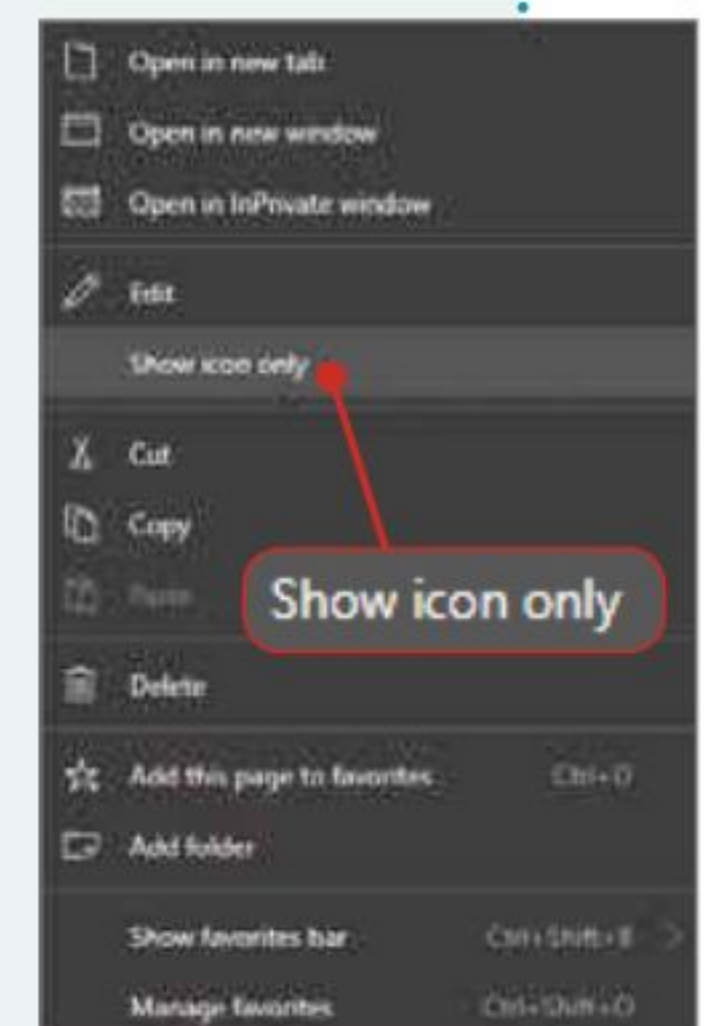
Level up your browsing

Opera has added another string to its bow with the release of Opera GX – a browser made for gamers. You get all the great Opera features, including a built-in VPN and ad-blocker, as well as gaming-specific options such as controlling the amount of memory and processing power it consumes – useful when playing games that use a lot of resources. It features Twitch integration, right there on the sidebar, alongside chat apps including Facebook Messenger and WhatsApp. There are plenty of ways to customise Opera GX and it even offers gaming-inspired sound effects.



Show icons on your Favourites bar

The new Chromium-based Edge (we look forward to the day we can just call it Edge) continues to increase its feature list based on user feedback. The latest tweak means you can now change the websites on your Favourites bar to just icons. This gives the browser a much cleaner look and lets you store more sites within easy reach. Right-click any site on your Favourites bar and choose 'Show icon only'. If a site isn't easily recognised by its feature, perform the action again to switch back and display its name.



Best Free Apps



App of the Fortnight

WEB BROWSER

Firefox Preview

bit.ly/ffpreview480



NEW

Mozilla has been working on a brand new browser for Android – codenamed Fenix – for some time, and now it's finally available for everyone to try, under the new name Firefox Preview. Mozilla will gradually phase out its current Android browser in favour of this new one over the coming months. The final version of the browser is due to launch in the autumn, and this beta gives a tempting taste of what to expect.

The biggest change is that Firefox Preview is powered by a completely different mobile screen engine called GeckoView – Mozilla's equivalent of Google's Chromium – which the developer claims is up to twice as fast as previous versions of Firefox for Android.

The browser also sports a fresh new design, with a minimalist Start screen and a simple, intuitive navigation bar. Swiping up from the bottom of the screen reveals a handy quick-action bar, with shortcuts to useful tasks, such as sharing or bookmarking pages. And, of course, the browser offers the now obligatory option to switch to a dark theme.

Privacy is at the forefront in Firefox's latest incarnation. Tracking protection is enabled by default and private browsing is only ever a tap away, thanks to a shortcut at the top of the Start screen.

The other major new feature is called Collections, which is designed to help you save, organise and share collections of sites. You can quickly save open tabs to a collection, which allows you to group sites you visit frequently by theme – shopping or planning a holiday, for example.

Firefox Preview is a beta, so all the usual caveats

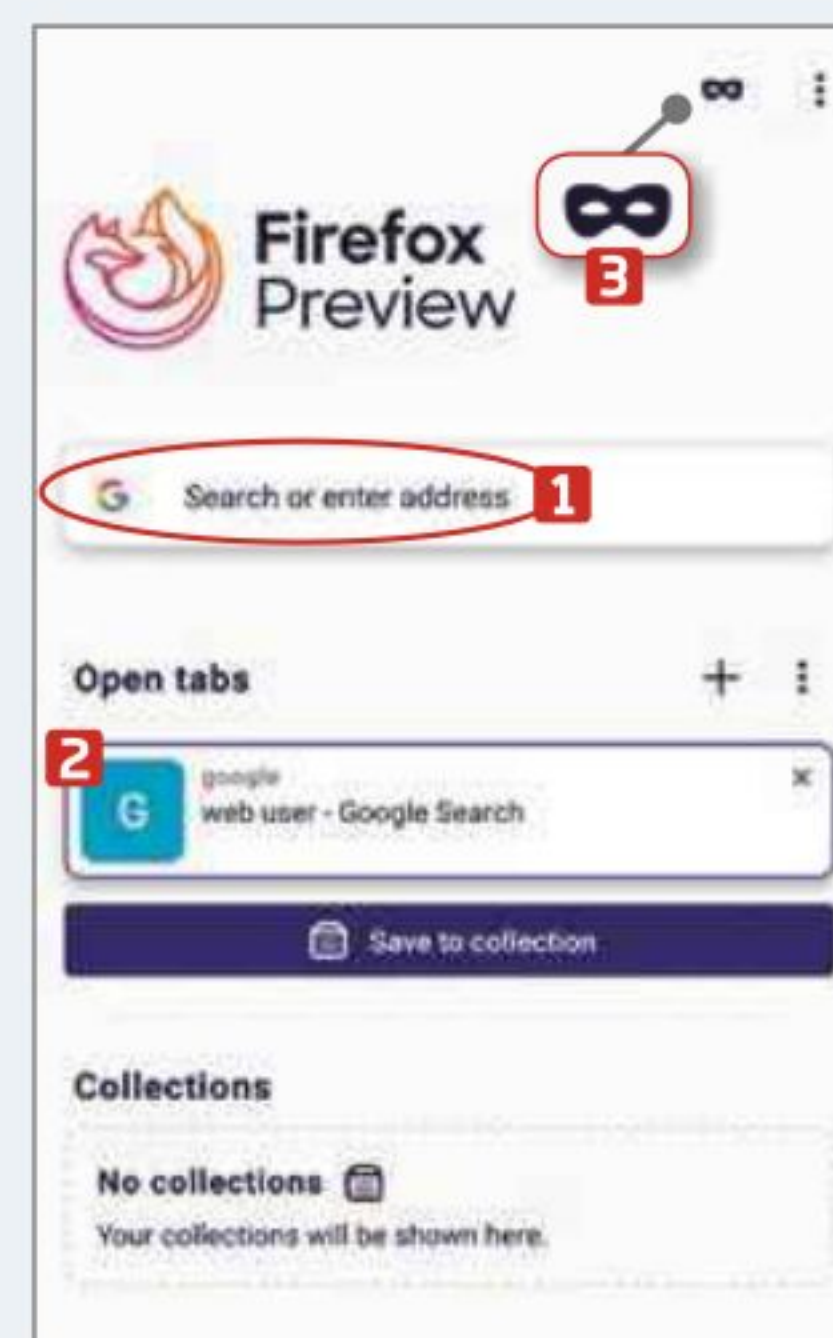
apply, but from what we've seen, the future of Mozilla's browser is looking pretty strong.



MINI WORKSHOP

Explore the best features in Firefox Preview

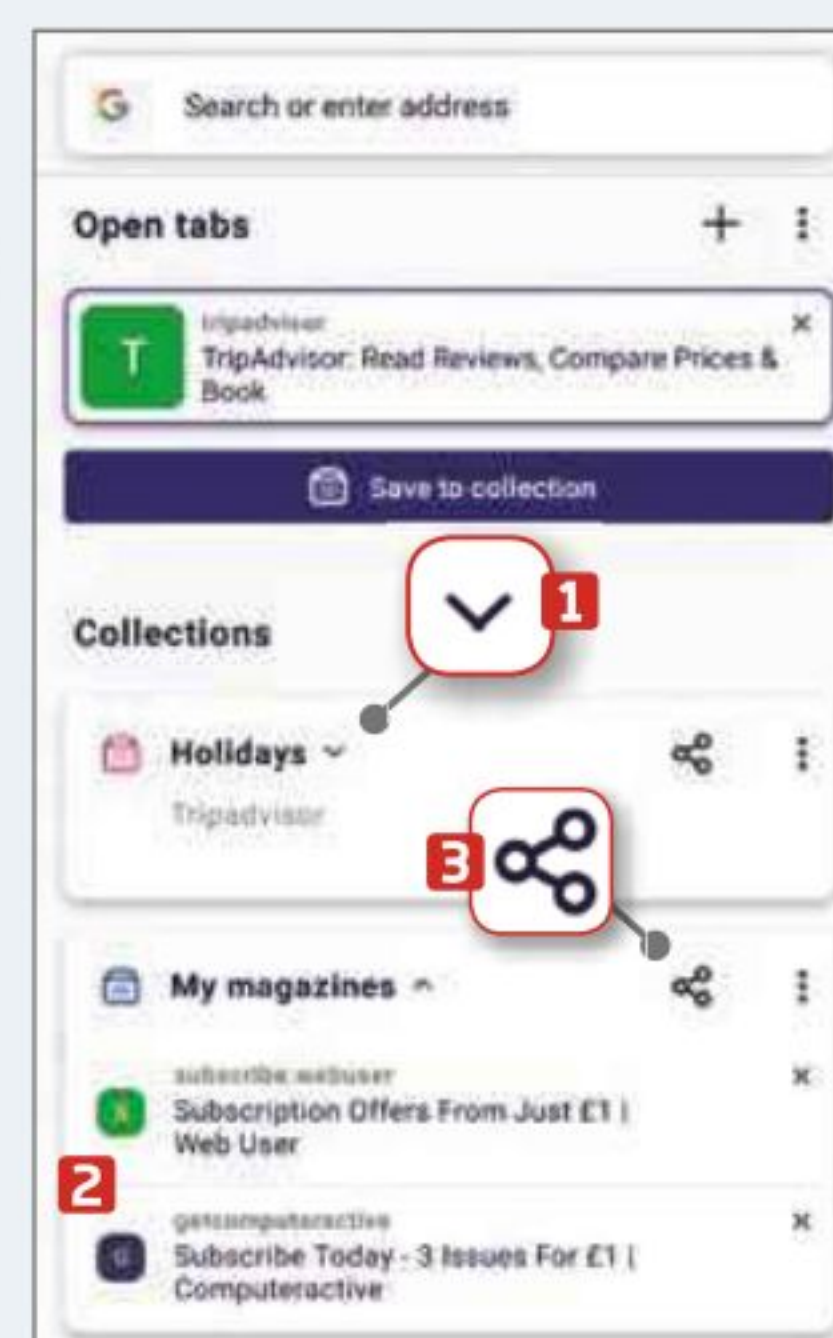
1 Launch Firefox Preview and you'll see the all-new start screen. Type a keyword or URL in the search box **1** to start browsing, or tap one of the cards listed under 'Open tabs' **2** to launch recently visited web pages. If you want to browse privately, press the eye-mask icon in the top-right corner **3** to switch to a private session. Tap it again to return to standard browsing.



2 To save a website to a collection, navigate to it, then press the three-dot menu button in the bottom-right corner of the screen and select 'Save to Collection'. To add your tab to an existing collection, tap its card **1**. To add the tab to a new collection, select 'Add new collection' at the bottom, **2** then type a name for it and tap the tick button.



3 To access your collections, return to the Start screen by tapping the Tabs button on the lower navigation bar. Collections are shown as cards on the Start screen – press the down arrow **1** to reveal the tabs it contains, then tap a tab **2** to launch it. To share a collection, press the Share icon, **3** then choose an option. Tap the three-dot menu button to rename or delete a collection.



Our rating



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

PROPERTY

Zoopla

bit.ly/zoopdroid480
bit.ly/zoopios480
 

Online property-hunting service Zoopla has just given its iOS app a massive overhaul (with Android updates due soon), simplifying navigation, freshening things up with a smarter design and making it easier for property buyers to find their dream home. The three-line menu has gone and navigation now takes place via five sections, accessible from the bottom of the screen. The Home screen now automatically displays suitable matches for your recent searches, while potential homes you've viewed are now saved in the personalised Properties section.



Our rating



ENTERTAINMENT

BBC Sounds

bit.ly/soundsdroid480
bit.ly/soundsios480
 

The BBC Sounds app has just become a lot more useful for motorists – whatever type of mobile device they own – thanks to a new update that adds support for both Apple CarPlay and Android Auto. Launched last year, BBC Sounds has become a hub for the broadcaster's radio and podcast content. Also included in the update is a new feature that allows the app to display track information for whatever happens to be playing on live radio at the time.



Our rating



GAME

Texas Hold'em

bit.ly/texas480


If you've been using Apple mobile devices for a while, the chances are you've already played a hand or two of Texas Hold'em. Originally developed for the iPod, then released for the iPhone, it was the first ever game sold on the App Store. Now the poker-based game is back – apparently in celebration of the 10-year anniversary of the App Store. Texas Hold'em has been completely refreshed so that it works perfectly on today's larger-screen devices. You get a whole new set of characters to play with and the game remains as addictive as ever.



Our rating

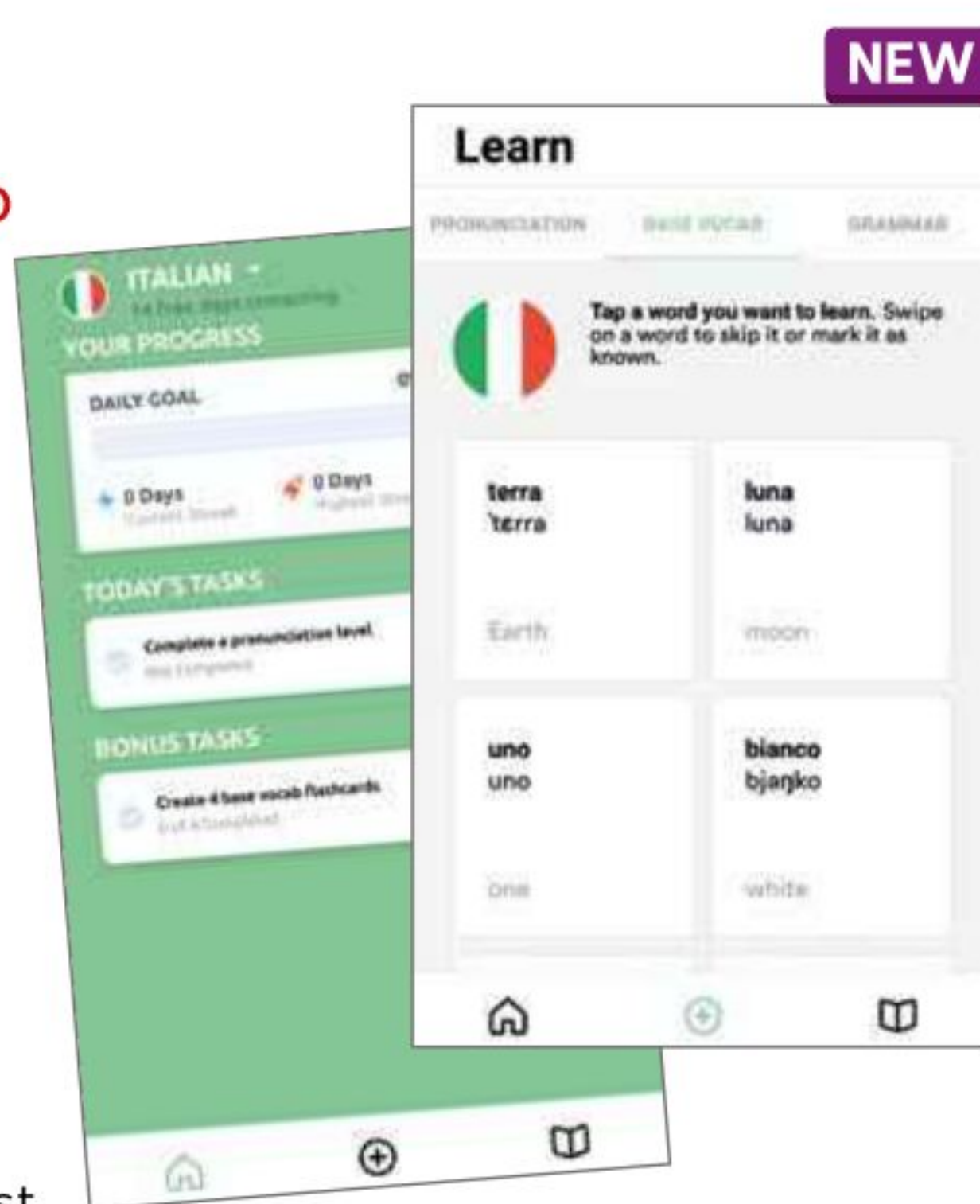


EDUCATION

Fluent Forever

bit.ly/fluentdroid480
bit.ly/fluentios480
 

If you've ever tried to learn a new language, then it's likely that you've been doing it all wrong – at least according to opera singer and multi-linguist Gabriel Wyner, who believes his own method will make you fluent in just six months. Based on Gabriel's book of the same name, Fluent Forever focuses on pronunciation, encouraging you to learn what a language sounds like before you learn to speak it. Vocabulary is learned via images, rather than translations, while grammar is learned 'naturally', through stories and sentences that interest you. The app is free for two weeks, after which it's £8.99 per month.



Our rating



GAME

Dr Mario World

bit.ly/drmariodroid480
bit.ly/drmarioios480
 

Nintendo continues to branch into mobile gaming with another app based on its treasured console IPs. This one is based on a quirky Mario spin-off puzzle game, Dr Mario, which originally appeared on the Nintendo Entertainment System (NES) and the Game Boy, back in the 1990s. Our moustachioed hero has seemingly given up his plumbing day job and, for some inexplicable reason, is now practising medicine instead. The aim of the game is to eliminate viruses on the screen by matching different coloured capsules. It's a lot of fun but operates on the annoying 'pay or wait' model that blights other free-to-play puzzle games.



Our rating



5 NEW APPS WORTH PAYING FOR

PUZZLE

Isometric Squared Squares

bit.ly/squares480

Price: £1.99



This minimalist logic-puzzle game blends 2D and 3D worlds, and lets you switch between the two perspectives at will. It's iOS-only at the moment, but an Android version is on its way soon.



PHOTOS

RealAI Image Upscaler

bit.ly/upscaler480

Price: £2.19



Boost the detail in your low-resolution photos by using this tool to 'upscale' them. It uses deep neural-network techniques to resize your images effectively, and supports batch processing.



GAME

Rome: Total War - Barbarian Invasion

bit.ly/romedroid480

bit.ly/romeios480

Price: £4.99



The all-conquering Total War series has launched a mobile version of its 2005 classic, which sees you engage in real-time battles and turn-based strategy to determine the fate of the Roman Empire.

WELLBEING

Compliment Tracker

bit.ly/compliment480

Price: £1.79



Good deeds make us feel positive. So why not boost your own positivity by paying someone a compliment and making them feel positive, too? This app keeps a log of your kind words.



HEALTH

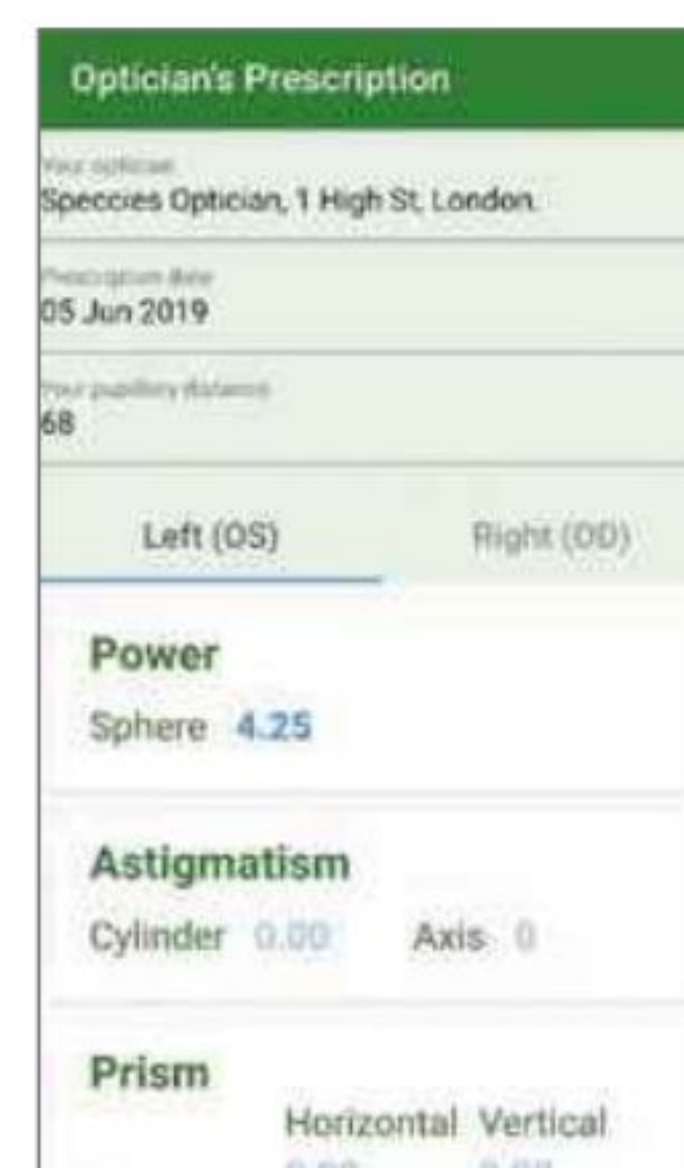
Optician's Prescription

bit.ly/optician480

Price: 99p



Ever been shopping and wished you had your glasses prescription with you? Well, now you can keep all your prescription details on your phone to refer to whenever needed, thanks to this app.



Isometric Squared Squares



RealAI Image Upscaler



Rome: Total War - Barbarian Invasion



Compliment Tracker



Optician's Prescription



✓ Install this app...

Where is Public Toilet

bit.ly/toilet480

Android 4.1

Nothing spoils a perfect summer day out like finding yourself caught short with no idea where the nearest public convenience is. But there's an app for that and it's called Where is Public Toilet. It's effectively a combination of Google Maps plus a database of more than 280,000 public toilets around the world. Launch the app, download the database for your region and you're good to go - literally. You can filter restrooms by type (male, female or accessibility, for example) as well as by extra facilities, such as baby changing. You can report new or closed toilets, too. Basically, this is an essential download.



...Not this one

City Toilet Finder

bit.ly/city480

If you're planning a trip to the capital - or if you live or work in London - we'd suggest avoiding this app like the plague. Developed by the City of London Corporation, it's supposed to show shops, pubs and cafés that will let you use their toilet facilities free of charge. But you'll find many frustrated reviewers of this unreliable app on Google Play, who have been cruelly let down in their hour of need.





Take a Screen Break

Give your eyes a rest from your browser by taking our fiendish fortnightly challenges – solve our UK county emoji quiz and guess our Wikipedia article

**WIN A
WEB USER
2018 BACK
ISSUES DISC!**

Email your answers to
editor@webuser.co.uk
– one correct entry
will win a disc

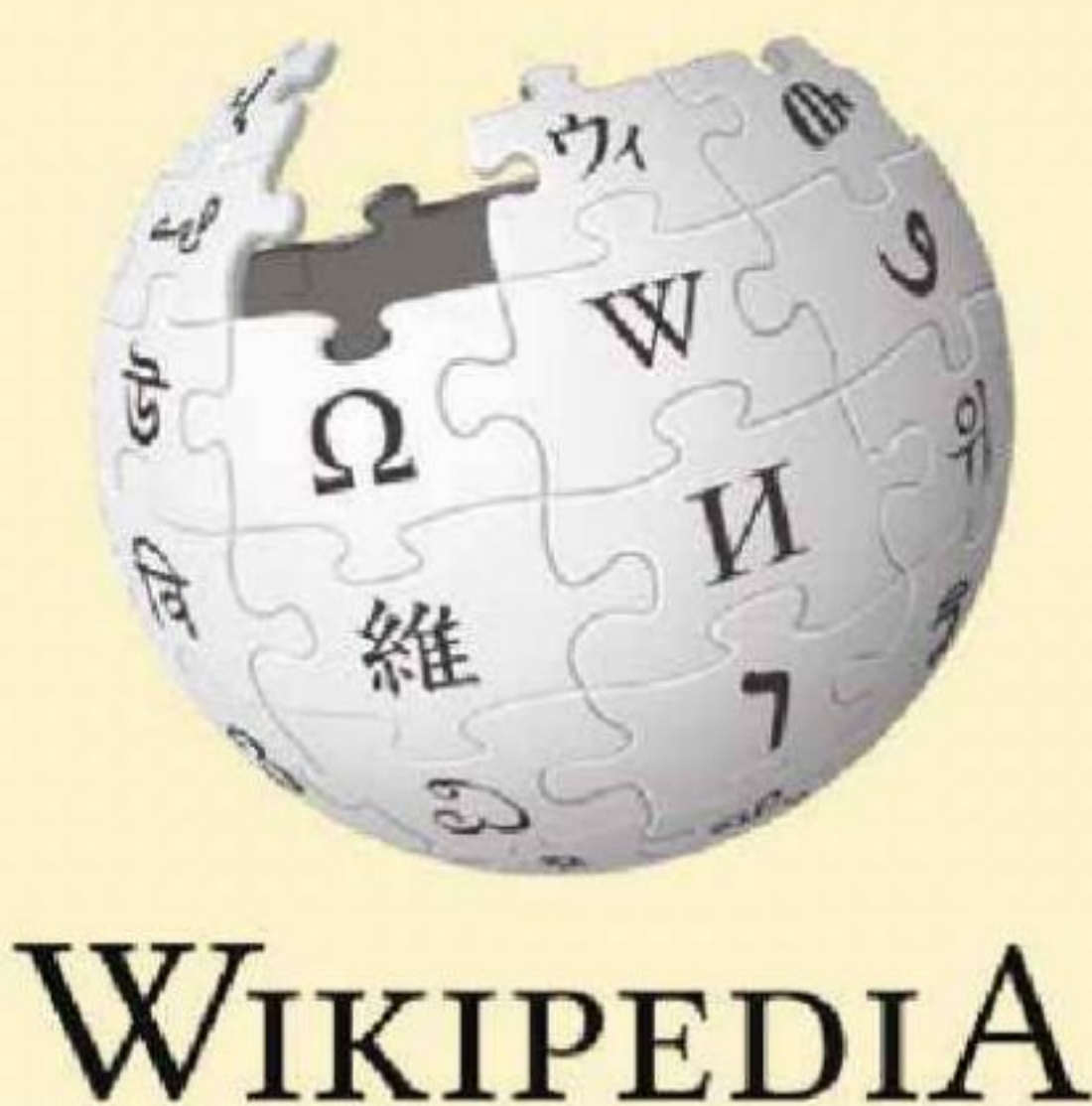


CAN YOU GUESS THE UK COUNTIES FROM THE EMOJI?

- | | | | |
|---|---|---|---|
| 1 |   | 2 |   |
| 3 |   | 4 |   |
| 5 |   | 6 |     |

GUESS THE WIKIPEDIA ARTICLE

Can you work out which technology-related Wikipedia entry the following clues refer to?



1 "It has undergone several name changes and was originally named Phoenix, after the mythical bird that rose triumphantly from the ashes of its dead predecessor."

2 "Functions can be added through add-ons created by third-party developers. It can also have themes

added to it, which users can create or download to change its appearance."

3 "Besides official releases, development builds are offered via distribution channels. These are named, in order of most to least stable: Beta, Developer Edition and Nightly."



5 "On May 21, 2019, it was updated to include the ability to block scripts that used a computer's CPU to mine cryptocurrency without a user's permission."

COMPETITIONS

WIN... Painter 2020

The latest version of Corel's Painter 2020 has a wealth of superb new tools to improve your digital art. There's a new Brush Accelerator, which takes advantage of your processors to make sure Painter works as fast as possible, and six new Colour Harmonies to save as sets. To enter, email your address to webusercomp@dennis.co.uk with 'Painter 2020' in the subject line. For more details, visit www.painterartist.com and follow [@CorelPainter](https://twitter.com/CorelPainter) on Twitter.



**WORTH
£359.99**

WIN 1 OF 3 Energy Sistem Music Box 7

This portable Bluetooth speaker has a long-life rechargeable lithium battery, giving you up to nine hours of playback without interruptions. Sync it with your phone and you'll be able to transfer and answer calls hands-free. To enter, email your address to webusercomp@dennis.co.uk with 'Music Box' in the subject line. For more information, visit www.energysistem.com and follow [@EnergySistem](https://twitter.com/EnergySistem) on Twitter.



**WORTH
£69.90
EACH**



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

Our guide to iPadOS

Apple is taking its operating system for the iPad in a new direction, but what does this mean for you and the current OS? **David Crookes** explains

What is it?

Apple's forthcoming iPadOS is a separate version of iOS, the company's operating system for mobile devices. As the name suggests, it's been developed to make the most of the iPad's larger screen, adding new gestures and multitasking features that make your device act more like a desktop computer. The new OS better serves the distinct needs of tablet users and places a greater emphasis on productivity. Apple says it will provide a better overall experience.

So is this the end of iOS?

No, iOS will be getting its annual upgrade, this time to iOS 13, and it will continue to be the operating system for the iPhone and iPod Touch. Many of the new features in iPadOS are taken from iOS 13 including a new Dark Mode for low-light environments, a rebuilt Maps app with a StreetView-like Look Around feature, improved Siri and a combined Find My app that locates your own device as well as those of friends. There is also a better Photos app that will auto-play Live images and videos, remove similar shots and deliver a better method of browsing.

Additionally, as with iOS 13, iPadOS will use Sign In With Apple ID – a secure way of accessing apps and websites without having to create new passwords or fill out forms. But iPadOS goes further.



The Maps app in iPadOS will have a Street View-style feature called Look Around



Will I notice the difference straight away?

Yes, we'd say so, since iPadOS has a new, improved Home screen that makes more of the iPad's larger screen. Since the icons are smaller and fit to a tighter grid, you can display more of them, and this also frees up room for Today View widgets which, in landscape view, can be pinned to the front Home screen. The widgets ensure that important information such as weather, news headlines and useful shortcuts are always close to hand. The Dock is still there for easy access to your favourite apps.

Will apps behave differently too?

Since iOS 11, it has been possible to work with two apps at the same time on the iPad, displaying them side by side in a Split View. You've also been able to use Slide Over, dragging an app from the Dock and having it open in a floating window. Now, the iPad will be even better for multitasking, with Slide Over able to contain multiple apps, so users can cycle through them. One app can also be



The Slide Over feature in iPadOS lets you work with multiple apps simultaneously

opened in multiple windows and, by tapping that app's icon in the Dock, you can see all open windows and select the one you want to work with in a so-called App Exposé.

Does it make web browsing easier?

Safari is still the default browser in iPadOS and while its tab management has been improved, the main difference compared to iOS is that you'll be able to view the desktop version of websites by

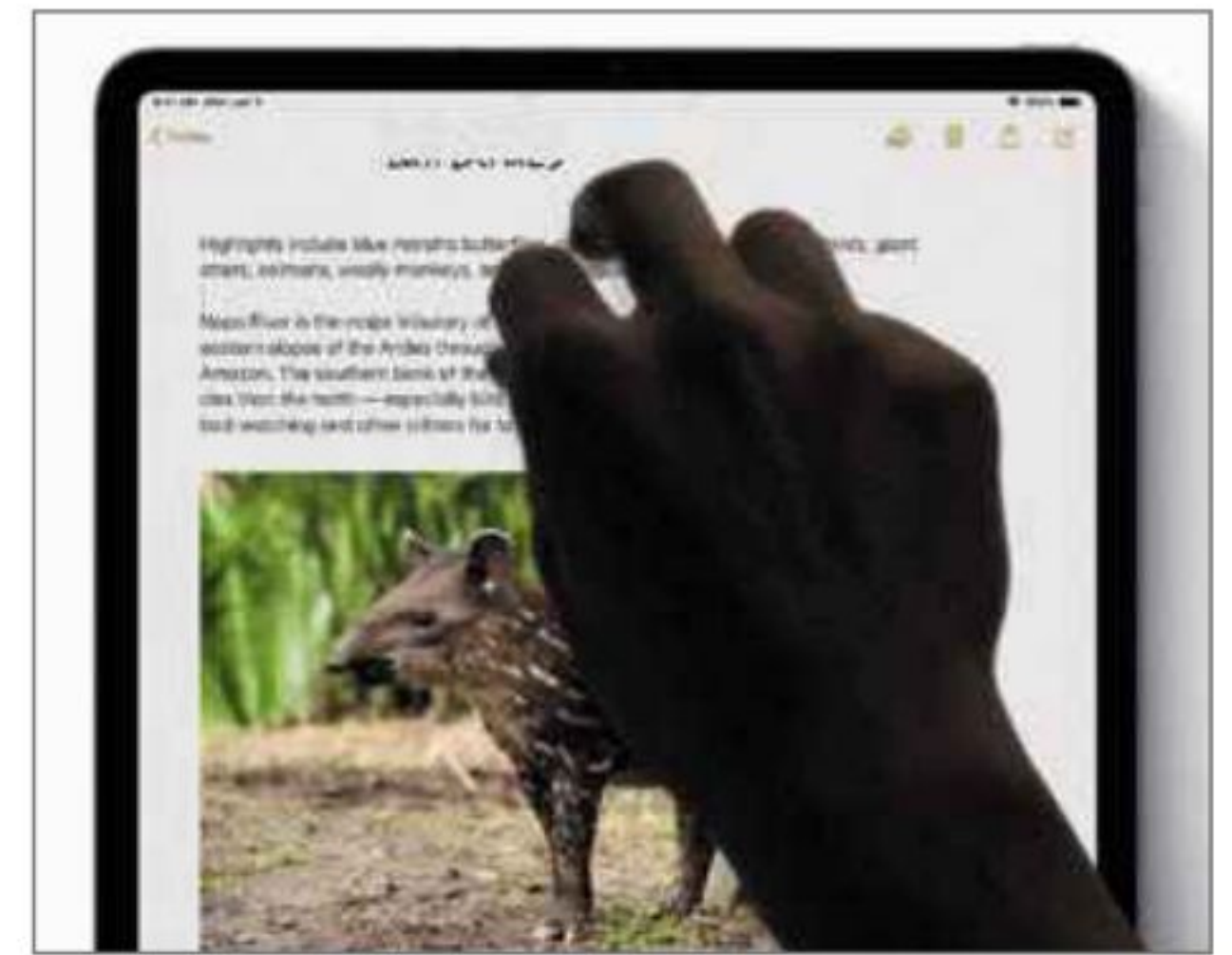
CAN I TRY iPadOS TODAY?

Apple has released iPadOS as a public beta so you'll need to be part of the Apple Beta Software Program to install it. To do this, visit beta.apple.com/sp/betaprogram in Safari on your iPad and sign in with your Apple ID. Then select Enroll your Devices and choose iPadOS.

Now, beneath the section Install Profile, click Download Profile. Once this is done, it's simply a matter of going to Settings, General, Software Update to install the beta software. But be warned: make sure you back up your current system first and be aware



the beta version may contain bugs that could affect your device.



iPadOS lets you easily copy and paste on-screen text using three-finger gestures

you can pinch three fingers together and lift your hand to copy some text and quickly repeat the move if you wish to cut. By pinching down with three fingers, you can paste that text. Meanwhile a three-finger swipe left will undo mistakes and a three-finger swipe right will redo an action.

Sounds like a lot of work. Can I just play games?

Of course. Just like iOS 13 and tvOS 13, the iPad is going to support a new gaming service called Apple Arcade. This will make 100 games

available with a subscription and allow you to move from one device to another to continue playing.

What's more, you will be able to connect an Xbox One S or PlayStation DualShock 4 controller using Bluetooth – previously, you needed to use a Made for iPhone controller.



Play games on your iPad by connecting a DualShock controller

Won't all these features slow iPadOS down?

Not according to Apple. It says iPadOS will launch apps twice as quickly as iOS 12 and that FaceID unlocks 30% faster. Apps are also reducing in download size so there should be room for more. As a bonus, iPadOS is going to work better with the forthcoming macOS 10.15 Catalina, too, so you can use an iPad as an external display for Macs, so long as Wi-Fi and Bluetooth are enabled.

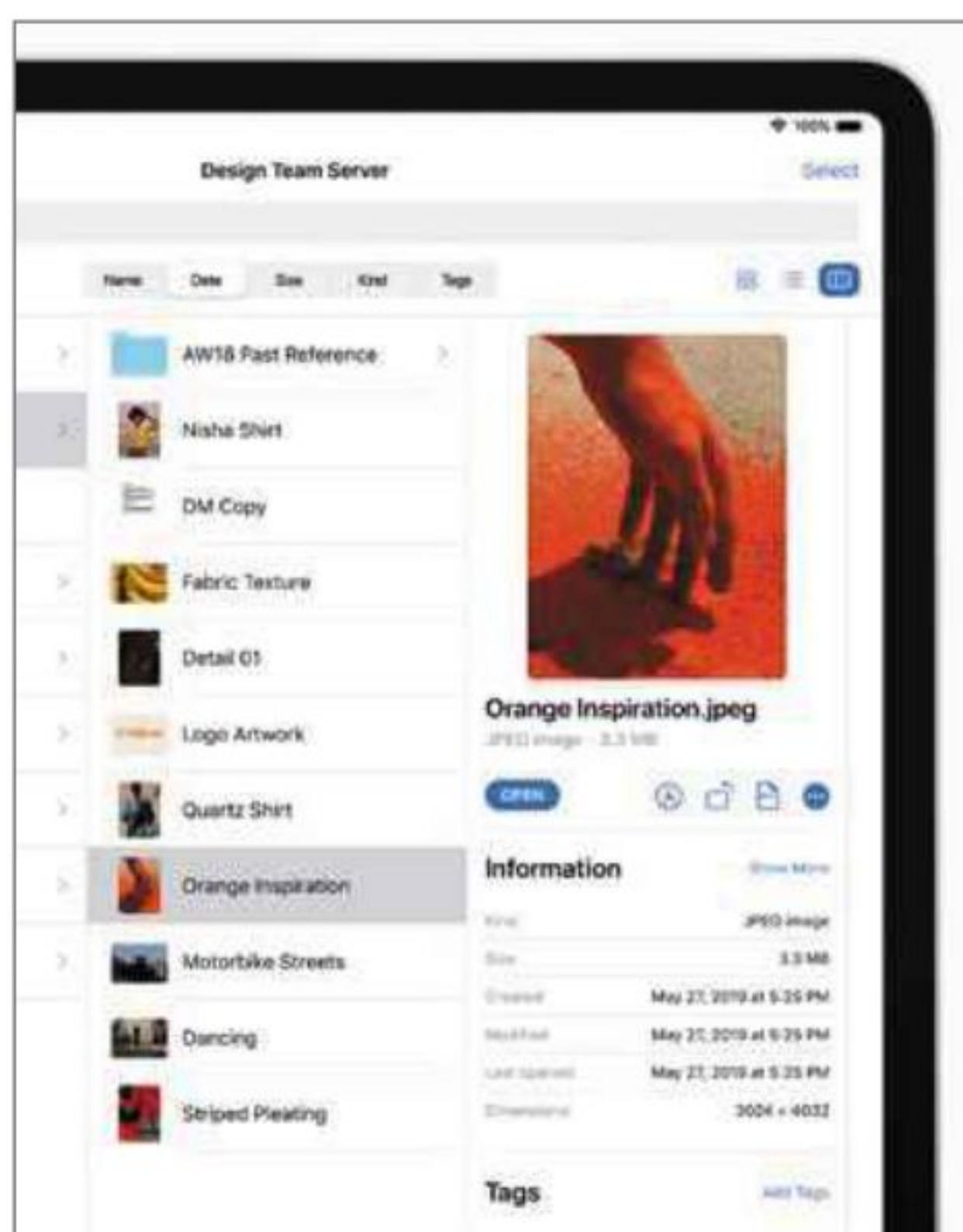
Will iPadOS work on every iPad?

No. The iPadOS update will only be available on the iPad Air 2 and later, all iPad Pro models, iPad Mini 4 and later and the iPad 5th generation and later. It is however, due to roll out in September and, as always, it will be free.

default, rather than the mobile version. Apple says this will be perfect for accessing Google Docs and WordPress, and that you'll see websites at their optimal size. The browser also comes with a new download manager that not only lets you view active and recent downloads but quickly access them in the new Downloads folder located within the Files app.

Can I use files from other devices?

As it happens, yes. You'll also be able to connect to a file server at work or to a home PC using Server Message Block. However, an even more exciting feature is the ability to use an external hard drive, SD card reader or a USB drive. The Files app will make it easy to manage external storage, making the iPad more like a Mac or PC. It'll be particularly useful for photographers because cameras can also be connected directly, allowing for easy image importing into an app such as Adobe Lightroom.



iPadOS makes it easier to manage your files and move them to external storage



You can capture screenshots in iPadOS by tapping your screen with an Apple Pencil

Wow! Could the iPad become a full-on workstation?

It's certainly getting to that stage. As always, you can connect the iPad to a physical keyboard, with the bonus of being able to use new keyboard shortcuts. It's also possible to hook up a mouse, although Apple has largely kept that quiet. If you have an Apple Pencil then this too is becoming as productive as is it creative: tapping a corner of the screen with the pencil launches Markup, which lets you capture a screenshot of a document, email or web page and draw over the top.

Is editing documents much easier, then?

Yes, thanks to iPadOS's new text-editing gestures, you're able to double-tap to select a word, triple-tap to highlight a sentence or quadruple-tap for a paragraph. Alternatively, you could drag your finger over the text you want to select or pick up the cursor and place it in the relevant location. This is on top of the iPad's new onscreen keyboard, which finally adds swipe typing.

What about cutting and pasting?

Cutting and pasting was big news when iPhone OS 3 was introduced but here we are a decade on and those actions are finally becoming intuitive. With iPadOS,

Hack Your Wi-Fi Router

**COVER
FEATURE**

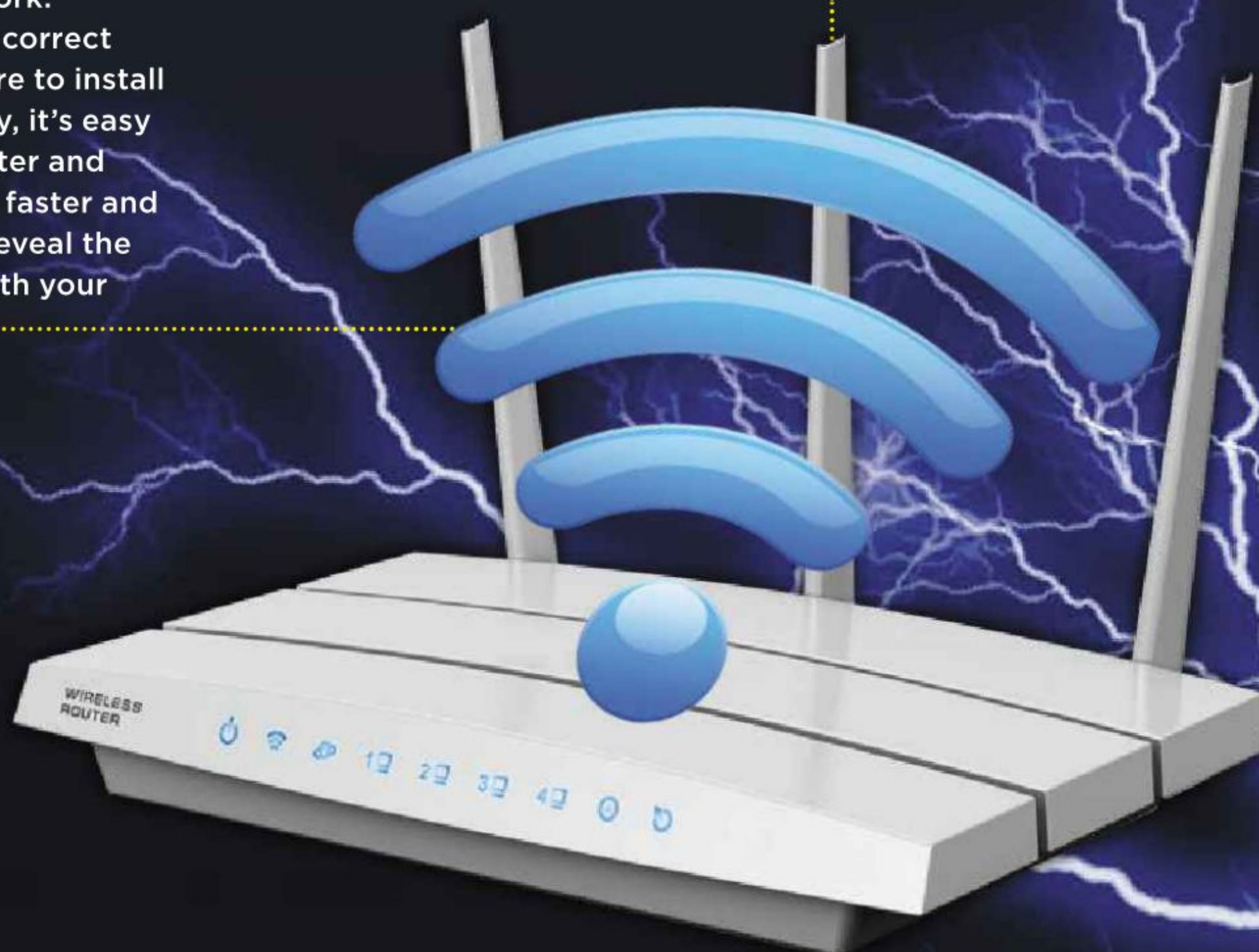
Your router is capable of much more than simply delivering Wi-Fi around your home. **Wayne Williams** reveals how to unlock its full potential using additional software, hardware and services

Your router is the backbone of your home Wi-Fi network, yet aside from the occasional reboot when the connection goes down, it gets very little attention. This is a shame because routers are able to do far more than just deliver wireless internet around your home, and can add all manner of services and devices to your network.

Provided you know the correct settings to tweak, software to install and extra hardware to buy, it's easy to 'hack' your current router and make your Wi-Fi smarter, faster and safer. In this feature, we reveal the best things you can do with your

router that no manual is likely to tell you – such as block ads natively, supercharge your router with custom firmware, install a VPN and set up your own network storage.

We also explain how you can check if your router has been hijacked, and how to recover missing or lost Wi-Fi and router passwords.



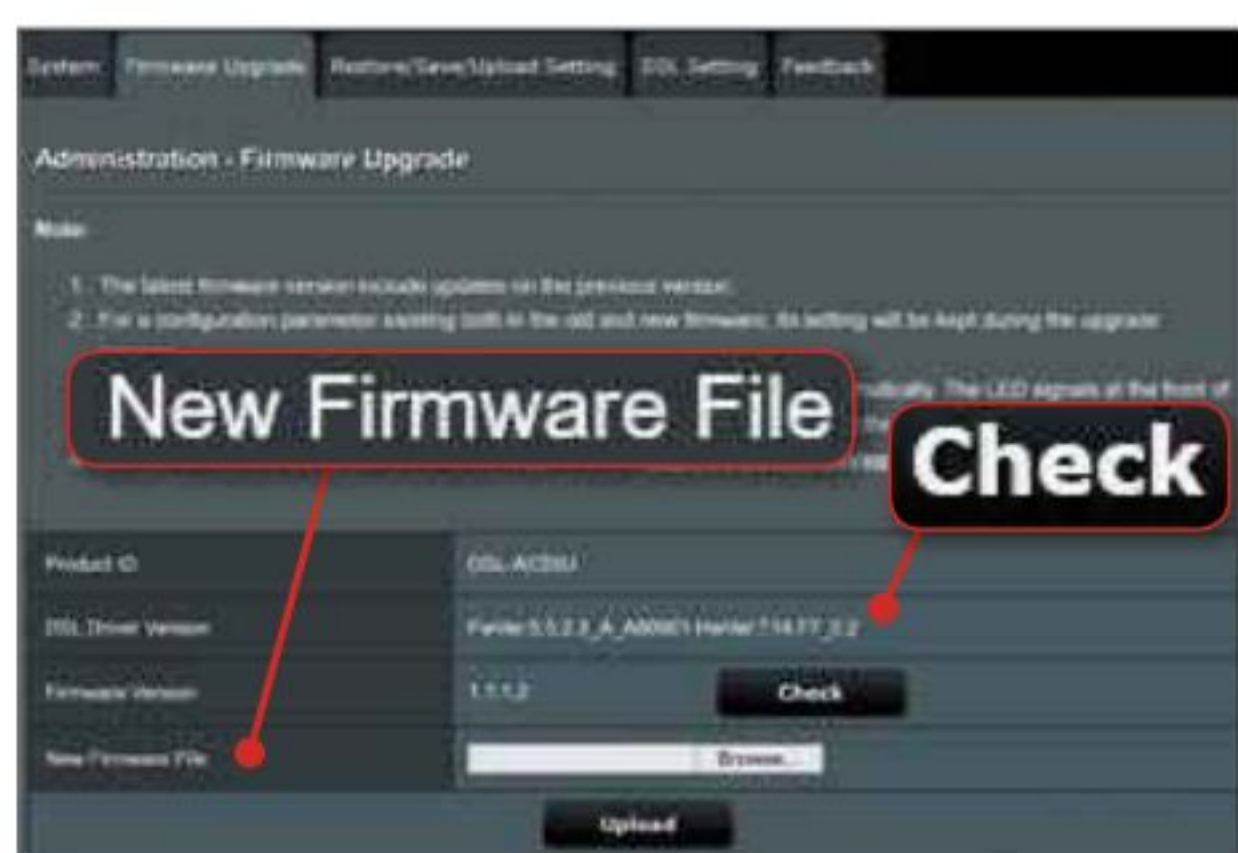
BASIC ROUTER HACKS

Check for firmware updates

If you've had your router for a while, it's worth checking to see if there's a firmware update available from the manufacturer for you to install, because this could plug security holes, fix hidden bugs, introduce new features and improve the router's overall performance.

Firmware is essentially the software on the router's ROM (read-only memory), so called because it stays "firmly" in place. Certain routers, such as Virgin Media's Super Hub, download and install firmware updates automatically in the background, while others give you the option to download them through their settings.

To check for new firmware, log into your router by typing the IP address for it into your browser (typically 192.168.0.1 or 192.168.1.1), then enter your user account and password details and look for an upgrade option.



Updating your router's firmware can improve its performance and fix bugs

Replace your router's antenna

Some routers have external antennas that can be manipulated to get a better signal – for example, by directing them away from outer walls and into the



Boost your Wi-Fi signal by replacing the antenna that came with your router

centre of the room. You may benefit from replacing your router's default antennas with better ones, or buy an antenna that comes with a cable attached, allowing you to position it a distance away from the router itself.

Replacing an antenna is just a matter of unscrewing the existing one and attaching the new one.

Add more ports to your router

Your router comes with a fixed number of Ethernet ports that you can use to connect various devices. BT's Smart Hub 2, for example, has four Gigabit LAN ports. That may be more than enough, given that most devices these days connect to the router via Wi-Fi, but it could prove restrictive if you prefer the superior speed and security you get from wired connections.

Thankfully, you can add additional Ethernet ports to your router by buying a switch such as the TP-Link TL-SG1005D, which costs just £12 on Amazon (bit.ly/port480). To use the switch, add the power and then connect it to your router using an Ethernet cable.



If you need more Ethernet ports for your router, invest in a switch

Set up a guest network on your Wi-Fi

Visitors to your home often ask for the Wi-Fi password, which isn't a problem when it comes to close friends and family members, but you may be less keen on giving others permanent access to your home network. For example, when switching gas suppliers recently, we were asked to provide the Wi-Fi details so a workman could complete the switchover.

Fortunately, your router – like ours – probably gives you the option to create one or more 'guest networks'. These let you share your internet with someone, but stop short of allowing them access to your entire network. You may also be able to choose a security type, and allow or deny



Set up a guest network to keep the gasman and others off your main Wi-Fi

specific devices access to the network.

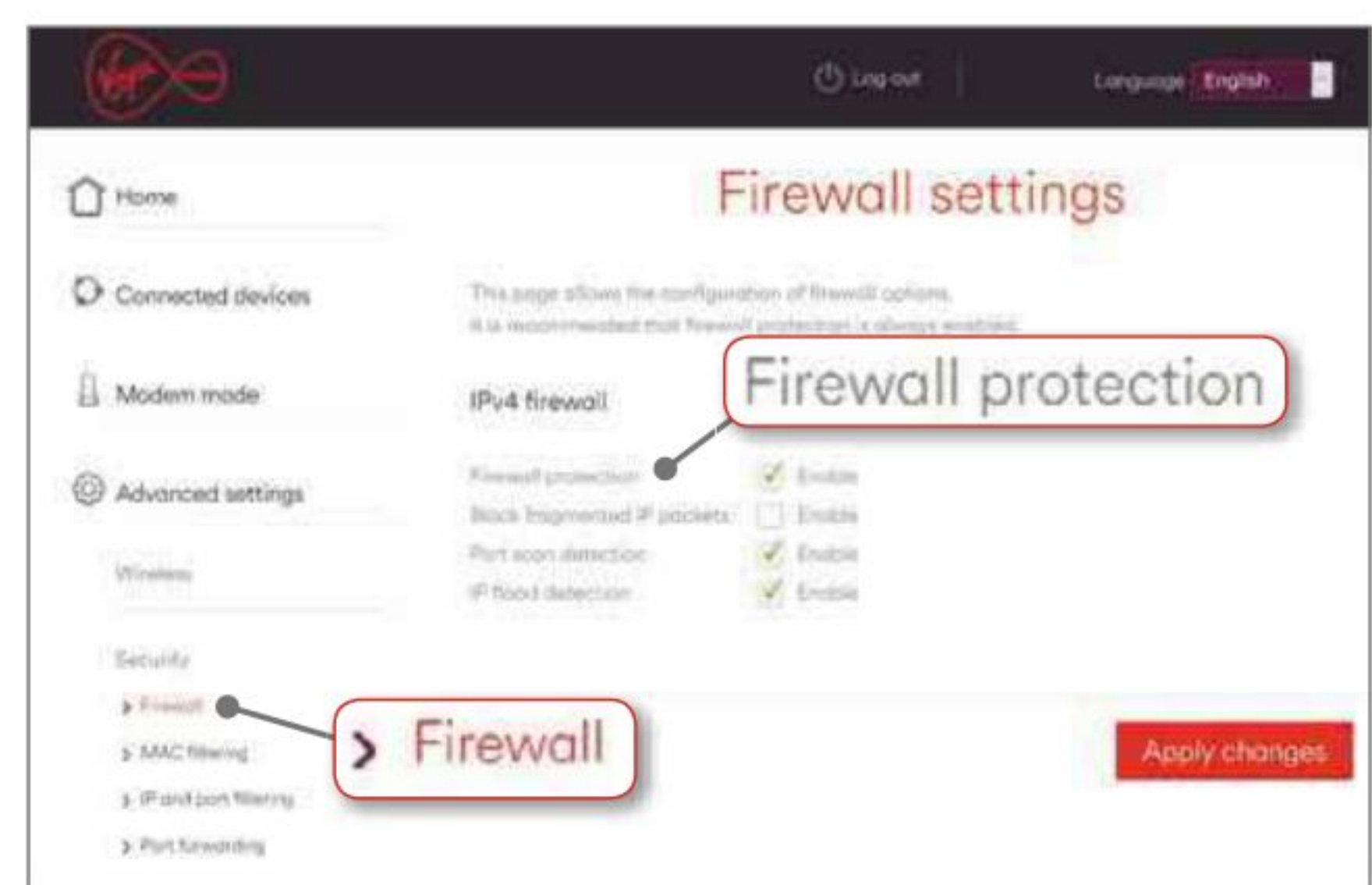
Look for the option to create a guest network in your router settings. If your router doesn't support this ability, you could consider installing DD-WRT which does (we'll explain how to do this later).

Increase your router's firewall security

A firewall, such as the one built into Windows, essentially controls incoming and outgoing network traffic, allowing through the good data while blocking the bad. Your router comes with a firewall to help prevent attackers from accessing your system, but although this should be enabled by default, you may want to increase the level of security it offers.

Advanced routers let you switch between low-, medium- and high-protection levels, which control how aggressively the firewall behaves. To adjust the strength, log into your router and look for a Firewall or Firewall Protection option.

Note that although increasing your router's security level will keep you safer online, it may also create problems by restricting certain actions, such as preventing you from accessing the internet through a VPN. Each router offers different settings, so check what's available in yours.



Adjust the security level of your router's built-in firewall to boost its protection

MODERATE ROUTER HACKS

Optimise your router for gaming

If you do a lot of online gaming, you've no doubt invested in a powerful PC, a high-quality graphics card and a fast internet connection. Even if you're happy enough with the overall performance, you may be able to improve things further at the router level. Connecting to your router via Ethernet, rather than Wi-Fi, will make a big difference, although we appreciate this won't be a practical option for some gamers.

You can get your router to prioritise gaming over other types of network traffic through its Quality of Service (QoS) setting – find and configure this option by logging into your router and looking under Advanced Settings or similar. However, not every router offers this option, in which case you could either consider upgrading your router to one that does, or flash DD-WRT to it (see opposite page), if it's supported.

You may have the option to prioritise either a device or an application. The latter is preferable, so look for the setting to make gaming the highest priority. That should make a noticeable difference to how smoothly your online battles play out.

Recover your Wi-Fi and router passwords

For security reasons, Wi-Fi passwords



If you can't log into your router, get the default details from Router Passwords

should be long and difficult to guess. That means they will typically consist of upper and lowercase letters, numbers and maybe even symbols. Some routers, such as the Google WiFi mesh system, show you the password you're using in the app, but in most cases you'll need to go for the old-fashioned method of writing down the password and keeping it somewhere safe.

If you lose or forget your Wi-Fi login details, it's usually easy to recover them. First, try using the default password which might be on a printed label somewhere on your router, or on a card supplied with the device. If it isn't, or you wisely changed it previously, then you can find it in Windows by pressing Win+R to open a Run box, then typing `ncpa.cpl` and clicking Enter. In the Control Panel window, double-click the

wireless-network adapter icon, click the Wireless Properties button and select the Security tab. Tick the 'Show characters' box to reveal the password.

Alternatively, you can use WirelessKeyView (bit.ly/wkv480) which shows you all the keys stored on your computer using the Wireless Zero Configuration service.

If you've misplaced your



Set up your own cloud storage service by plugging a NAS drive into your router

router password, visit Router Passwords (www.routerpasswords.com), which lets you view the default logins for most makes and models. If you've changed your settings, you'll need to reset your device to the factory defaults first. This usually involves pressing and holding down a button on the back of the router, or inserting a paperclip into a reset hole for 30 seconds or so (depending on the make and model). The lights on the front of the router will change to indicate when the reset is in progress. Once that's done, you can log in using the default passwords.

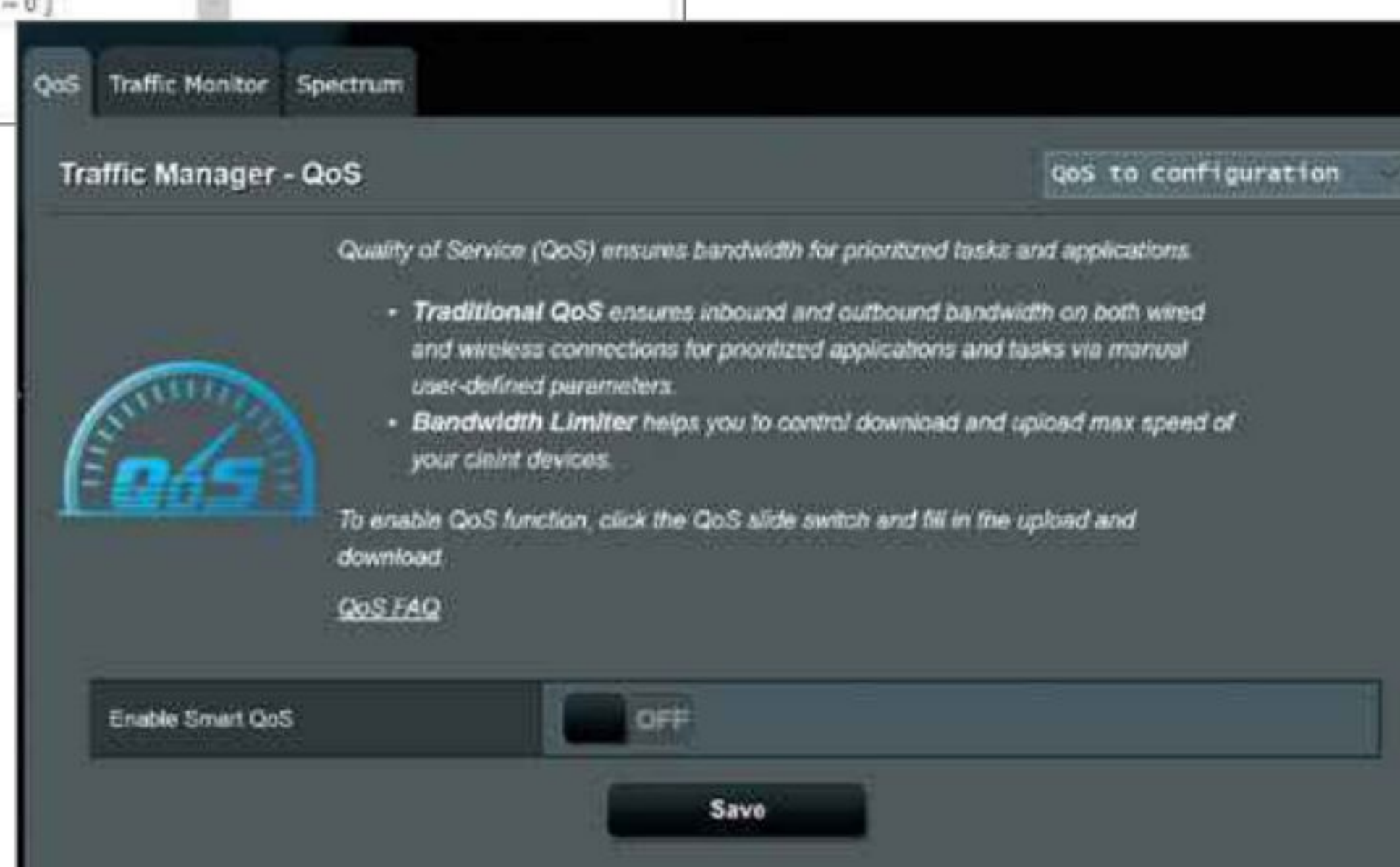
Set up your own cloud-storage service

Most people use some form of cloud storage these days. You probably store photos, videos and other personal files on a service such as Google Drive, OneDrive, iCloud or Dropbox, and while these cloud-storage services are great at what they do, the amount of free storage on offer is fairly small, which means you may need to pay for more. Another downside is that you're entrusting your personal files to tech giants who may not have your best interests at heart.

Fortunately, it's fairly easy to create your own cloud storage that you can access from anywhere, with a good level of security and as much space as you could wish for. Creating your own cloud simply requires you to attach some storage to your router. If your model has a USB port, you can connect a USB



Use your router's Quality of Service setting to optimise your Wi-Fi for gaming



drive to it and access your files over a home network. Unfortunately, cheaper routers and ones supplied by your ISP usually don't offer this port.

The other option is to connect a

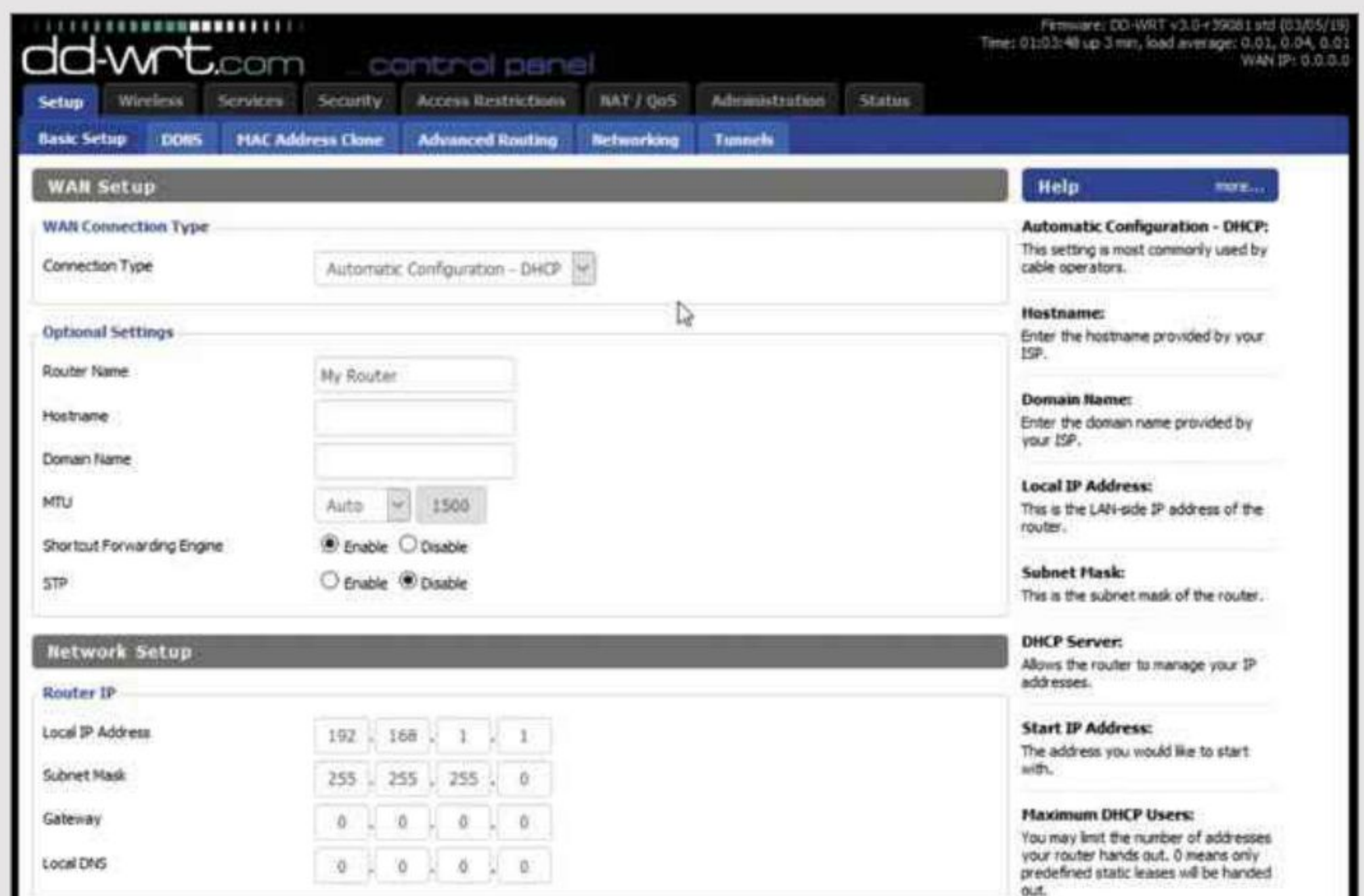
Network Attached Storage (NAS) drive using an Ethernet cable, so you can access your files over the internet. You can either buy a ready-made cloud-storage solution, such as Western

Digital My Cloud (bit.ly/mycloud480), or create your own NAS using a spare internal hard drive and an enclosure, although this is a lot more complicated to set up.

Supercharge your router using DD-WRT

High-end routers offer all kinds of advanced features, and they let you change and tweak almost every setting you can think of; while cheaper routers, and those supplied by your ISP, are usually more limited. You can supercharge your existing router (or a spare one) by replacing its firmware with a third-party open source alternative, such as OpenWRT (openwrt.org) or Tomato (tomato.groov.pl). Our preferred solution is DD-WRT (dd-wrt.com) which lets you add all manner of additional features to your router, including port-forwarding management, UPnP (Universal Plug and Play) and QoS (quality of service). It also lets you restrict access and boost your router's transmitting ability.

DD-WRT can be installed on most popular makes and models of router. Check to see if yours is supported by looking in the router database (bit.ly/routerdb480) – you can search by manufacturer and model. If you can't find it listed, view the Router Support Detection information at bit.ly/detect480.

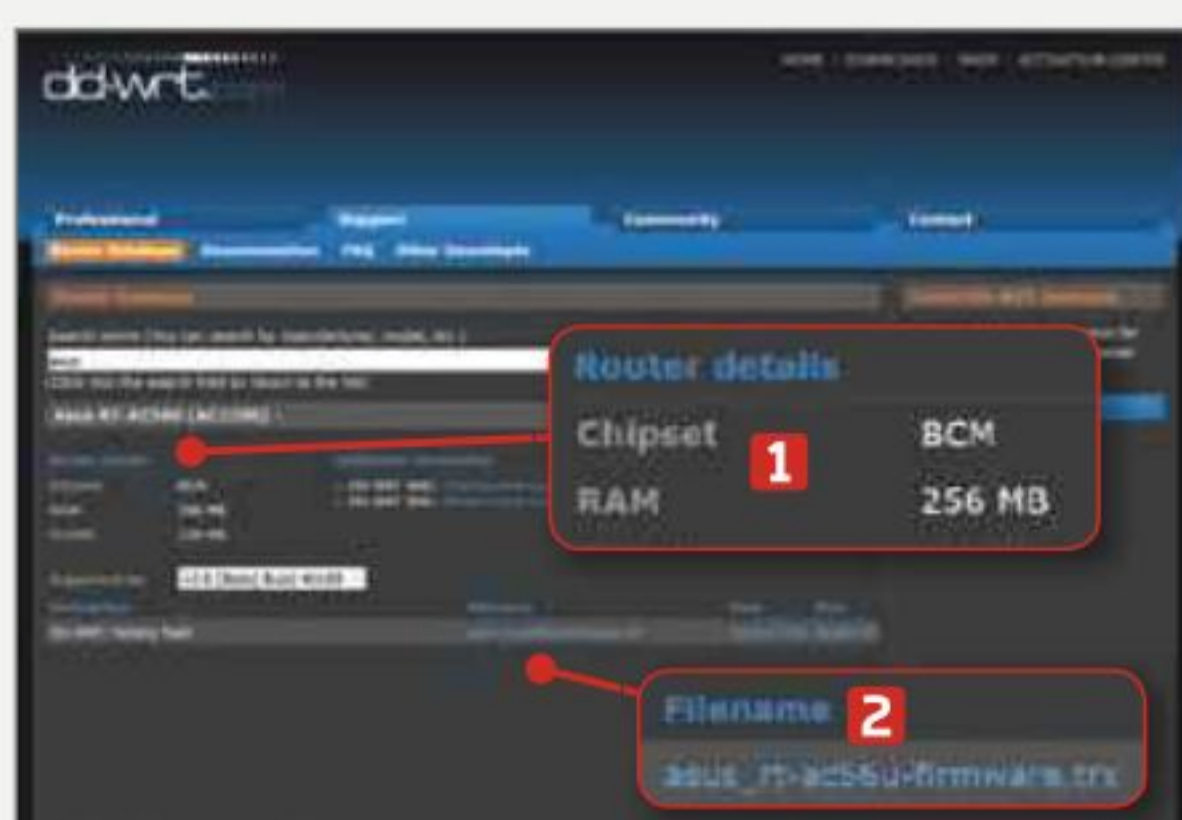


DD-WRT looks complicated but it adds a host of useful features to your router

As we demonstrate in our Mini Workshop below, the process for installing DD-WRT is similar to installing a piece of software on your PC. However, it's a little riskier because you

could end up bricking your router if you don't follow the instructions carefully. That said, the risk is small, unlikely to happen and even if it does, you'll probably be able to recover from it.

MINI WORKSHOP | Install DD-WRT on your router



1 Go to the DD-WRT database (bit.ly/routerdb480) in your web browser and search for your router's make and model. If you see it listed, click its name. The details of your router will be shown, including its chipset and RAM. **1** Click the filename **2** to save the firmware to your PC.



2 The exact installation process will vary. For specific hardware information, take a look at the DD-WRT Wiki at bit.ly/wiki480. Perform a hard reset (check your manual for details), then log into your router's settings. Look for a Firmware Upgrade option. **1** Browse for the DD-WRT firmware you saved **2** and click Upload. **3**



3 Avoid doing anything with your PC until the firmware replacement has completed, and don't reboot your router. You should see a message confirming that everything has gone according to plan. **1** Wait a few minutes, then perform another hard reset. If the upgrade fails, check to see if there's a different firmware to try.

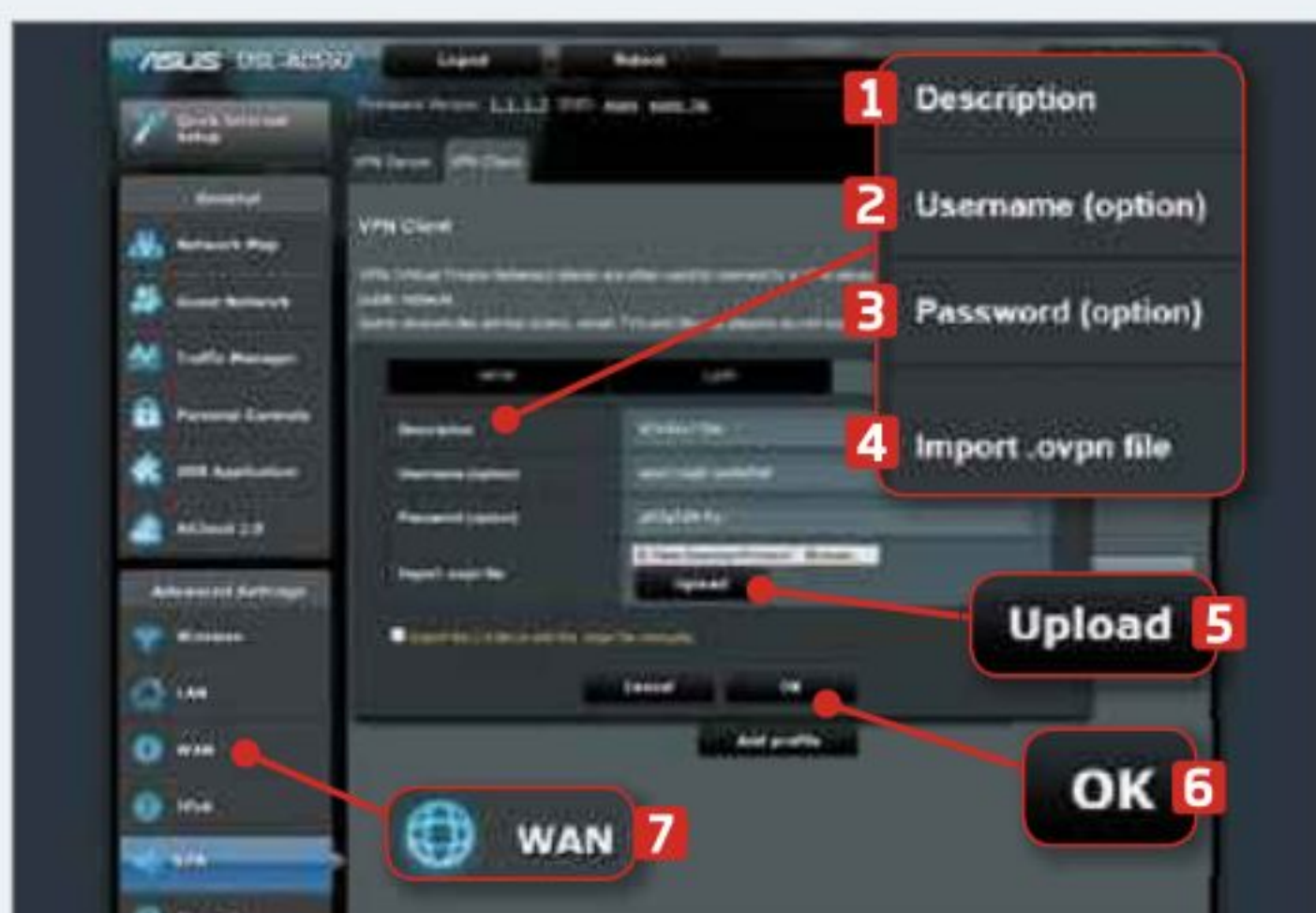
MINI WORKSHOP **Install Windscribe VPN** **on an Asus router**



1 The Pro version of Windscribe can be easily installed on routers running DD-WRT, Tomato and Asus firmware (it may also work on other routers). We'll be using an Asus router in this Mini Workshop. First, select the VPN option in the router-settings page, **1** then click VPN Client **2** (not VPN Server). Click the 'Add profile' button. **3**



2 Next, you need to get an OpenVPN config file and credentials. This requires a Pro Windscribe account. Go to bit.ly/ovpn480. Set the location, protocol, port and cipher you want to use, **1** then download the config **2** and get the credentials. **3** Back in the router-settings page, click OpenVPN.



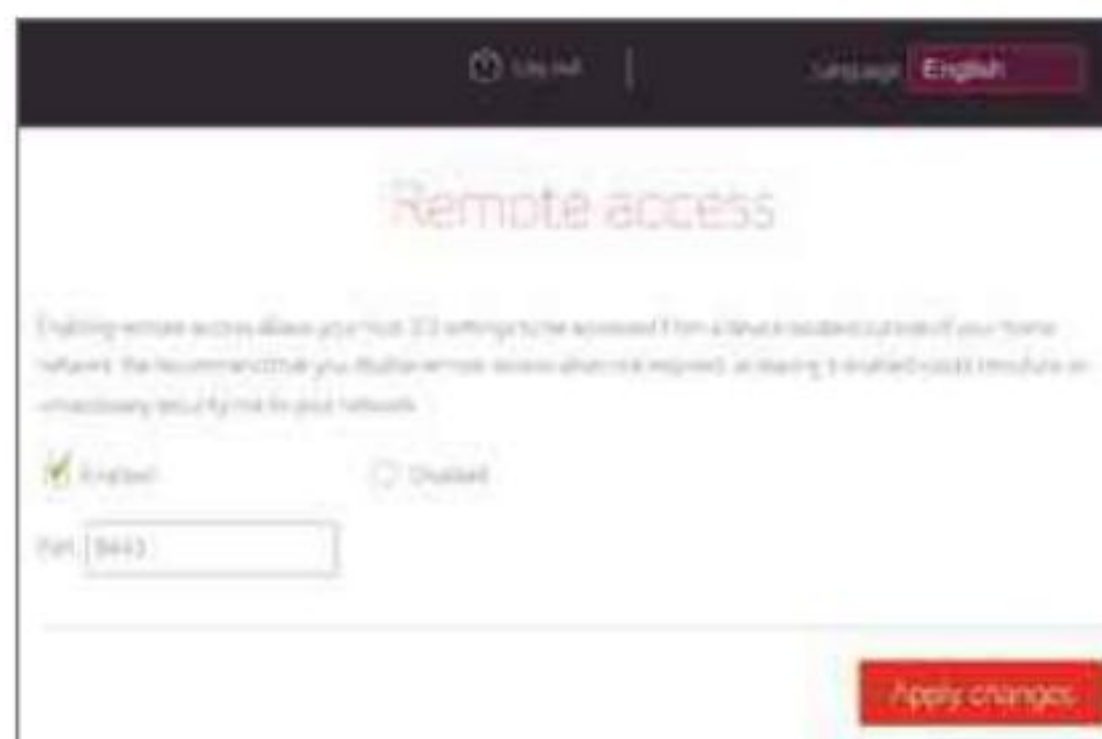
3 Enter a description, **1** then fill in the username **2** and password **3** you generated. Browse to the '.ovpn' file you saved **4** and click Upload, **5** then OK. **6** Click the WAN tab, **7** and change the DNS server to 208.67.222.222 (primary) and 208.67.220.220 (secondary). Apply it, return to the VPN Client tab and click Activate.

ADVANCED ROUTER HACKS

Access your router remotely

Most people know how to access their router settings over a home network, but doing this from outside your network – perhaps to check who's connected to your Wi-Fi when you're away from home – is a little trickier. The process varies depending on your router, but essentially it involves logging into your settings screen and looking for a 'Remote access' option. In the Virgin Hub 3, this is found under Admin, but it's likely to be greyed out. To gain access to the setting, you first need to change the default settings password, then log in with the new credentials. Once that's done, you can enable the feature, change the port if necessary and click Apply Changes.

The obvious downside to allowing remote access to your router is that a hacker could also access it, which is why the feature tends to be disabled by default. Bear this in mind, and take appropriate action to secure your router and disable remote access when not required.



Enable 'remote access' in your router to access your Wi-Fi from anywhere

To log into your router settings page from outside the network, you will need to enter the IP address of your router. This isn't the same as the address you'd use when at home (such as 192.168.1.1), but rather it's the public IP address and port number – for example, 82.30.94.17:8443. The problem is that, because the public IP address is dynamic, it will change regularly. There is a simple solution – Dynamic DNS (DDNS) is a service that gives your IP address a name that you can use to access your router remotely. It keeps track of the IP changes, so you don't need to worry about them. There are a number of DDNS services you can try, but two of the better ones are Dynu (www.dynu.com) and No-IP (www.no-ip.com). Once you've set



Dynu provides a dynamic IP address you can use to access your router

up your free account and created your hostname or domain, you may be able to enter these details into your router settings. In DD-WRT, just select the DDNS tab under Setup and fill in the details there.

Block ads in your router

The most obvious way to block ads is to install an ad blocker – such as Adblock Plus (adblockplus.org) – on your computers and mobile devices. The downsides are that ad blockers use a lot of system resources, which can slow down your browsing, and you'll need to install the ad-blocking software on every individual device you use.

For those reasons alone, it's arguably better to block ads at the router level because this will automatically stop them loading on every device you connect to your network. The process isn't complicated, either – all you need to do is switch from your existing DNS (Domain Name System) to Alternate DNS (alternate-dns.com). This ad-blocking DNS server works by using a regularly updated database of known ad-serving domain names. When a website requests ads from one of those ad servers, the DNS sends a 'null' response, preventing the ads from loading. The service also blocks malware and phishing sites, which is another major benefit.

To set up Alternate DNS, just log into your router settings screen, find the DNS option (it might be under WAN) untick 'Connect to DNS Server automatically' (or similar) and change the DNS to the following server addresses:

Primary: 23.253.163.53

Secondary: 198.101.242.72

Switching to Alternate DNS does mean that all your web requests will go through it, so the lookup could



Change your DNS server to Alternate DNS to block ads and malware at router level

be slower than the DNS provided by your ISP or another source. However, you probably won't notice the difference, and if you do, you can easily switch back.

You can also try using Alternate DNS in tandem with another DNS service – such as Google Public DNS (bit.ly/gdns480) or OpenDNS (www.opendns.com) – by only switching to it with either the Primary or Secondary DNS resolver. Whether this works for you will depend on how your router handles DNS – whether it prioritises the Primary DNS or switches between Primary and Secondary.

Install a VPN on your router

VPNs (virtual private networks) have become more essential than ever in recent years because they prevent anyone snooping on your web activity and allow you to get around ISP and geographic blocks. Although you can install VPNs – such as our personal favourite Windscribe (windscribe.com) – on your main PC, adding a VPN to your router makes a lot of sense because it secures *all* your devices. There are some downsides to be aware of, though – primarily that your internet will be noticeably slower.

There are a couple of options

HAS YOUR ROUTER BEEN HACKED?

Home routers often don't have the greatest security. If an attacker manages to change the DNS server setting on your router, they can divert a request to a specific site – your bank, for example – to a phishing site, and you'll be none the wiser. If your browser takes a long time to display websites, it could be a sign that your router has been compromised. The first thing you should check is what DNS server you're using, which you can do by logging into your router's settings screen. Look for the DNS entry under WAN or Internet Connection. If you see a manual entry with DNS entries you don't recognise, you could have a problem. If this is the case, reset your router back to its factory settings and start afresh. You should also check if there are firmware updates you can apply that might plug any security holes.

Another way to check if your router has been compromised is to use the free tool F-Secure Router Checker (bit.ly/rcheck480). Click the 'Check your router' button on the website and the tool will look for evidence of a DNS hijack. A scan takes seconds, and you can view the results in detail afterwards.



available, the first of which is to buy a router with a VPN option. You will need to look for a device that offers a VPN client mode, not just a VPN server. Most of the latest Asus models do.

If you don't want to spend money on a new router, you could replace your firmware with DD-WRT because this will allow it to support a VPN. You will then need to choose a VPN and get it set up. Strong VPN (strongvpn.com), ExpressVPN (www.expressvpn.com) and – yes – Windscribe (windscribe.com/guides) offer step-by-step guides on their websites that explain how to install the VPN on your router. Most services use OpenVPN; for Asus routers, you will need to also set up OpenDNS during configuration.

In our Mini Workshop on the opposite page, we show you how to add



Many of the latest Asus routers include a VPN option

Windscribe to a router. For this, you will need a paid-for Pro account, which costs from \$4.08 (£3.26) a month. You can get a sneaky one-day trial by signing up for a free account, then clicking the Team Garry button (the floating green circle) on the website and asking for a Pro trial. ■

NEXT ISSUE

on sale Wednesday 7 August 2019

REMOVE YOUR FACE FROM THE WEB

Fight facial-recognition technology to stay anonymous online



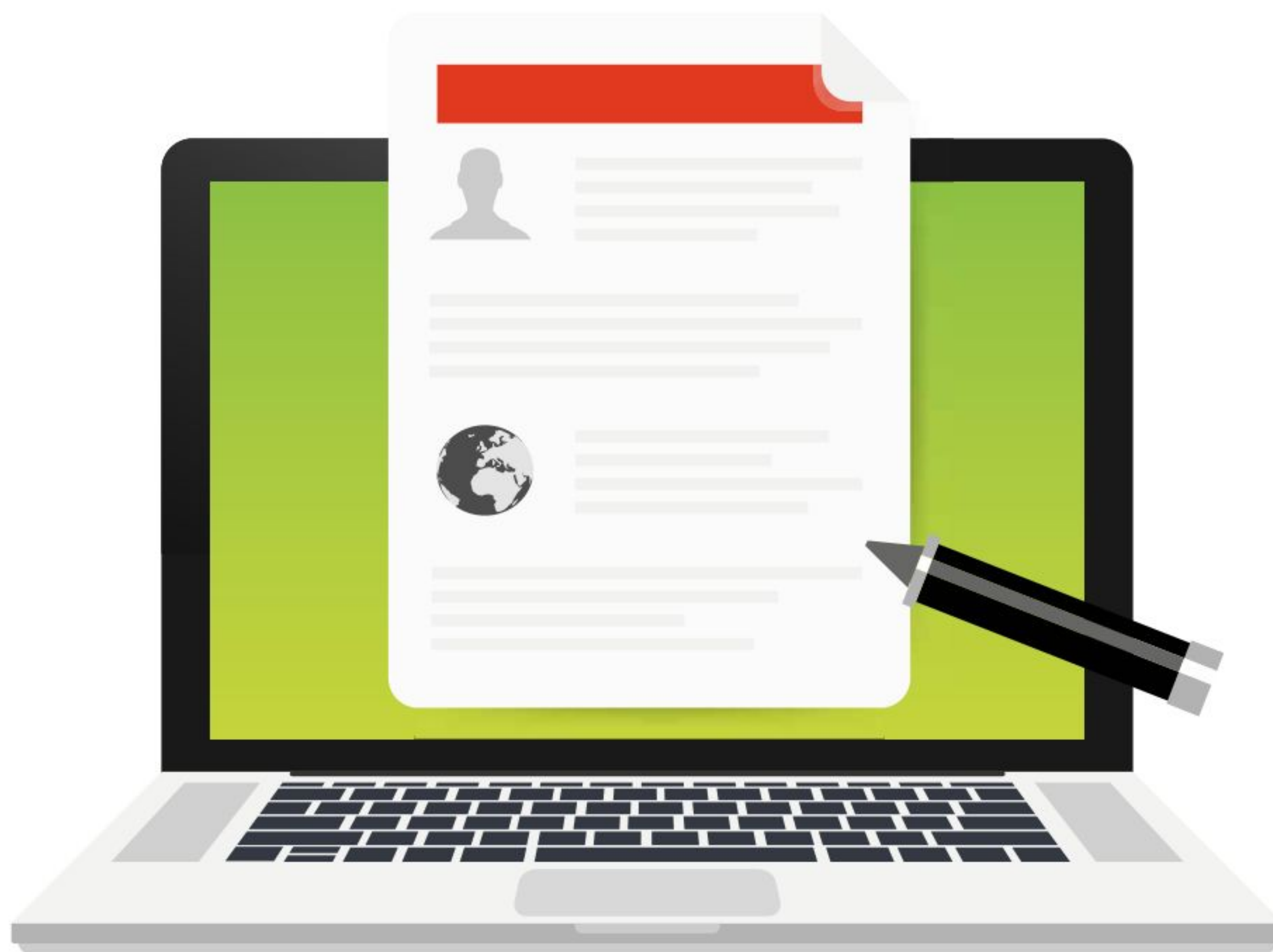
PLUS...

- **BLOCK ADS EVERYWHERE**
Not just the ones that appear in your browser
- **RECYCLE YOUR MEMORY**
Find clever new uses for your old SD cards
- **FREE BACKUP SOFTWARE**
The best tools for protecting all your precious files

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Best free note-taking tools

Whether it's a must-visit web address, a random thought or that all-important shopping-list item, it helps to have a digital notepad you can carry on every device. **Steve Clark** jots down the best note-taking apps



Notion | www.notion.so | ★★★★★
FEATURES ★★★★★ PERFORMANCE ★★★★★ EASE OF USE ★★★★★

**WebUser
GOLD
AWARD**

What we liked:

In our quest for a great note-taking app, we were looking for something that is lightweight, compatible with all our devices and that operates both on- and offline. Since you're most likely to be taking notes while you perform other tasks, you don't want a tool that'll overburden your device and slow it to a crawl. A notepad should always be ready for action – for when inspiration strikes – so you shouldn't have to be tied to the internet to jot your ideas down.

On every level, Notion delivers. Its easy-to-use interface and helpful tutorials are just two reasons why it manages to see off stiff competition from the likes of Evernote and OneNote.

We were smitten by its ability to import data. If you're making the move from tools such as Trello, Google Docs, Evernote or even Word, Notion lets you gather all those notes in one place. You'll even find support for Slack, where it can push notifications through to other users, which is useful if you want to integrate Notion into your work routine.

Writers know there's nothing more intimidating than a blank page. Thankfully, Notion breaks the ice by

offering scores of different templates. Categorised by use – such as Personal, Human Resources, Student and so on – these let you build everything

from to-do lists and travel plans to mood boards and meeting notes, with just a few clicks. In the unlikely event that you can't find the right template for your needs, Notion lets you create and share your own, complete with cover images.

Notion is available on Windows, macOS, iOS and Android, while the Notion Web Clipper can be installed for Chrome and Firefox, making it truly universal.

How it can be improved:

It takes longer than you might expect to get set up, and opening Notion's notebook for the first time can feel a bit alien. You're asked to add 'properties',



such as text fields, contacts and tickboxes, and you can include date-creation times right there on the page. The way it populates a 'new' notepad with examples of what you can do also feels a bit unexpected but ultimately all these flourishes combine to add a welcome level of control.

OUR VERDICT

If you've got a million thoughts cascading through your mind, no matter where you are or what device you're on, Notion has every feature a scribe will ever need, and it's free for personal use.

OneNote | bit.ly/onenote480 | ★★★★★☆
 FEATURES ★★★★★ PERFORMANCE ★★★★★ EASE OF USE ★★★★★

**WebUser
SILVER
AWARD**

What we liked:

Not that long ago, Microsoft's online notepad occupied an awkward space in the digital world. Not quite Word, not quite Notepad, it struggled to find its identity. However, it's now well and truly at home in Windows 10 and elsewhere.

It's not a flashy tool – but who wants flashy when a blank page with a space for a title and the option to add lists or tickboxes will suffice? And, as with most Office products, you're also able to 'write' notes by hand using Windows Ink. It might be niche, but some users will appreciate the support.

What earns OneNote our Silver Award is its strongest feature: notepad management. Within the notepad, you can create multiple colour-coded notebooks and add new 'pages' to each one – your Family notebook for household notes; a Work notebook for sharing ideas with colleagues. Each notebook can be accessed from the sidebar, which is convenient for flipping between them.



How it can be improved:

OneNote excels at keeping notes but the layout sometimes feels like it's too tied to its paper-based heritage: open up a notepad and you're confronted by your notebooks, then each section, and finally, individual pages. This is all displayed simultaneously on screen, leaving the notepad feeling cluttered – hardly ideal when just you want to jot down a quick note.

OUR VERDICT

Notepad management is OneNote's biggest strength. It's the 'work, rest, and play' app, designed so you don't lose track of copious notes across every area of your life.

Simplenote | simplenote.com | ★★★★★☆
 FEATURES ★★★★★ PERFORMANCE ★★★★★ EASE OF USE ★★★★★

**WebUser
BRONZE
AWARD**

What we liked:

Simplenote is about as basic as vanilla ice cream but that's what we love most about it. Its lack of complexity pitches Simplenote halfway between Windows Notepad and OneNote, and it's best suited to casual note-takers who are happy to just quickly jot down their thoughts.

The tool's best features are housed in settings along the ribbon: click View to change the order of your notes; switch to Focus Mode to write without distractions; and create a tick list in Format. Night-time writers will appreciate the ability to switch between light and dark modes.

Tags is the feature that elevates Simplenote above many other note-taking apps. Just as you would in a blog, you can add one-word tags, separated by commas, to every note you make. This helps you to manage and organise notes that would otherwise languish forgotten in the sidebar.



How it can be improved:

Simplenote is a rare tool where very little needs changing – partly because there's very little there in the first place. We'd love to see the inclusion of multiple notebooks to avoid what could swiftly become a cluttered, unnavigable sidebar, and some extra formatting options for the lone ticklist setting.

OUR VERDICT

Simplenote gets the job done with artful minimalism. Its blank page layout, especially when in Focus Mode, is as close to a real-life notepad as you can get, with only a few necessary digital additions.

BEST OF THE REST

Evernote

evernote.com

Once the king of note-taking tools, Evernote has fallen off its perch – partly because it's failed to innovate. Whatever Evernote once led the field in can now be done by other digital notepads – particularly OneNote, which more or less ripped off its entire design, and did it slightly better. Evernote also loses points for not being compatible with Edge, which may be a deal-breaker for some users.



Joplin

joplinapp.org

The open-source Joplin has a dual-pane layout that makes it ideal for standard note-taking or writing code. It's very similar to Evernote and OneNote, as are its features, such as managing multiple notebooks. Joplin makes it simple to get started on any type of note, with formatting for bullet-points and ticklists, and there's a limited Import-Export feature. It also syncs across devices, although notebooks can't be easily shared.



Google Keep

keep.google.com

Keep looks good and is easy to use, particularly if you're already firmly wedded to the Google-sphere. We're not keen on the messy post-it note layout, though it has great features including customisation and setting reminders. On the downside, it's only available in your browser and on smartphones – fine for Chromebook users, but not if you want to work offline.



How **secure** is your **antivirus**?

Don't take it for granted that your security software is working properly. **Nik Rawlinson** explains how to test your defences to ensure you're getting the best protection

Is your computer at risk? You've applied all the relevant patches and you're running antivirus software, so you'd hope not, but are you sure or are you just taking it on trust? Could it be that your security software is properly installed, but for some reason Windows is preventing it from doing its work?

Fortunately, it's possible to check that your antivirus protection is functioning properly, without infecting your system with malware. Follow the steps we outline below, but be aware that we can't be held responsible for any damage done to your hardware, software or data, so make sure you have an up-to-date backup before proceeding.

Download a test 'malware' file

The European Expert Group for IT Security (EICAR) maintains an anti-malware test file, which is free for anyone to use to verify that they're protected. It was developed by a

coalition of antivirus software developers, who wanted something against which they could benchmark their products, and which PC users could deploy to perform the same test at home or at work.

The file is not a virus itself, so it's perfectly safe to download – or create locally, as we'll show you below – and should be recognised right away by whatever protection you have in place. Go to the EICAR Download page (bit.ly/eicar480) and click one of the 'eicar.com.txt' links. Save the file to your PC and your antivirus software should spot it and act. If you're using Windows Defender, and all is working as it should, you'll immediately see a notification in the bottom-right corner that malware has been detected. Click the notification for more details and expand the most recent alert by clicking Severe to see a description of the threat that Windows found. By default, the file will be automatically removed.

Admittedly, that was a fairly easy test

because the simulated virus was contained in a plain text file, but EICAR also hosts zipped versions, which you can download from the same page and which should, upon their arrival on your PC, trigger another alert.

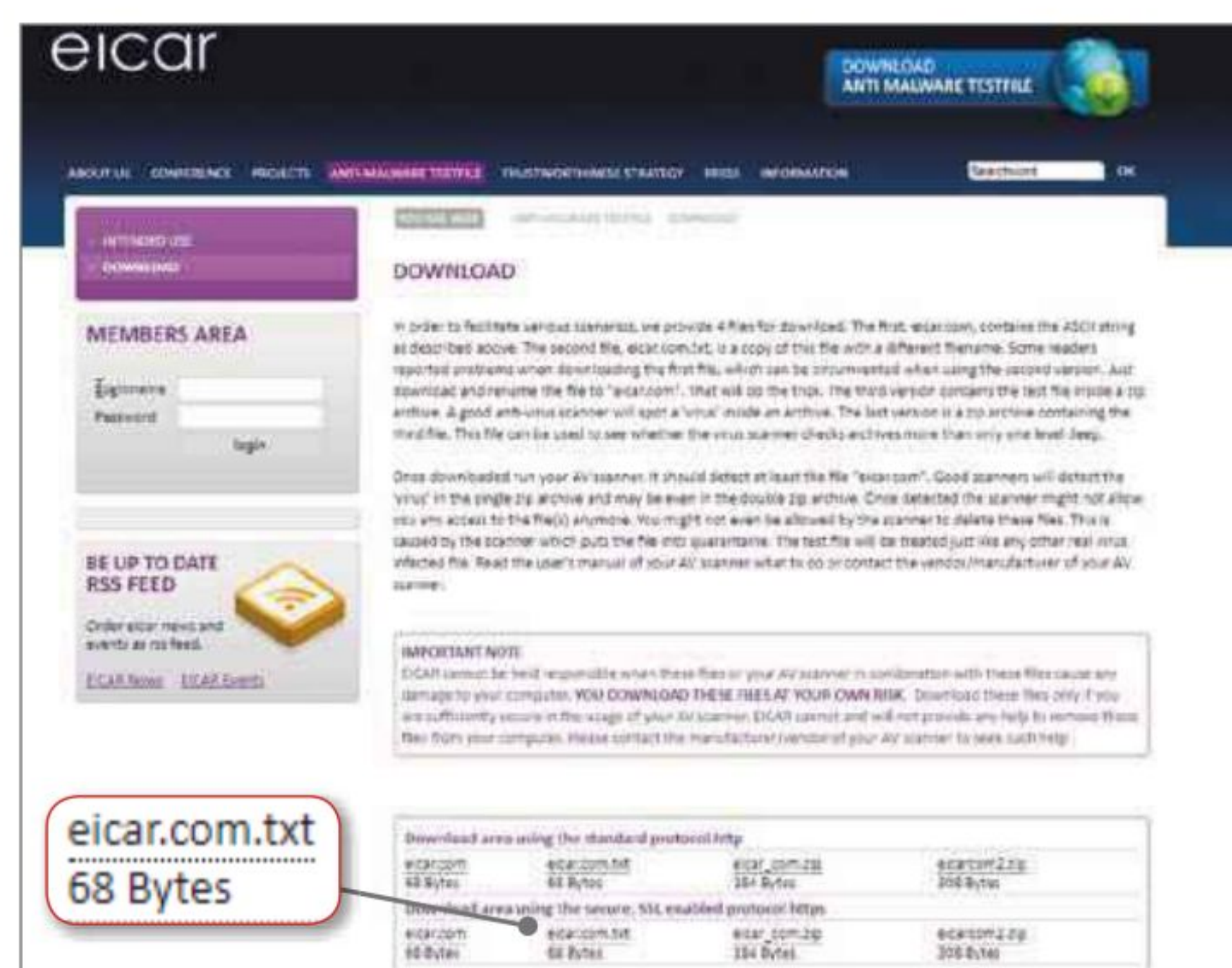
If you're wary about downloading a file that will be flagged as malware, you can create the 'virus' yourself. Open Notepad, start a new file and type the following on the first line, noting that the third character is a capital letter 'O', not a zero:

```
X5O!P%@AP[4\
PZX54(P^)7CC)7}$EICAR-STANDARD-
ANTIVIRUS-TEST-FILE!$H+H*
```

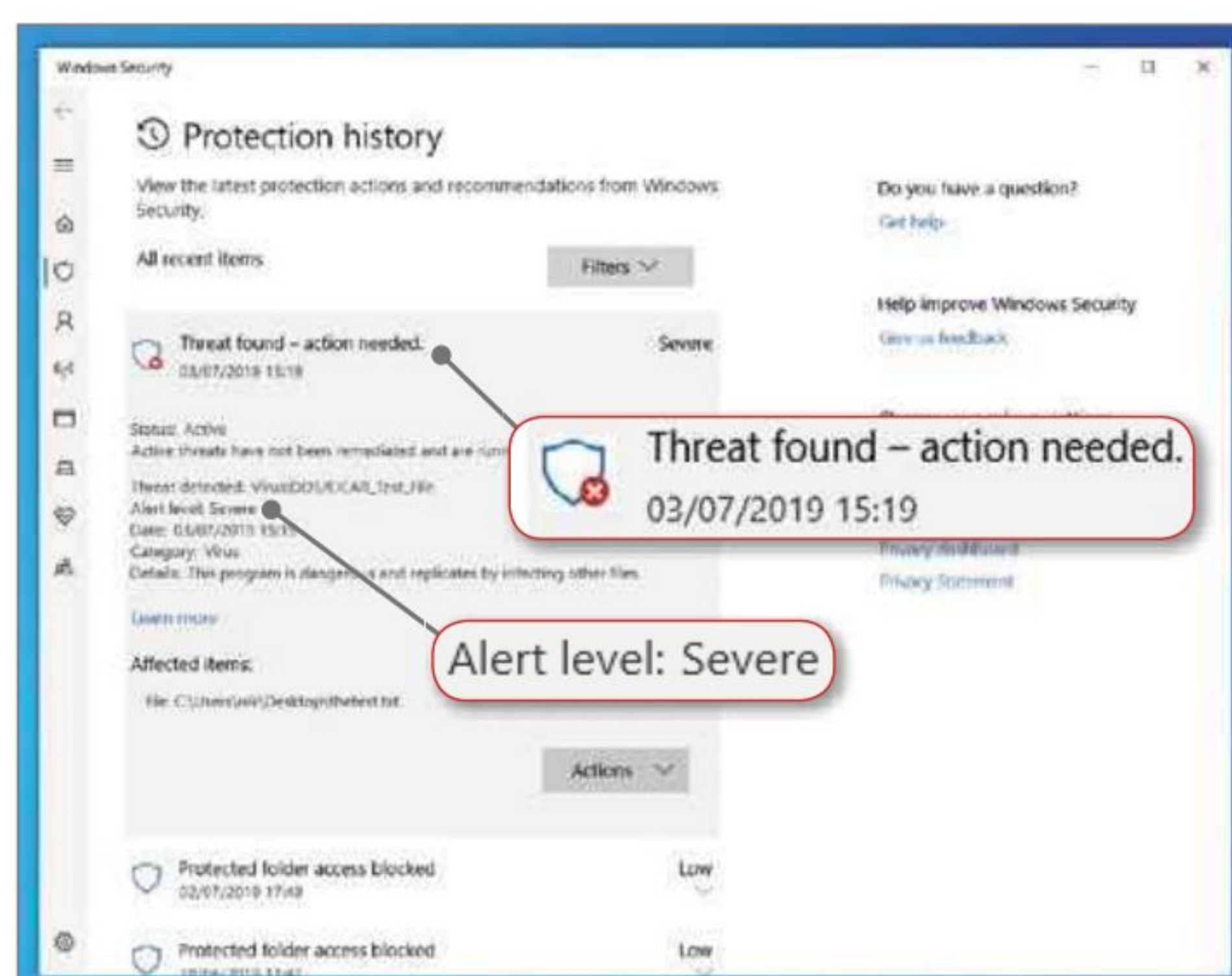
Save the file using any name that you choose and your security software should spring into action.

Simulate a ransomware attack

Viruses aren't the only threats your computer faces, and effective malware protection should also guard against ransomware, which encrypts

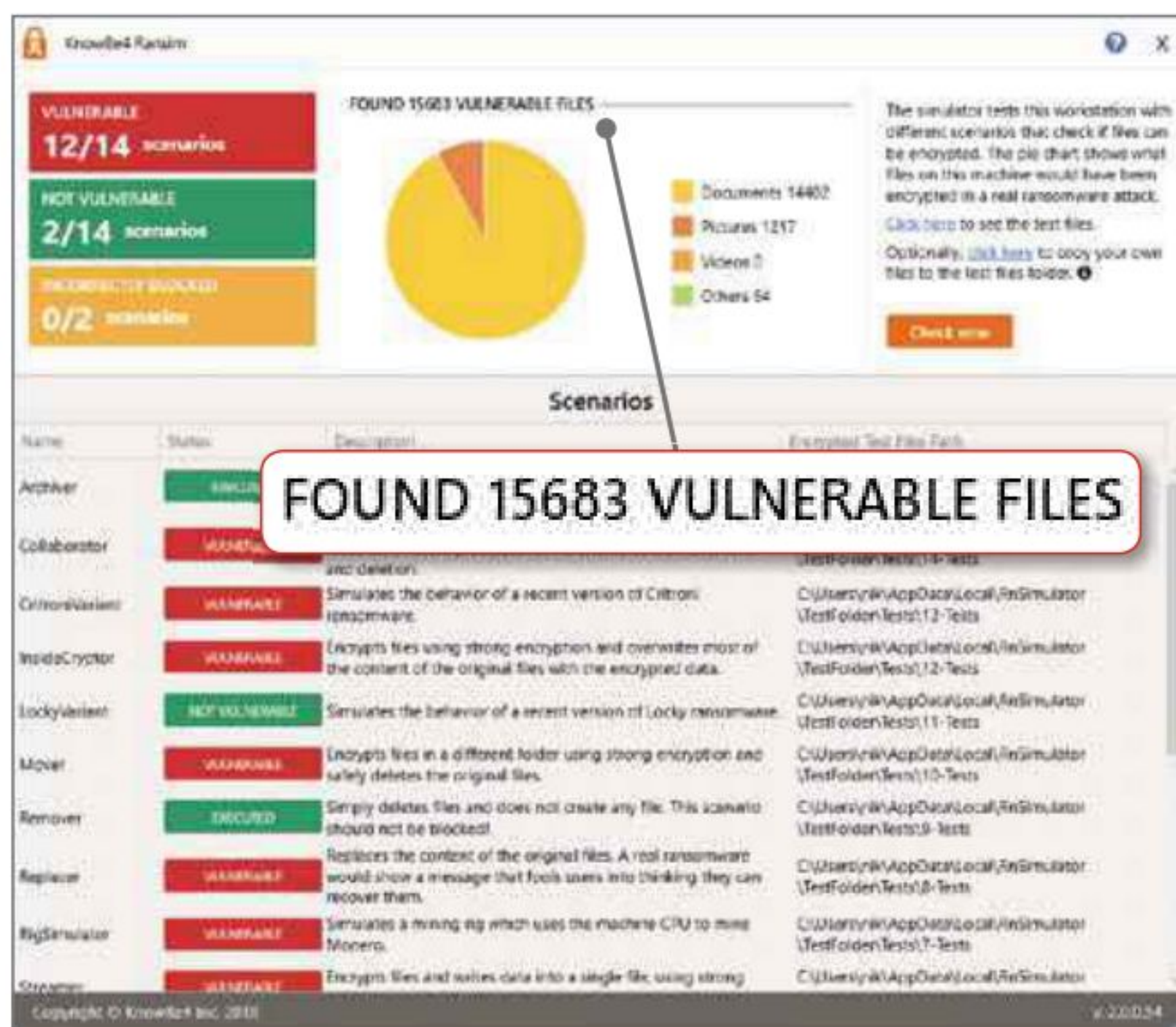


EICAR offers fake malware files that you can download to test that your security software is working properly

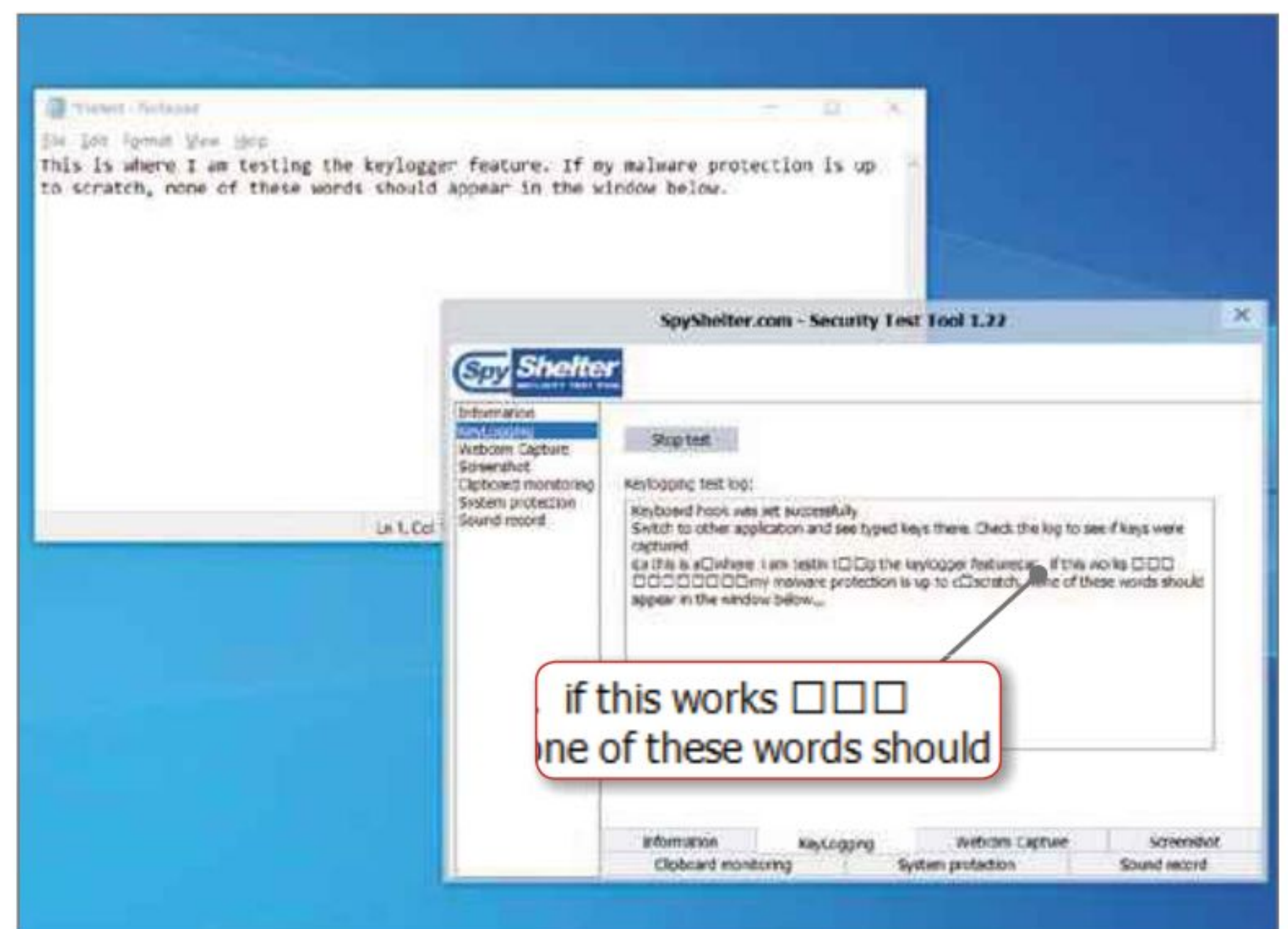


Windows Defender recognises threats quickly. Expanding a threat's description lets you decide how it should be handled

How secure is your antivirus?



We're glad this was just a test: if not, ransomware could have encrypted nearly 16,000 files on our PC



Our text in Notepad (top) was logged by SpyShelter (below), so we're vulnerable to a keylogger. The empty squares show backspaces

your drive – or parts of it – allowing the ransomware developer to demand a payment in return for its decryption. There's no guarantee that if you pay the ransom they will uphold their end of the deal, so adequate protection is a must.

RanSim, from KnowBe4 (bit.ly/ransim480), simulates a ransomware attack by downloading expendable files from the web and treating them in the same way that a piece of ransomware would mess with your system files and data. Impressively, Windows Defender balked at the idea of even unzipping the RanSim installer, correctly identifying that it contained what looked like malware. If your PC does the same, open Windows Security by clicking the alert, click Severe on the most recent threat alert, then click Actions and allow the software to run. As the original file you extracted from the zipped archive will already have been deleted, you'll need to unzip it for a second time after permitting it, before you can install it.

When we ran it on our PC, which is protected only by Windows Defender, Windows threw up a stream of alerts as it encountered threat after threat. However, when the tests completed, RanSim's results made for sobering reading: of the sample files subjected to attack, 14,402 documents and 1,217 images on our PC would have been encrypted in a live scenario, proving the importance of regular backups, even if you're using anti-malware protection.



Check if your data can be stolen

If anything, your live data – the data that you're typing the whole time you're using your PC – is even more valuable than your files. Typically, this kind of data includes email addresses, postal addresses, passwords and

payment details (including your PayPal details, credit card numbers, expiry dates and even the three-digit CVV number on the signature strip). These can easily be intercepted by a keylogger.

SpyShelter (free from bit.ly/spyshelter480) checks for keyloggers, as well as other 'live' security threats, such as webcam and microphone snooping, unauthorised screen-grabbing and changes to the Windows Registry. You may have trouble downloading the program if you're using Windows 10 because Windows Defender will delete it every time it appears in your Downloads folder, even before you've unzipped it. To get around this, when choosing where to save the download file, change the file type from 'Compressed zip folder' to 'All files', so Windows doesn't look inside it. You can then double-click the archive to open it and drag its contents to the Desktop. This will throw up an alert, and the download will be

deleted, but click the alert, open the uppermost Threat in the Windows Security window, click the Actions menu and allow the software on your device. Repeat the download, opening and dragging the file to the Desktop, and this time it should be permitted.

Click the Keylogger tab at the bottom of the SpyShelter window, then open any other program into which you can type. Start typing – it doesn't matter what you write – and check how much of what you input ends up replicated in the SpyShelter window. In our case, the whole lot was directly copied, reminding us that everything we do, online and off, could be captured by somebody else.

If, like us, you've decided it's time to bolster your defences, and you're not already running an anti-malware suite, consider downloading and installing one today. Both AVG (avg.com) and Avast (avast.com) offer free security software for home users. ■

TEST YOUR PHONE'S SECURITY

It's all very well protecting your PC, but if you use it to sync data to an unprotected phone, you're leaving the back door unlocked. SAFE (Security Assessment Framework for Everyone, bit.ly/safe480), scans for vulnerabilities on Android devices, giving them a score out of five in four key areas: configuration, connectivity, apps and operating system. Higher scores are best. Should you get less than five (our worst score was 2.3, in the configuration category), it'll show you how to plug your security holes: tap a warning, read the description, then follow the step-by-step instructions in the Remediation section.

SAFE rates our phone as vulnerable, which means we're in danger of exposing the data we sync to it



Explore the invisible web

There's a wealth of interesting and useful online content that you won't find through Google. **Robert Irvine** explains how and where you can uncover these hidden delights



Browse websites that are no longer there

Google automatically 'de-indexes' websites that have been taken offline, so they don't appear in your search results and waste your time with "page not found" error messages. However, this isn't much help when you're trying to find content that's been removed from the web, which is where the amazing Wayback Machine (web.archive.org) comes in. This crucial part of the Internet Archive contains snapshots of more than 366 million web pages, captured over time, which you can search by URL or keyword. Just click a date on the calendar to travel back in time and see how the site looked then, even if it's long since disappeared.

As reported in last issue's What's New Online, the Wayback Machine now also lets you compare side-by-side snapshots of websites captured on any two dates, so you can see how they've changed over the years.



Here's how the BBC News website looked in 1998 - looks like trouble with the EU

Read articles removed from Wikipedia

Wikipedia regularly deletes articles that "do not meet the relevant criteria for the content of the encyclopaedia". Reasons for this include copyright violations, advertising, vandalism, unreliable sources or failing to meet the site's "notability guidelines", and the removal of these articles means you won't find them through Google. Where you *will* find them is at Deletionpedia (deletionpedia.org), which rescues Wikipedia entries that are "under discussion" before they can be deleted and hosts permanent copies.

As with Wikipedia, you can search for a topic by name or view a random page, as well as browse the list of all 73,506 salvaged articles (bit.ly/wikiall480). Examples include pages for 'Spring 2011 United Kingdom heat wave', 'Critical response to *Star Trek*' and former Aston Villa youth team player Gregory Walters.



Deletionpedia lets you browse articles removed by Wikipedia for various reasons

Switch to an unrestricted search engine

Google is rightly regarded as the fastest, most accurate search engine, but it isn't perfect - and we're not just talking about privacy (for once!). Many websites and individual pages are deliberately excluded from Google's search results, sometimes for valid reasons such as that they contain malware or pirated content, but also because individuals, companies and law-enforcement agencies have asked for them to be omitted. At least 800,000 pages have been removed under the EU-imposed 'right to be forgotten', but Google has also been accused of censorship for excluding sites for their political, social and corporate content.

For unfiltered results, it's therefore worth switching to an alternative search engine such as the privacy-focused DuckDuckGo (duckduckgo.com). This uses its own web crawler and 400 other



Searx runs your search queries through 23 engines to find content Google misses

sources to find different results to Google and, being solely based in the US, isn't affected by the EU's 'right to be forgotten' rules.

We also like the open-source and ad-free search engine Searx (www.searx.me), which runs your queries through more than 20 search providers and lets you search for files, images, music, videos, social-media posts and more. It can be slow, and is prone to bugs, but it's useful for finding content that Google ignores.

Find hidden sites on the Tor network

Browsing the 'dark web' using Tor lets you access websites that aren't available through your usual browser, but you need to know their 16-character 'onion' URLs. DuckDuckGo has a dedicated 'onion' version (3g2upl4pq6kufc4m.onion), but this is designed to encrypt your searches rather than find content on Tor-only sites. For that, you should try Ahmia (msydqstlz2kzerdg.onion), which scours thousands of hidden onion services and handles up to 50,000 search queries every day.

Simply type your query in the search box, click Search and review the results. Ahmia blacklists sites that contain abuse material, so you won't inadvertently stumble across anything disturbing. Be warned, though, that the indirect nature of Tor makes Ahmia slower and less reliable than Google, with some search results failing to load at all. Ahmia is also available on the open web (ahmia.fi), but you'll still need Tor to open any links you find.



Ahmia lets you search for content on websites that are only available via Tor

Browse archived government resources

The UK government's Gov.uk portal (www.gov.uk) may be dry and characterless but it's a clearly presented resource for information on everything from benefits, tax and pensions to driving tests, housing services and legal processes. This handy hub has merged a sprawl of previously separate websites that no longer show up in Google, but they and thousands of other online



Uncover government sites, documents, videos and tweets dating back to 1996

efforts from the government are available to browse through the UK Government Web Archive (bit.ly/govarchive480).

Like a Wayback Machine for Westminster, this National Archives project lets you search government websites and documents dating back to 1996, as well as watch videos saved from government YouTube accounts and read tweets archived from its Twitter feeds. Although you're unlikely to discover any state secrets, it's interesting to revisit forgotten campaigns, pledges and investigations with the power of hindsight, and see how governmental web skills have developed.

Search for articles in old newspapers

There was a time when trying to find an article or photo in a decades-old newspaper meant visiting the library and struggling with the microfilm reader. Trawling Google for content from more than



Can you identify Jack the Ripper from contemporary newspaper reports? Clue: no

FIND COPYRIGHT-FREE IMAGES TO REUSE

Google Images offers a speedy way to find photos for projects, your own website and sharing on social media, but despite token efforts from Google – such as letting you filter results by 'usage rights' and warning you that "Images may be subject to copyright" – there's still a risk you may reuse a picture without the proper permission. You can avoid breaching copyright by sourcing photos through Creative Commons' new search engine CC Search (search.creativecommons.org). This scours 300 million images across 19 online collections, including Flickr, DeviantArt, the Science Museum and Geograph Britain and Ireland, many



of which you won't find through Google Images. CC Search plans to add further media types such as texts and audio in due course. Just make sure you provide the correct attribution information when reusing the content.



Practical WebUser

16 pages of workshops, tips, projects and problem solving

Create professional-looking design projects with DrawPad

DrawPad lets you compose and manipulate images for free. Here's how to get started

DrawPad: bit.ly/drawpad480 | ⌚ 20 mins | 🖥️ Windows 7, 8, 10

There are lots of programs, such as Word and Paint, that let you create illustrative projects such as cards and leaflets. Without the right tools, however, the results can look amateurish, particularly if you need to resize the image to fit different purposes or paper sizes. DrawPad creates professional-looking designs with vector graphics

that scale perfectly, and it has a good range of templates to get you started.

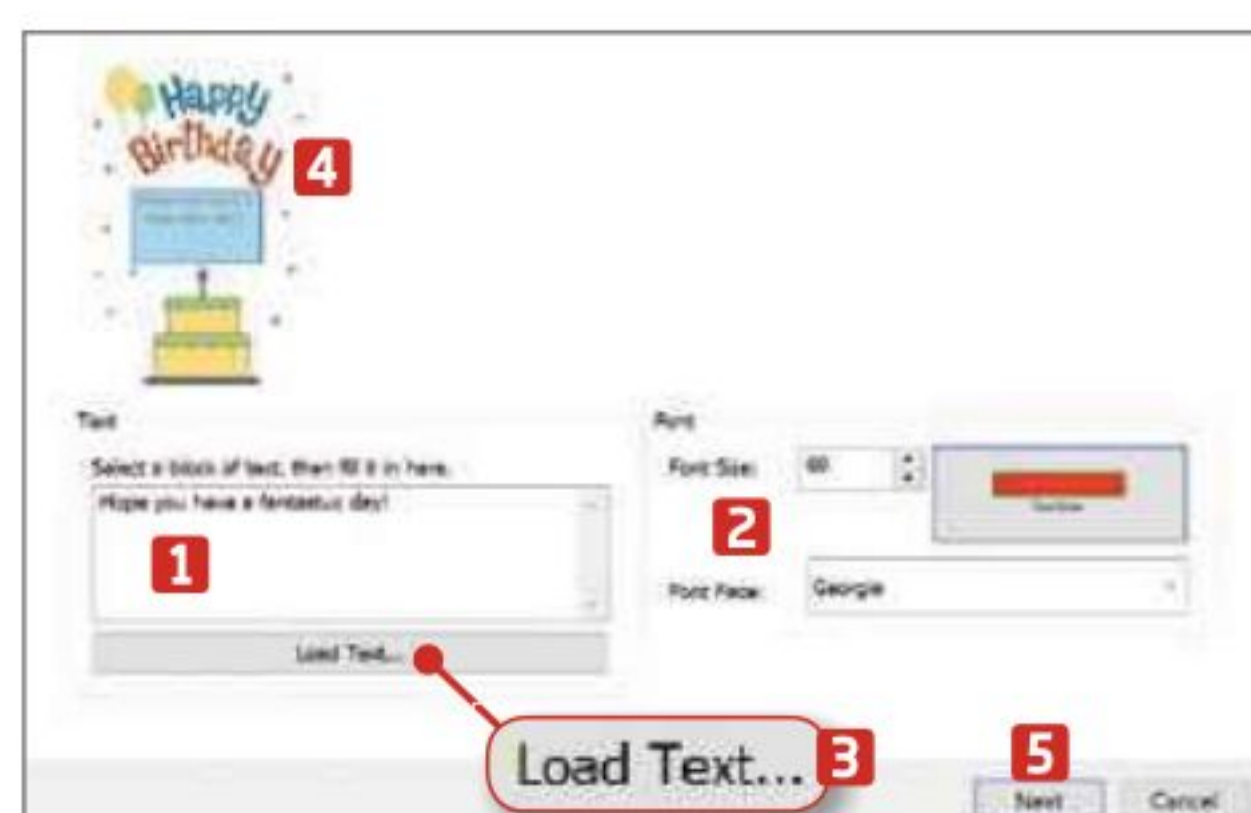
To get the free version of DrawPad, go to the web address above. Don't click the Start Download button but look for the link in the section labelled 'Get it Free'. You'll need to confirm you're using it for non-commercial or home purposes every time you launch the software.



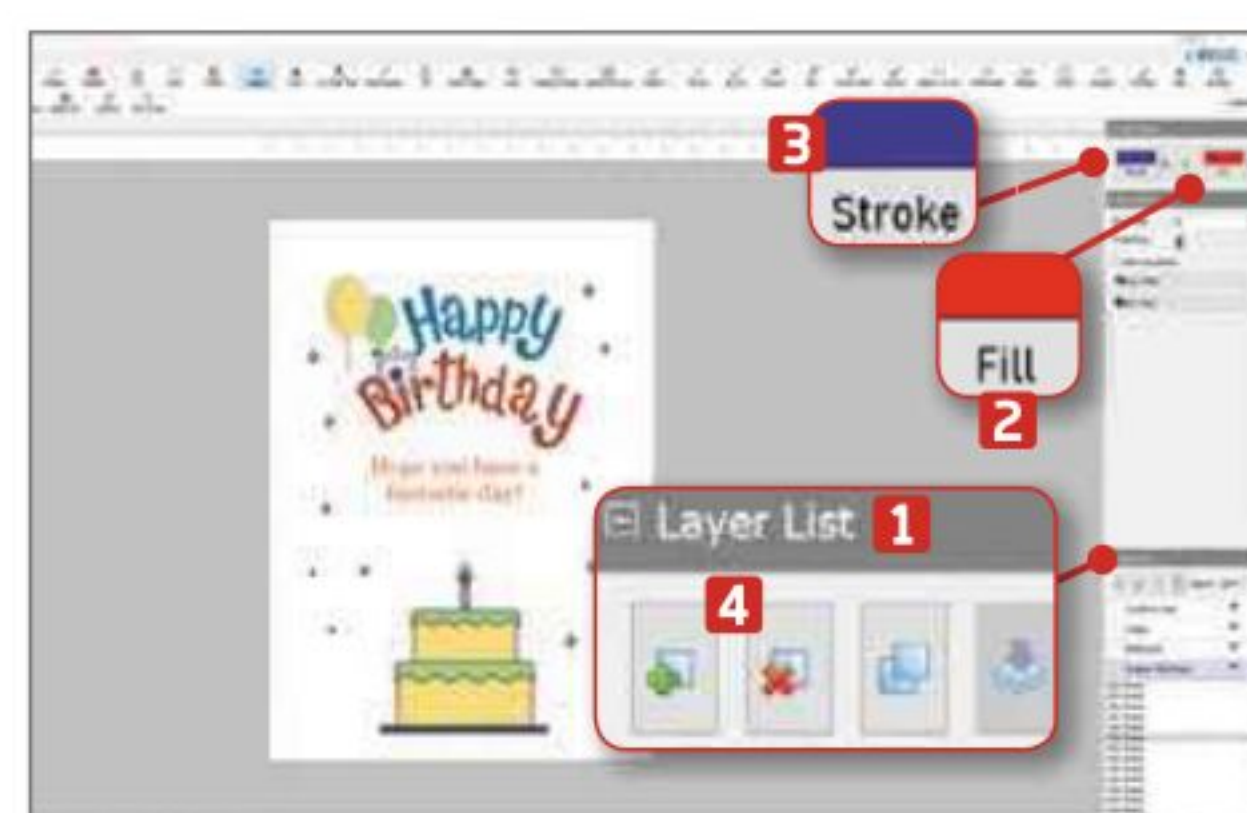
1 When you run DrawPad, it opens full screen and presents you with a choice of options. You can start a new project, **1** open an existing one **2** or begin an advanced project (which lets you specify the dimensions for your creation). **3** You can also open the template wizard **4** or view tutorials on the web. **5**



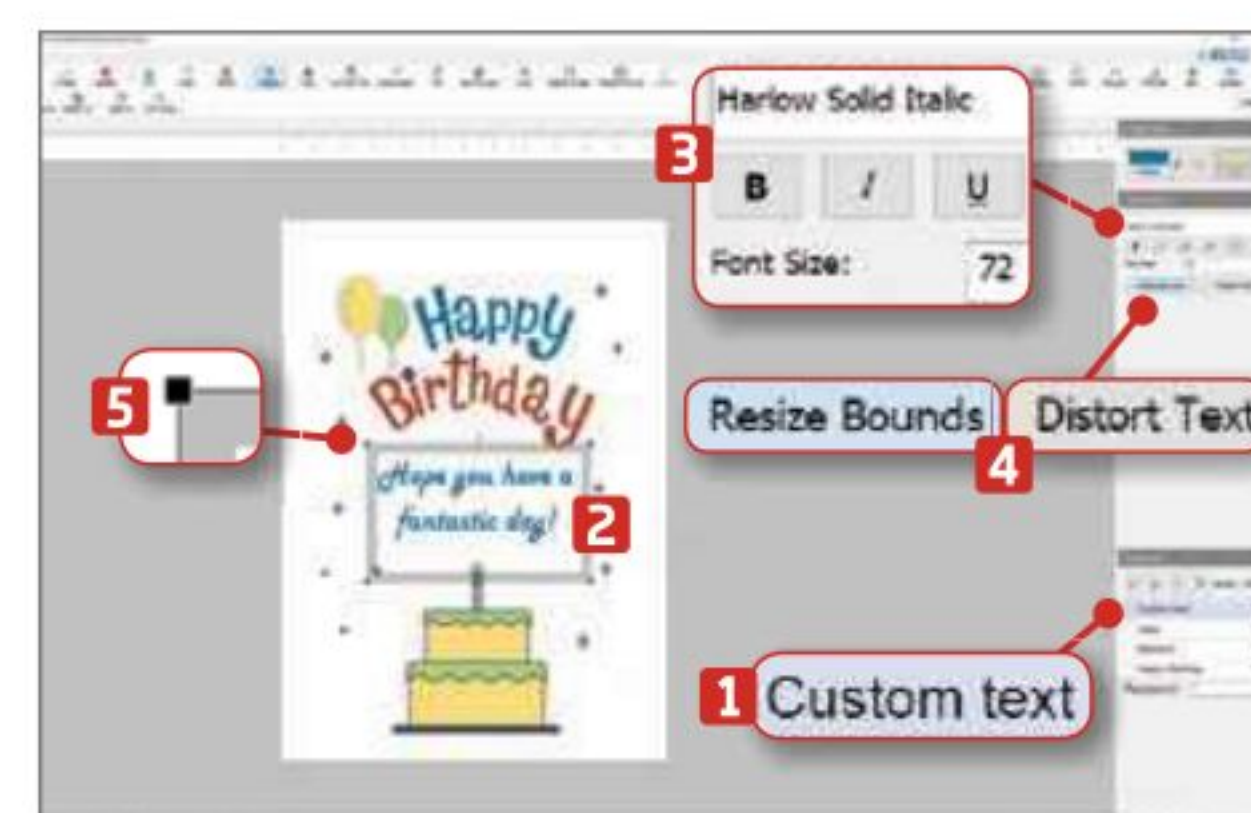
2 The simplest way to start is with a template, so we'll pick that option. You can select the type of project you'd like to create - options include banners, business cards, greetings cards, flyers, letterheads, logos, menus and newsletters. We're choosing to design a greeting card. **1** Click Next. **2**



3 Choose the type of card to create - Thank You, Happy Valentine's Day, Happy Birthday or Get Well Soon - and click Next. Enter some text for your card **1** and adjust the type size, colour and font. **2** You can also load a text file. **3** Preview the results, **4** then click Next. **5**



4 The template opens in the editor so you can make further changes. The template is made up of layers and you can select any of these in the Layer List. **1** You can change the colour **2** and add a stroke (an outline) **3** using the Colour Picker. You can also add, duplicate, and delete layers. **4**

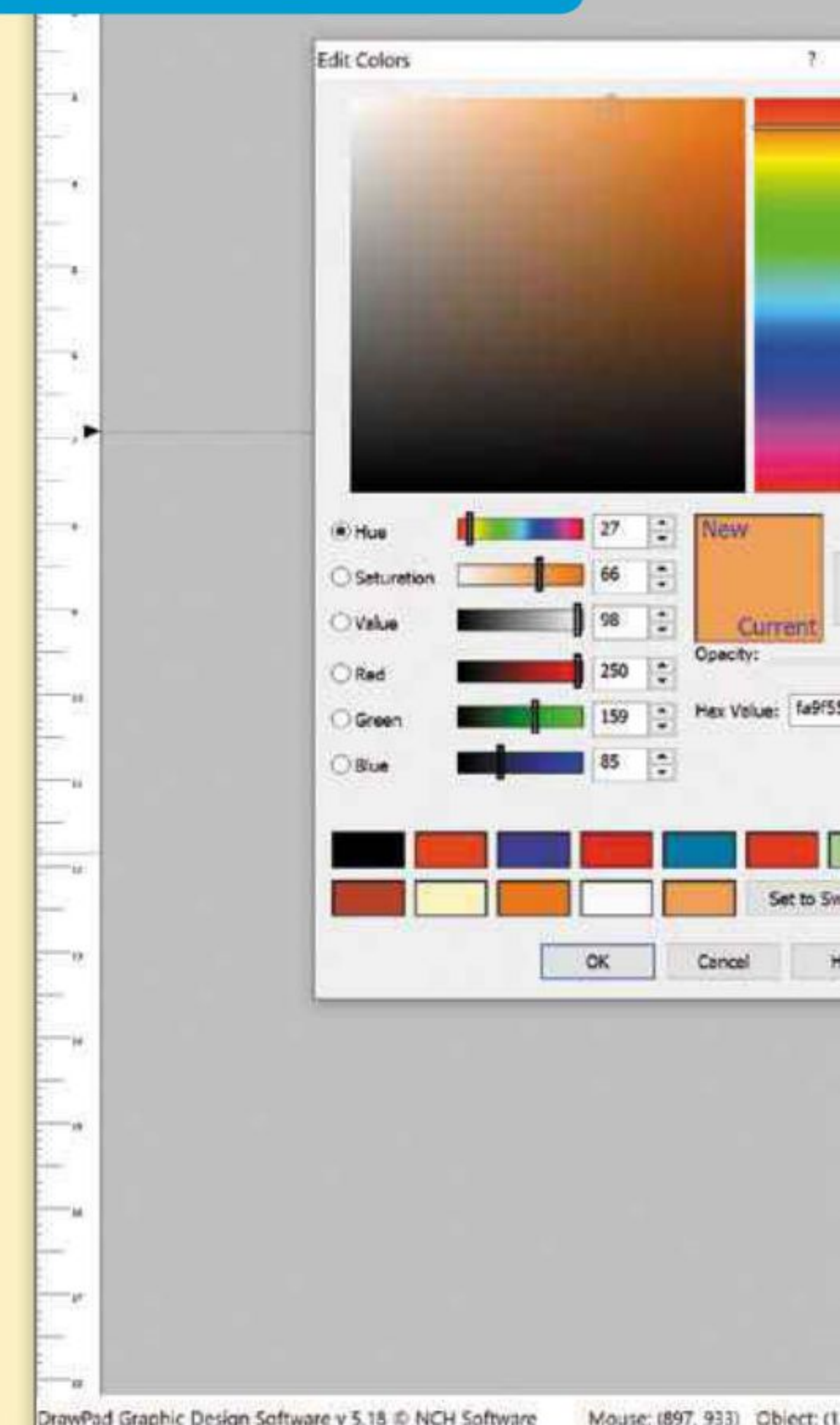


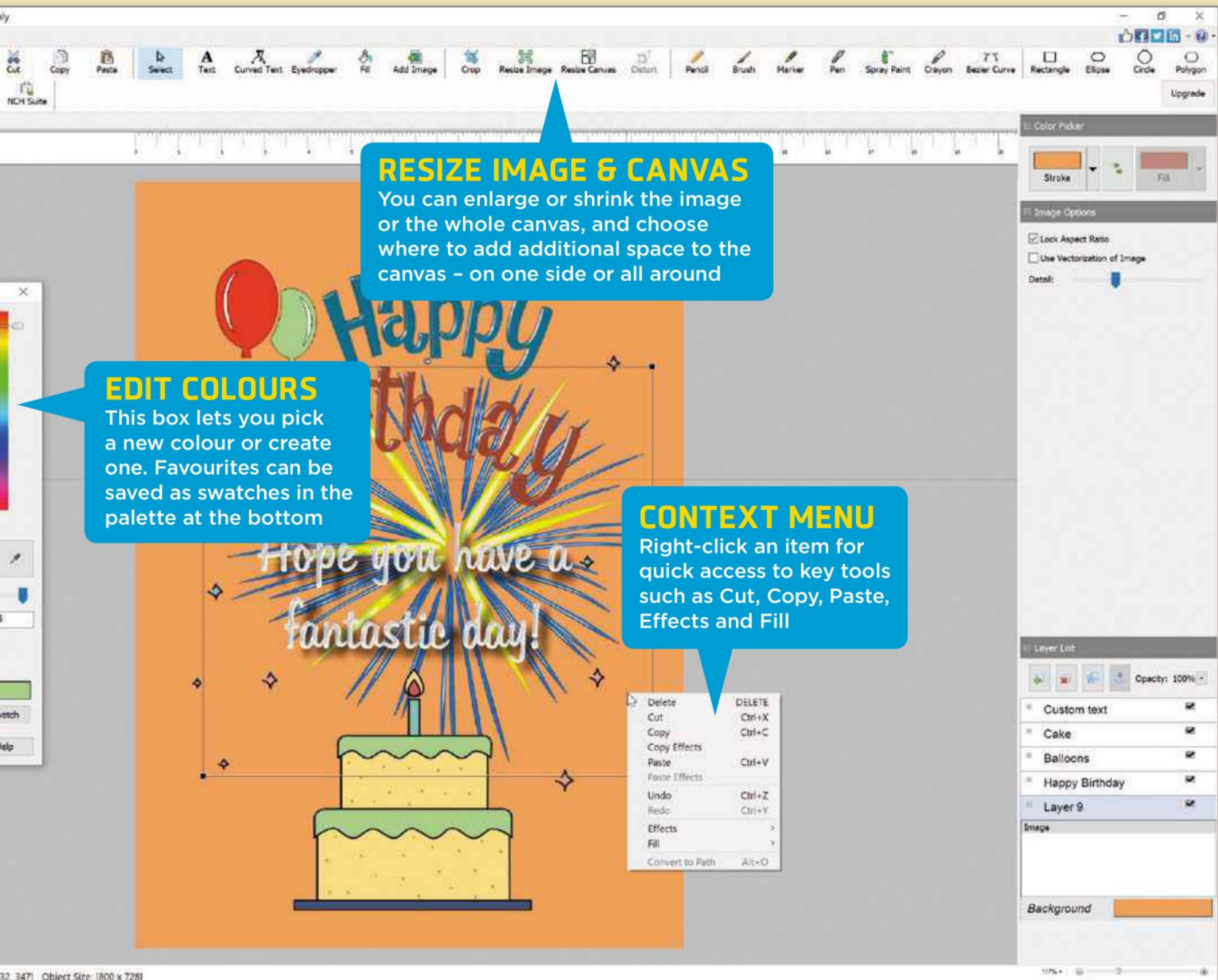
5 To change the text that we added in Step 3, click 'Custom text' **1** and then click the text itself. **2** You can change its colour and typeface, and adjust its size and formatting. **3** The Resize Bounds and Distort Text buttons **4** change what happens when you drag the handles. **5**



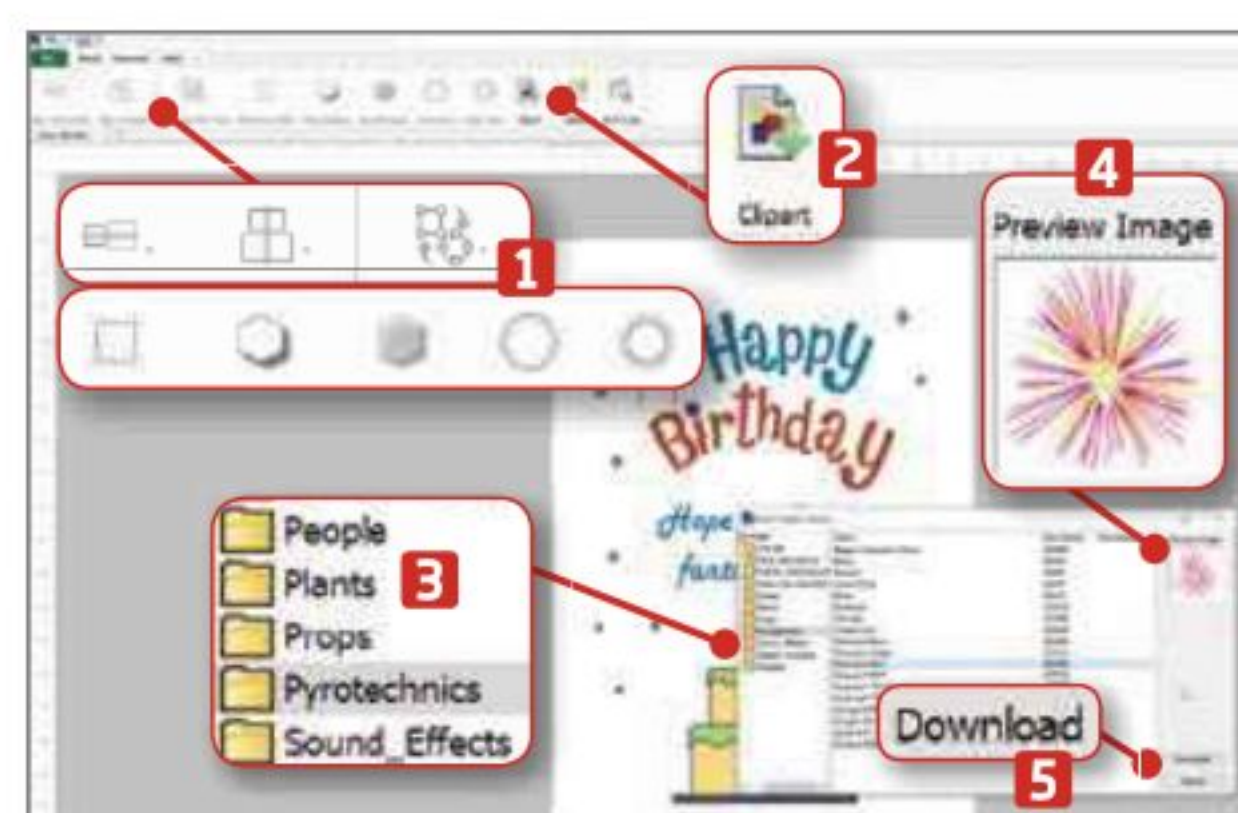
SUITE

Click this tab to access other programs in the series, including PhotoPad, VideoPad and DreamPlan

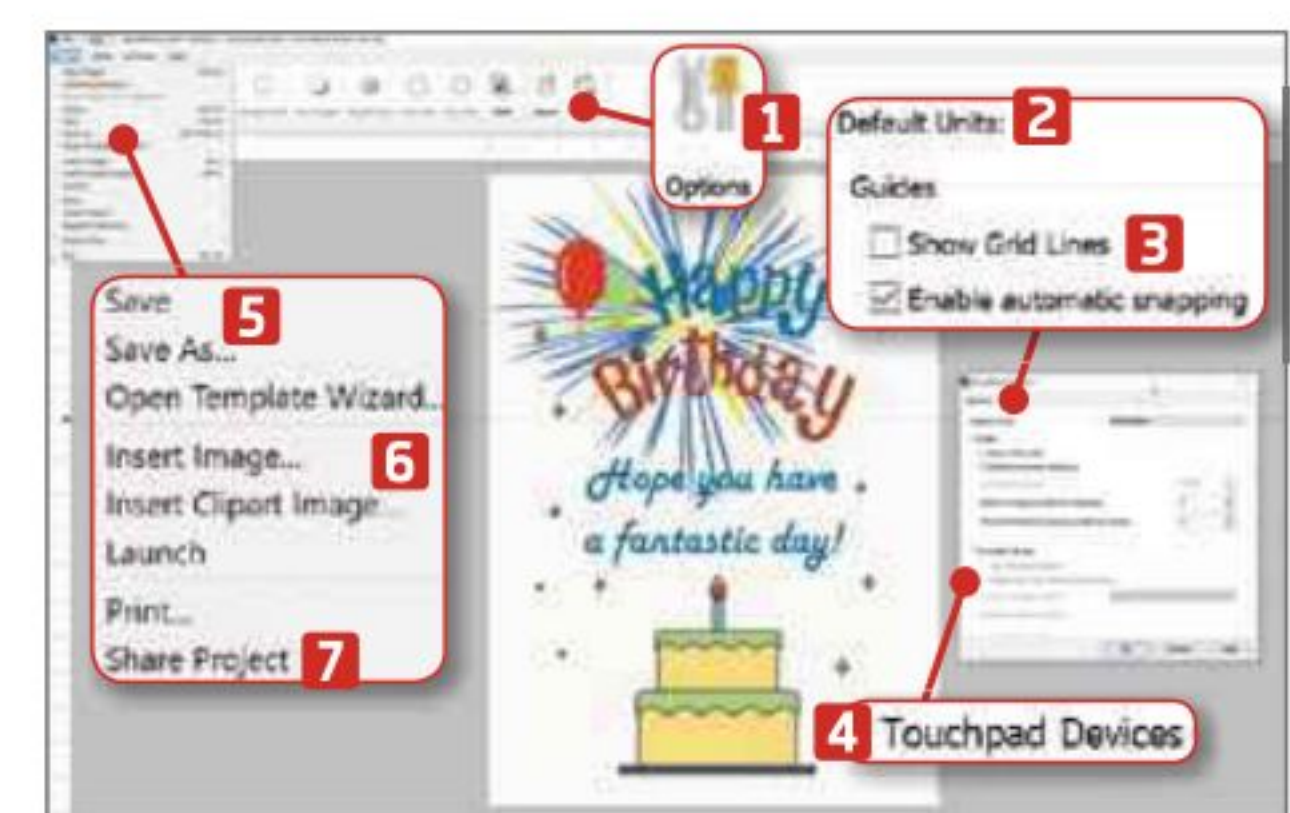




6 You can make changes to the look, size and colour of our card's image elements – the cake and balloons – by selecting the relevant layer. **1** To add new elements to the card – or any creation – create a new layer and use the text, **2** drawing **3** or shape **4** tools.



7 Click the Advanced tab to bring up tools across the top of the page **1** that let you align selected items horizontally or vertically, work with paths, add drop shadows and glows, and import clipart. **2** Clipart is sorted by category, **3** and you can preview an image **4** before you download. **5**



8 Click Options **1** to change units of measurement (centimetres is the default), **2** toggle gridlines and automatic snapping on and off, **3** and enable touchpad support. **4** Open the File menu to save finished projects, **5** insert images and clipart, **6** and share them to Flickr, Twitter, email, Dropbox and Drive. **7**



Workshop 2

Get 30GB of open-source online storage for free

Bloom: bloom.sh | ⌚ 20 mins | Any browser



EXPERT TIP

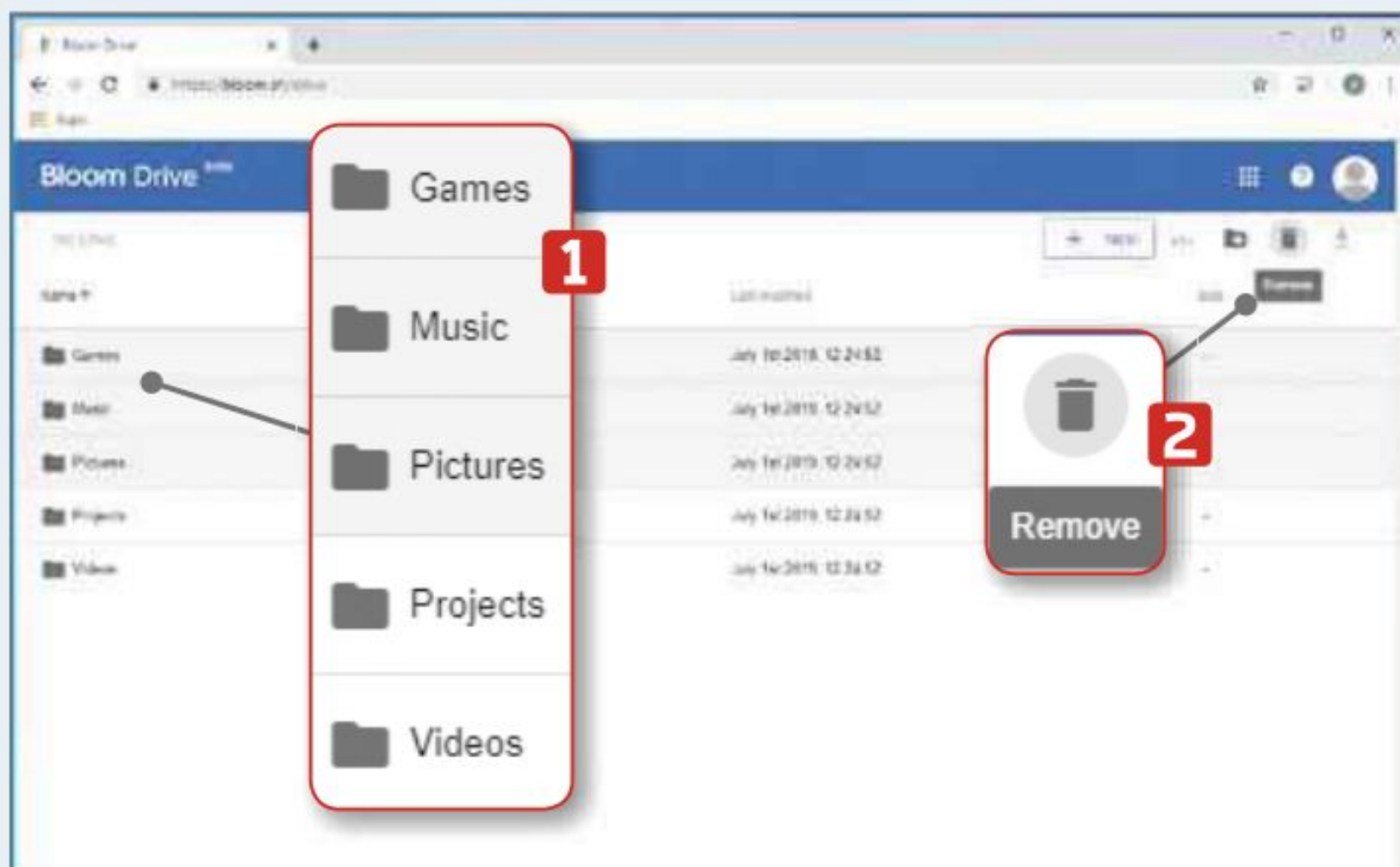
Andy Shaw says

The Bloom software is sorely missing drag-and-drop tools, which makes it harder to select multiple files and move them to other places. We also found that it keeps the directory structure in memory when moving files, so it sometimes looks like new folders you've made recently haven't been added to the list. If you find this is the case, click the browser's Refresh button and try again.

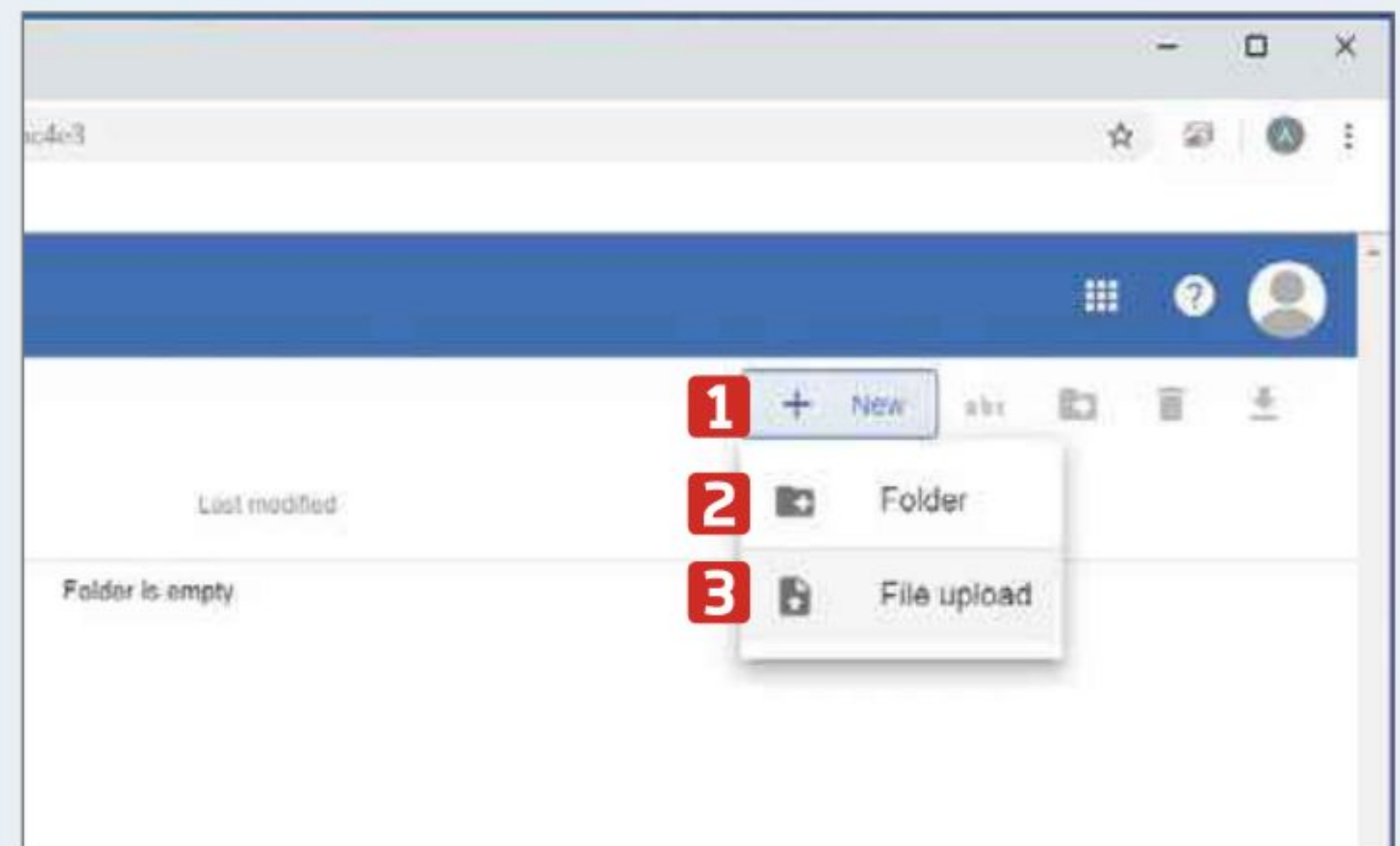


Most online storage services offer a few gigabytes of space for free before you have to pay to keep your data in the cloud. Bloom is a bit different, because instead of being run as a purely commercial operation, the developers are taking an open-source approach and offering 30GB of storage space for free.

The project is still new and currently in its beta test stage, so we wouldn't advise that you use it as the only place you store your essential files. However, if you want 30GB of free storage space, which you can access on any PC with a browser, then this is well worth investigating. If you have an Android device, you can install the app from bit.ly/bloo480. Expect improvements to appear as you use it, and stay up to date with new features on Twitter at twitter.com/42bloom.



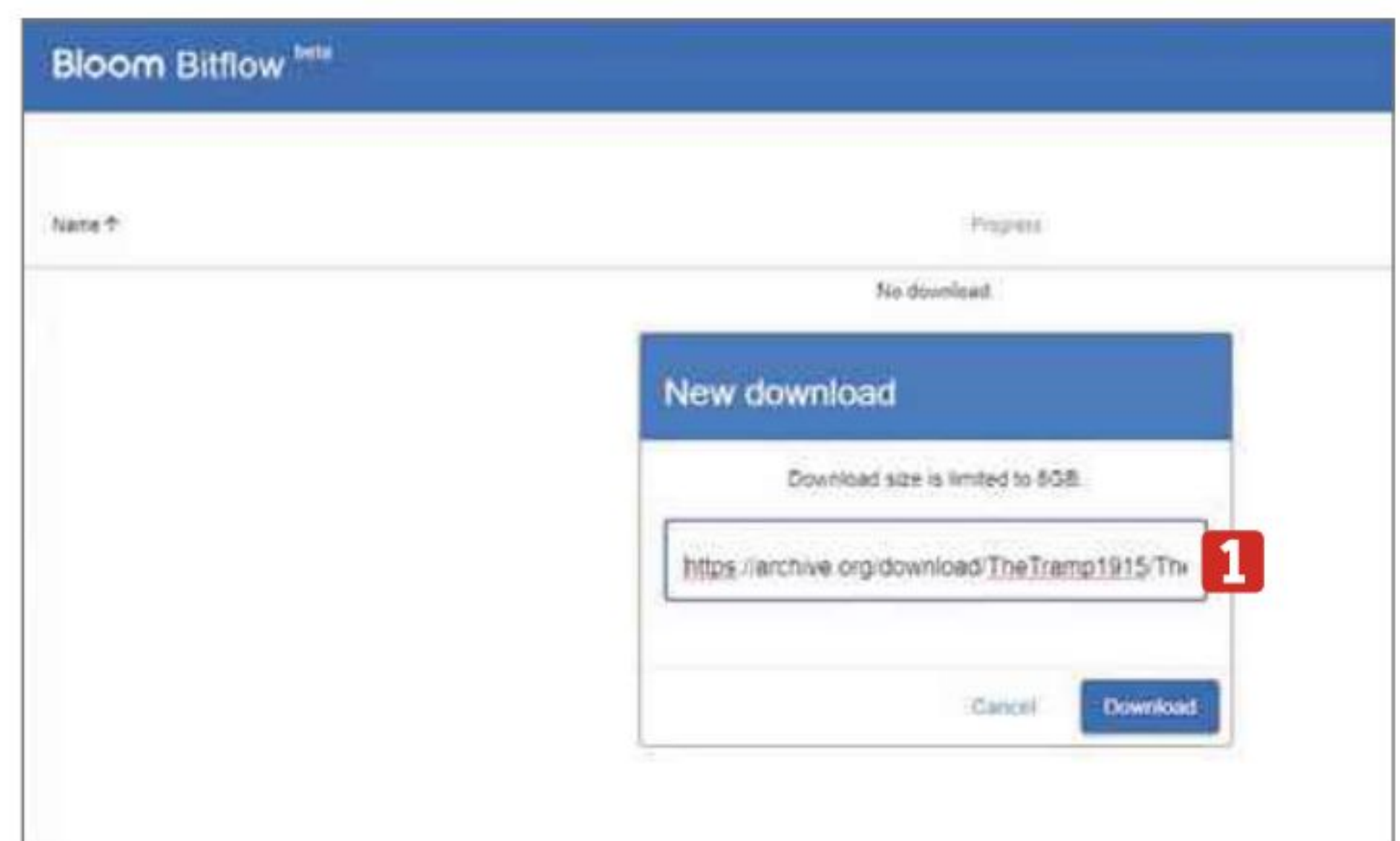
1 Click the Drive icon to access the storage. Bloom has a file structure already built into the service **1** to encourage you to compartmentalise items, such as placing music in one folder and photos in another. If you'd prefer a clean start, left-click to highlight any folders you don't want and click the Remove button. **2**



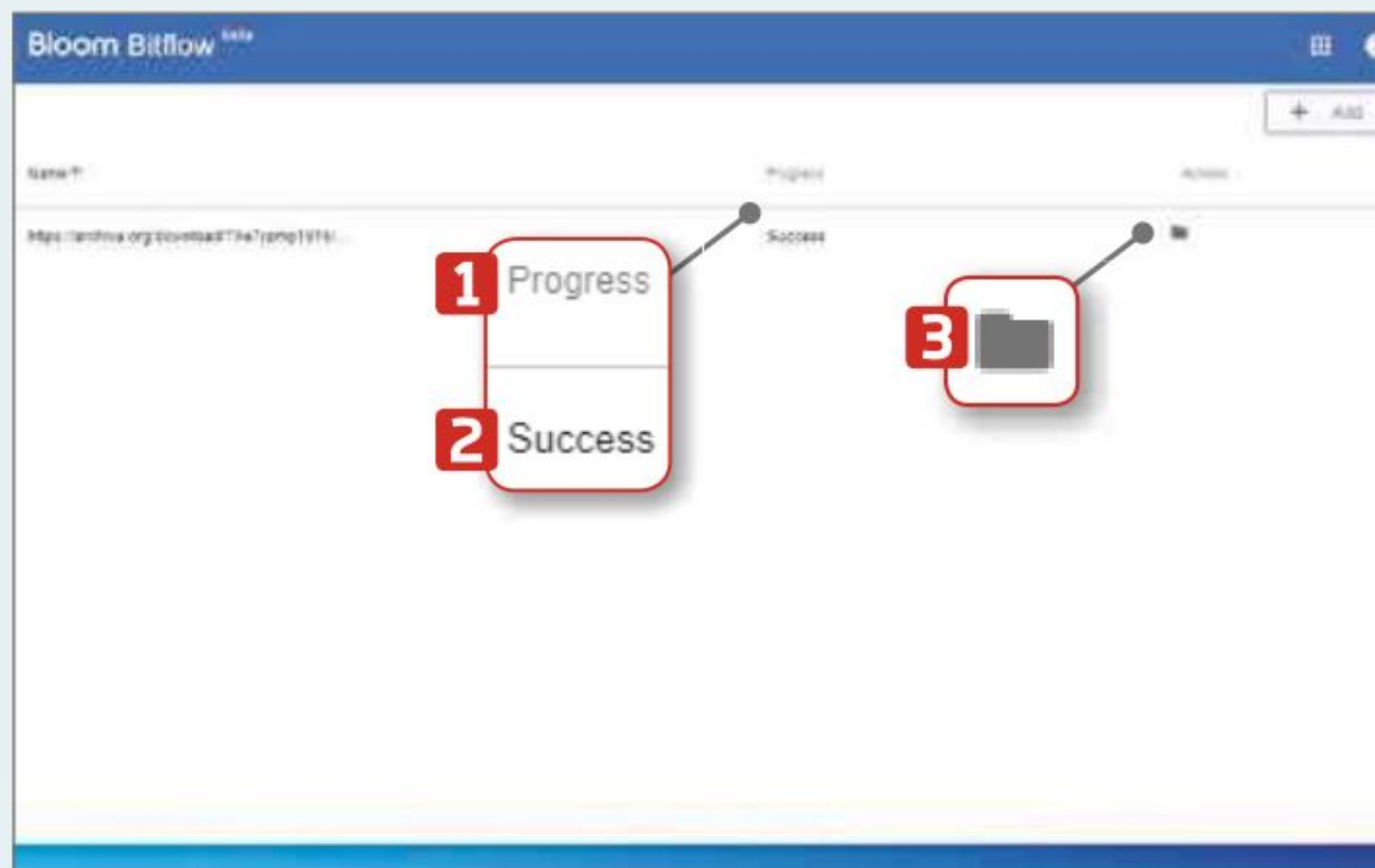
2 Add more folders, including subfolders within folders, by clicking the '+ New' button. **1** Click Folder **2** to create a new one in the current position. To upload files to a particular folder, click through to the folder you want to upload to and click 'File upload'. **3** Select the files you want uploading and click OK.



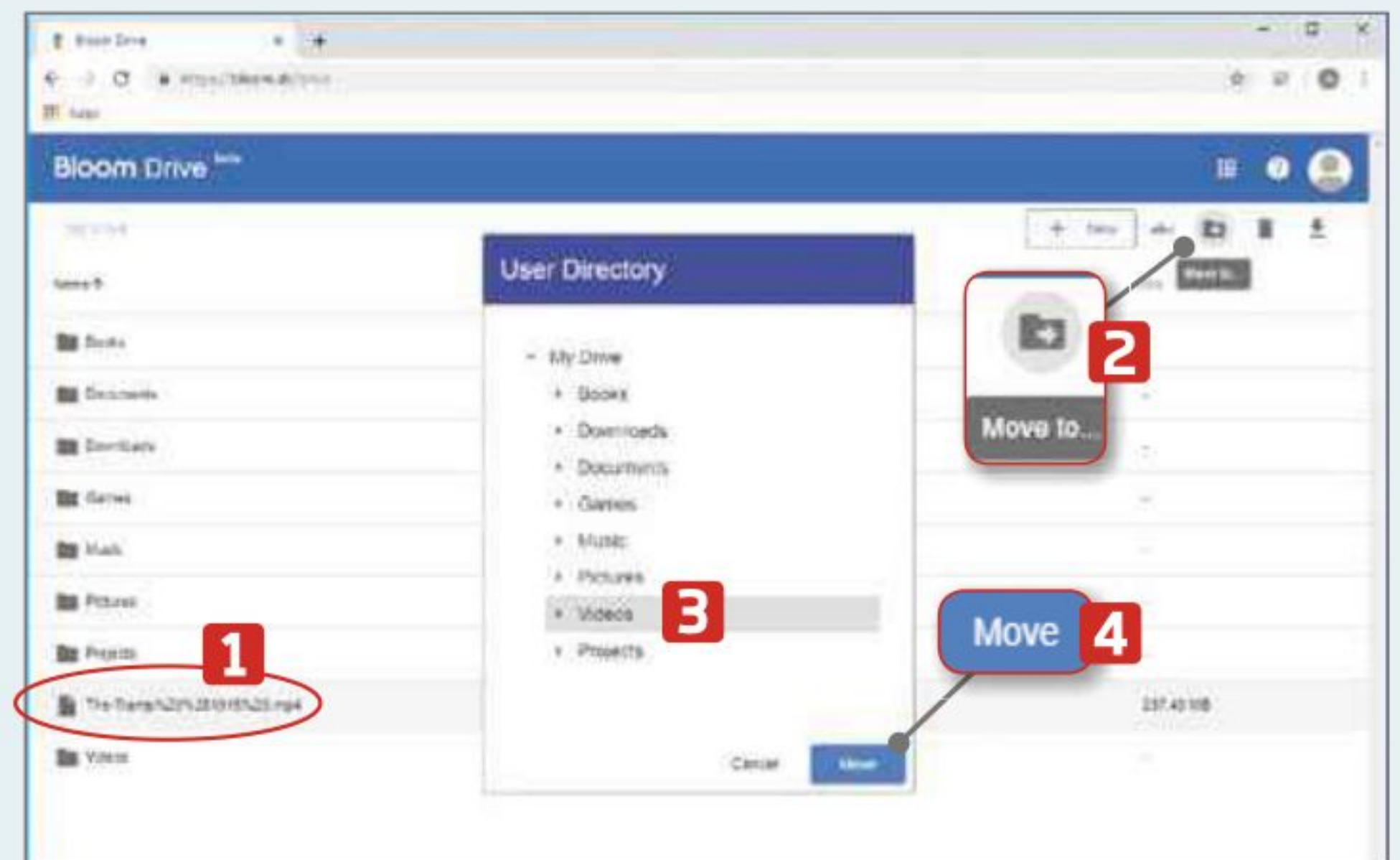
3 You can also drag files from File Explorer and drop them straight into a Bloom folder. Move to the required folder in Bloom, select the files in File Explorer, **1** then drag and drop them across to the Bloom window. **2** Another window pops up to show you how the upload is going. **3**



4 If there's a file you want to download from the internet and then upload to Bloom, you can cut out the middleman by using its Bitflow app. After clicking '+ New', you can use standard links to files or magnet links to torrent files. If it's a normal link, right-click in Chrome and choose 'Copy link address', then paste it into the box. **1**



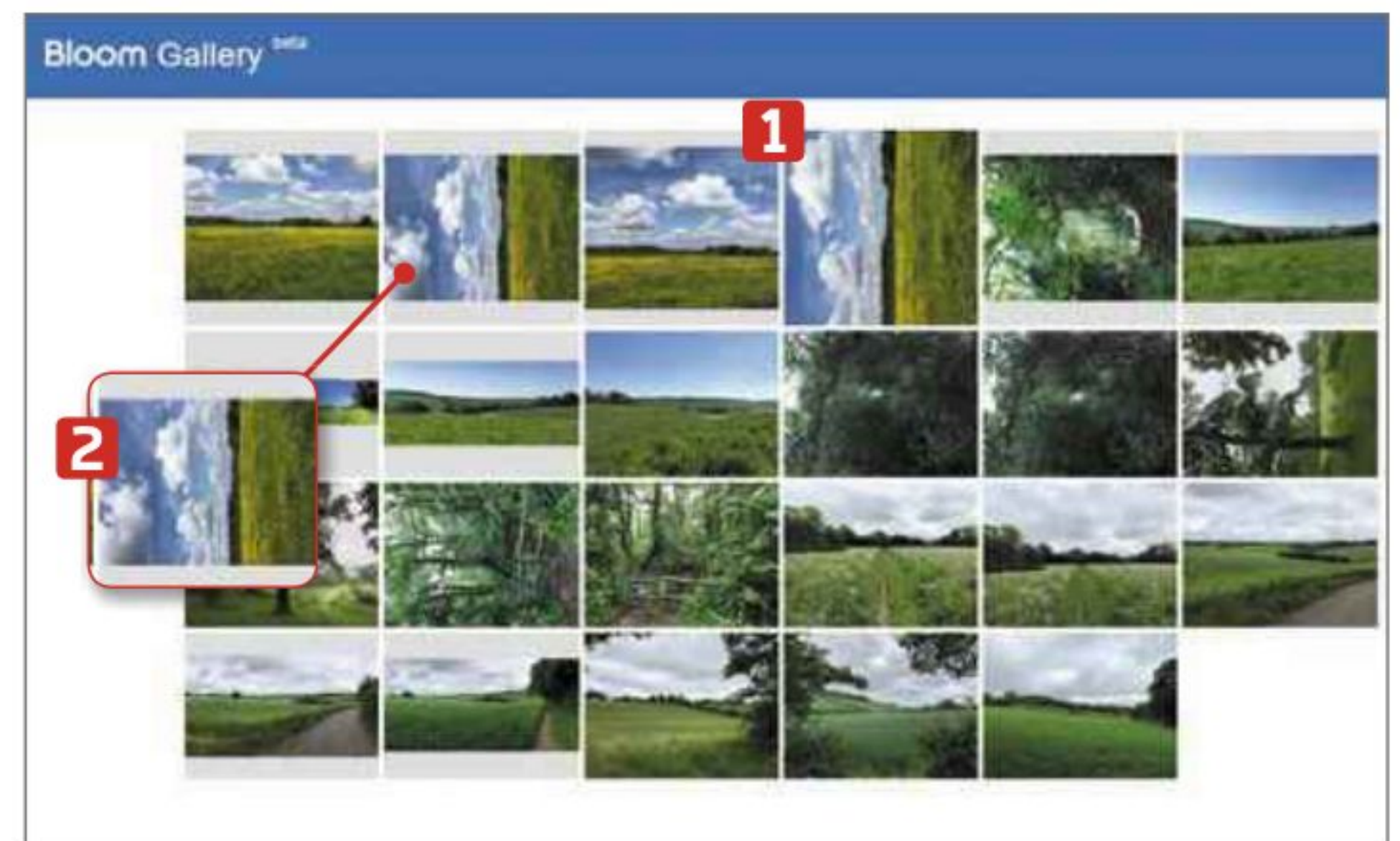
5 Under the Progress column, **1** you might find that the file is marked as queued – it can take a few minutes for Bloom to start downloading your file. However, it should eventually be replaced with Success **2** and you can double-click the folder-shaped 'Open in Drive' icon to find it. **3**



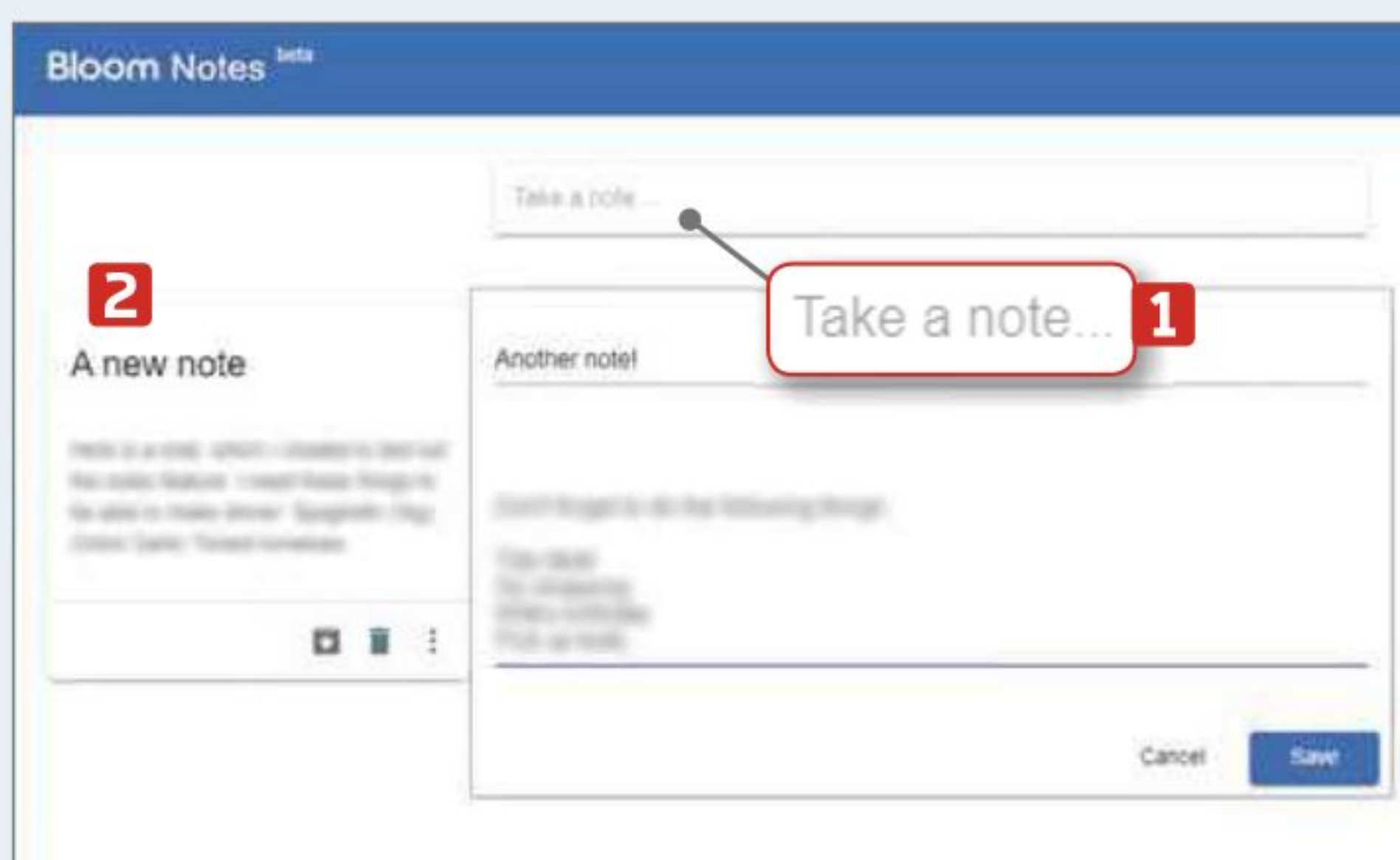
6 The file should be located in the root directory so you may need to move it to another folder. Highlight the file, **1** click the Move icon, **2** then choose the folder you want to move it to. **3** Click the Move button. **4**



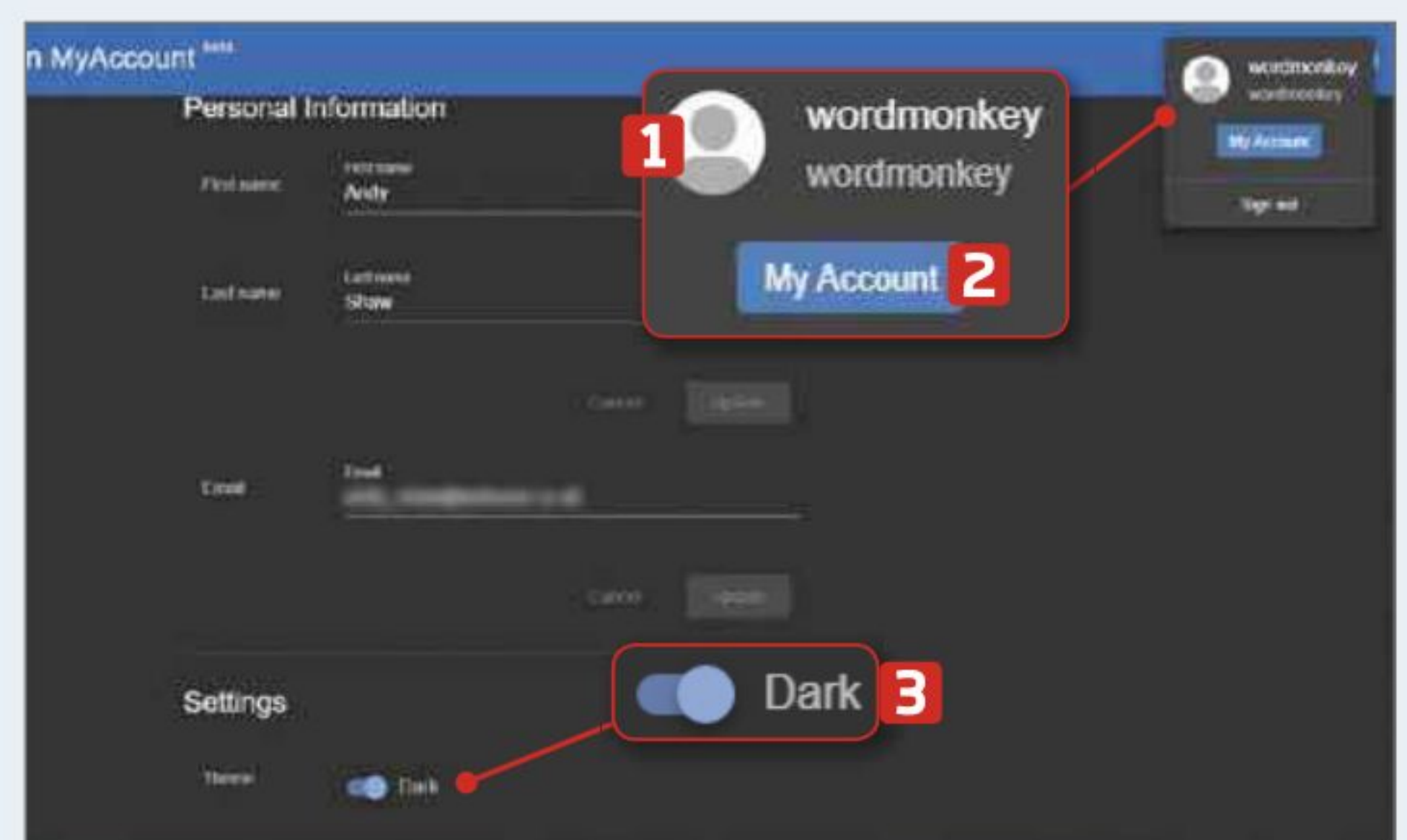
7 You only have to left-click a file to select it. **1** To select multiple files, **2** left-click each one in turn. It feels a little counterintuitive but it means you don't need to press the Shift or Control keys. Make sure you don't randomly click things as you move around or you might end up performing an action on a file without realising you've selected it.



8 The Gallery and Music apps work in similar ways – they pick up any photos or music files uploaded to any folder. Open the apps to see the photos or play the music. The Gallery shows thumbnails of images **1** but you need to make sure they're correctly orientated **2** – we found it didn't pick up on our photos' meta-orientation information.



9 The music app finds all the music files you've saved to the service but doesn't organise them by artist or album, which makes it great for keeping your current playlist of tracks accessible but not so useful for a large collection. The Notes app is better designed – just start typing in the 'Take a note' box **1** and, when you've finished, notes appear as cards. **2**



10 There aren't too many settings to worry about, although you can change your personal information by clicking the user icon **1** and choosing My Account. **2** At the bottom of the page, there is a switch **3** that lets you toggle between Bloom's light and dark themes.



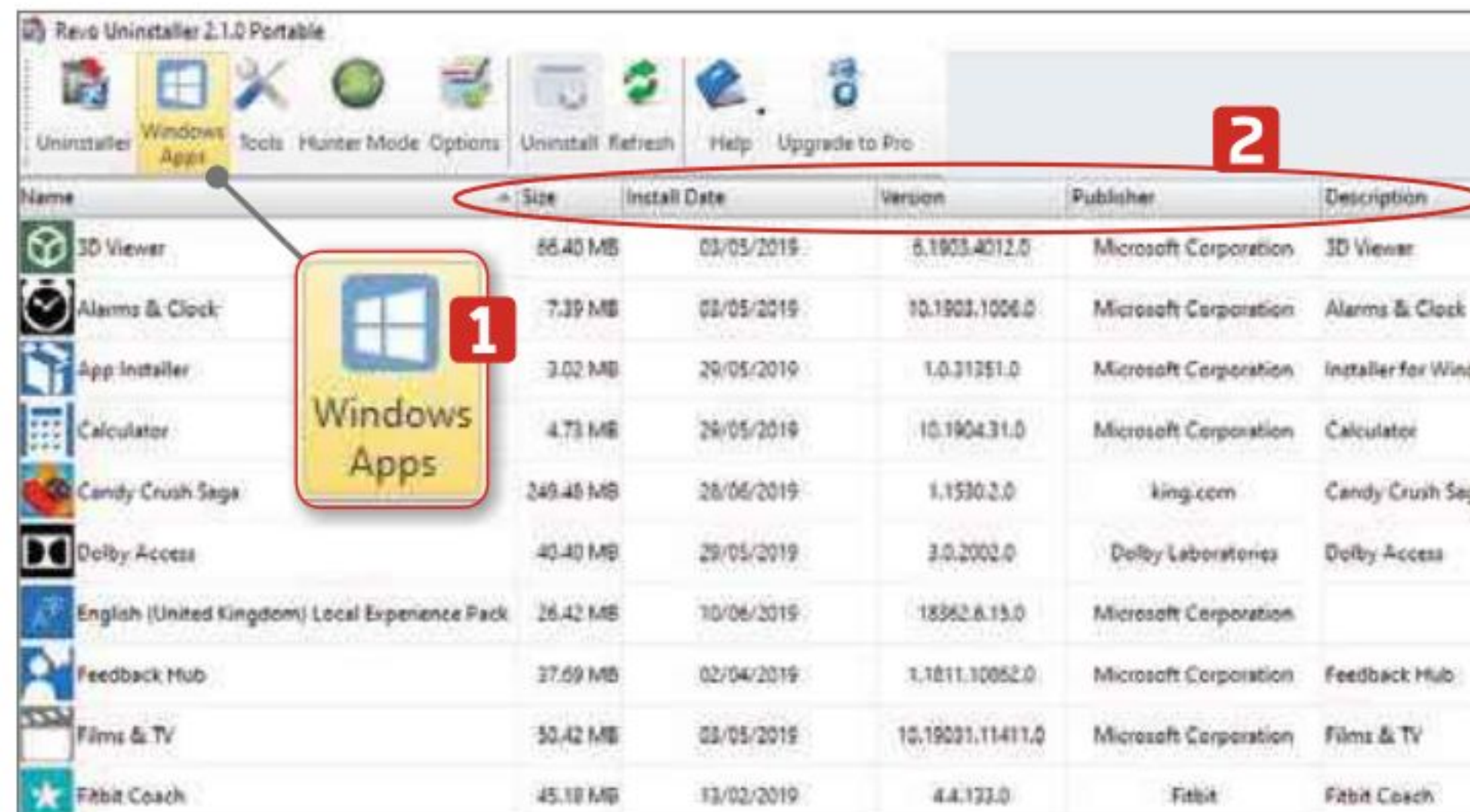
Uninstall any unwanted Windows 10 app

We often recommend Revo Uninstaller Free in our tips pages because it's an excellent tool for finding and completely removing unwanted software from your PC. A new version has just been released that can remove

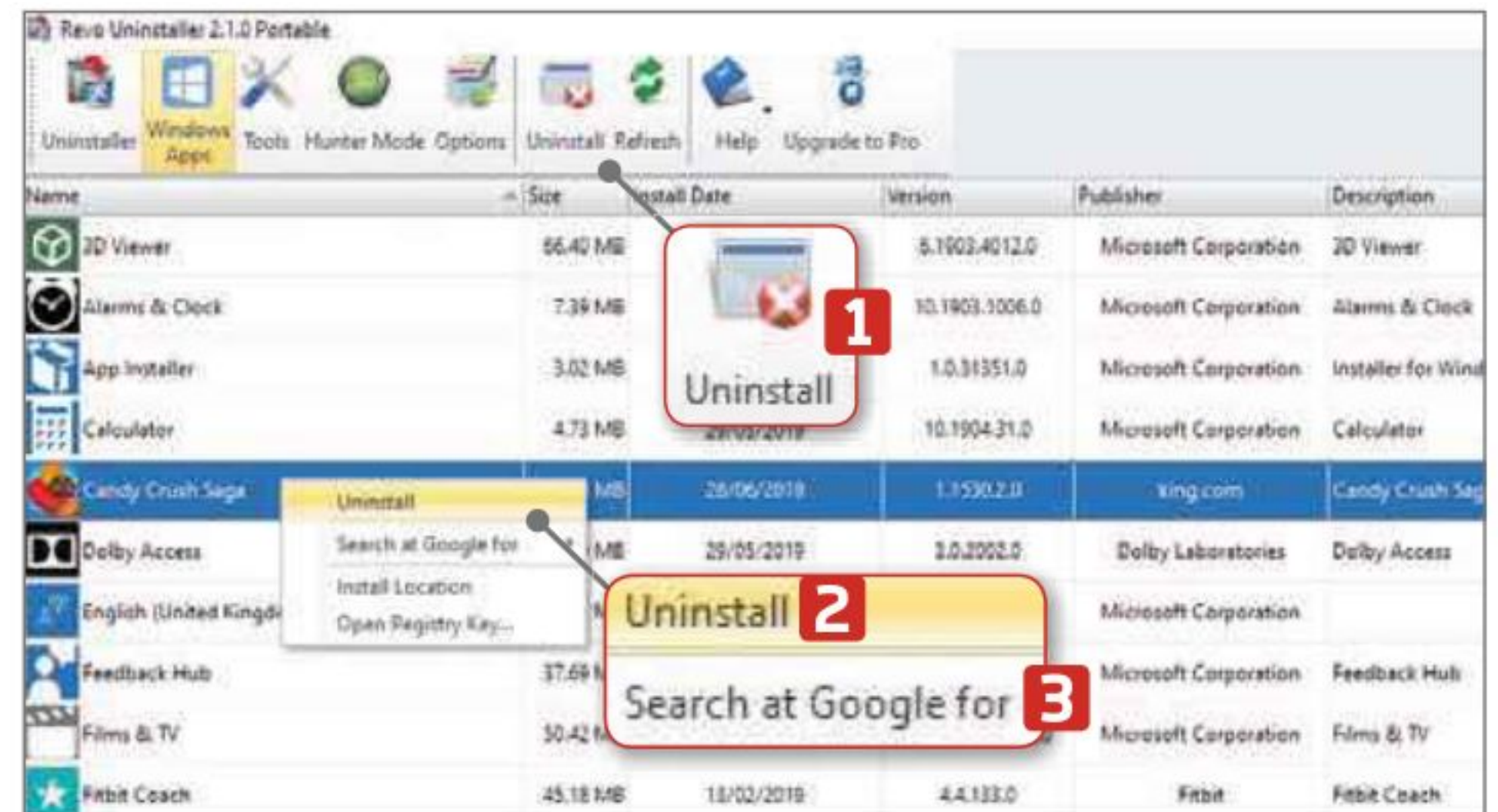
Windows 10 apps, as well as standard software. We used the portable version for this workshop. Remember to always back up first and remove one app at a time.



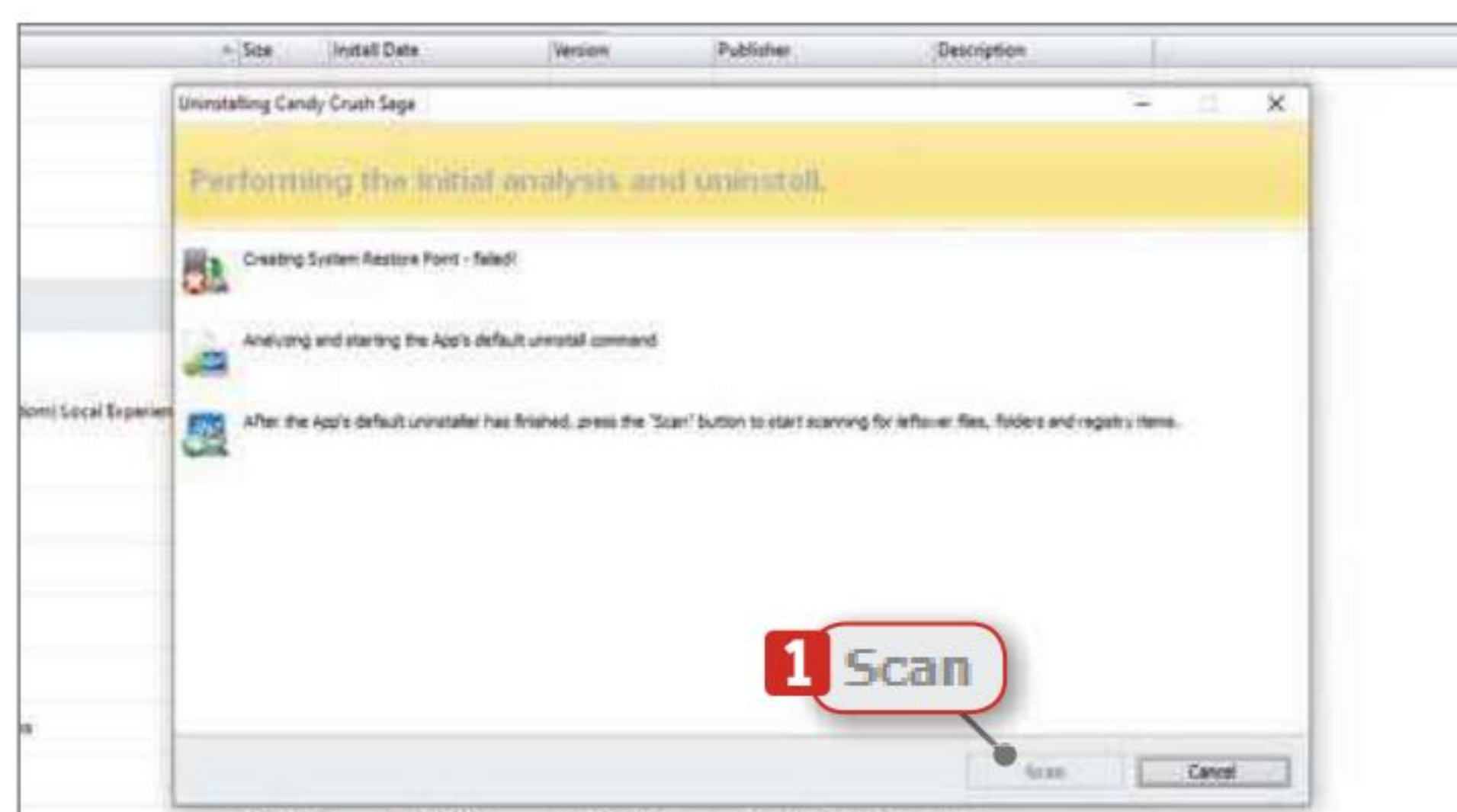
Revo Uninstaller Free: bit.ly/reuf480 | ⌚ 10 mins | 🖥️ Windows 10



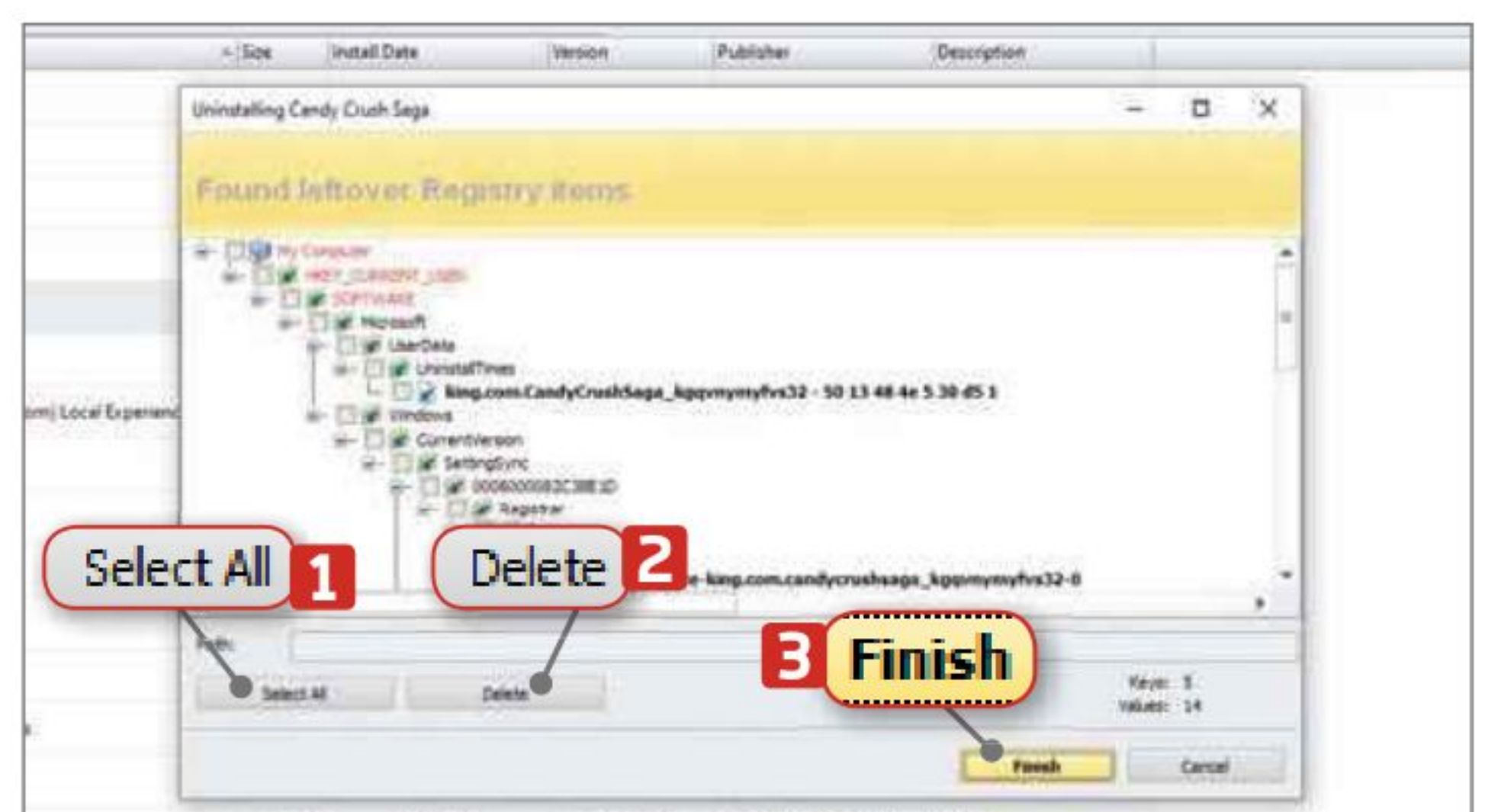
1 Click the new Windows Apps button. **1** The list below populates with all the apps installed on your PC, including those pre-installed by Windows. Click the heading at the top of each column **2** to order them by that option – for example, Size or Install Date.



2 Once you've found the app you want to uninstall, either left-click to highlight it and click the Uninstall button **1** or right-click it and choose Uninstall from the menu of options. **2** If you don't know what an app is, you can search for it or the company that makes it from here, too. **3**



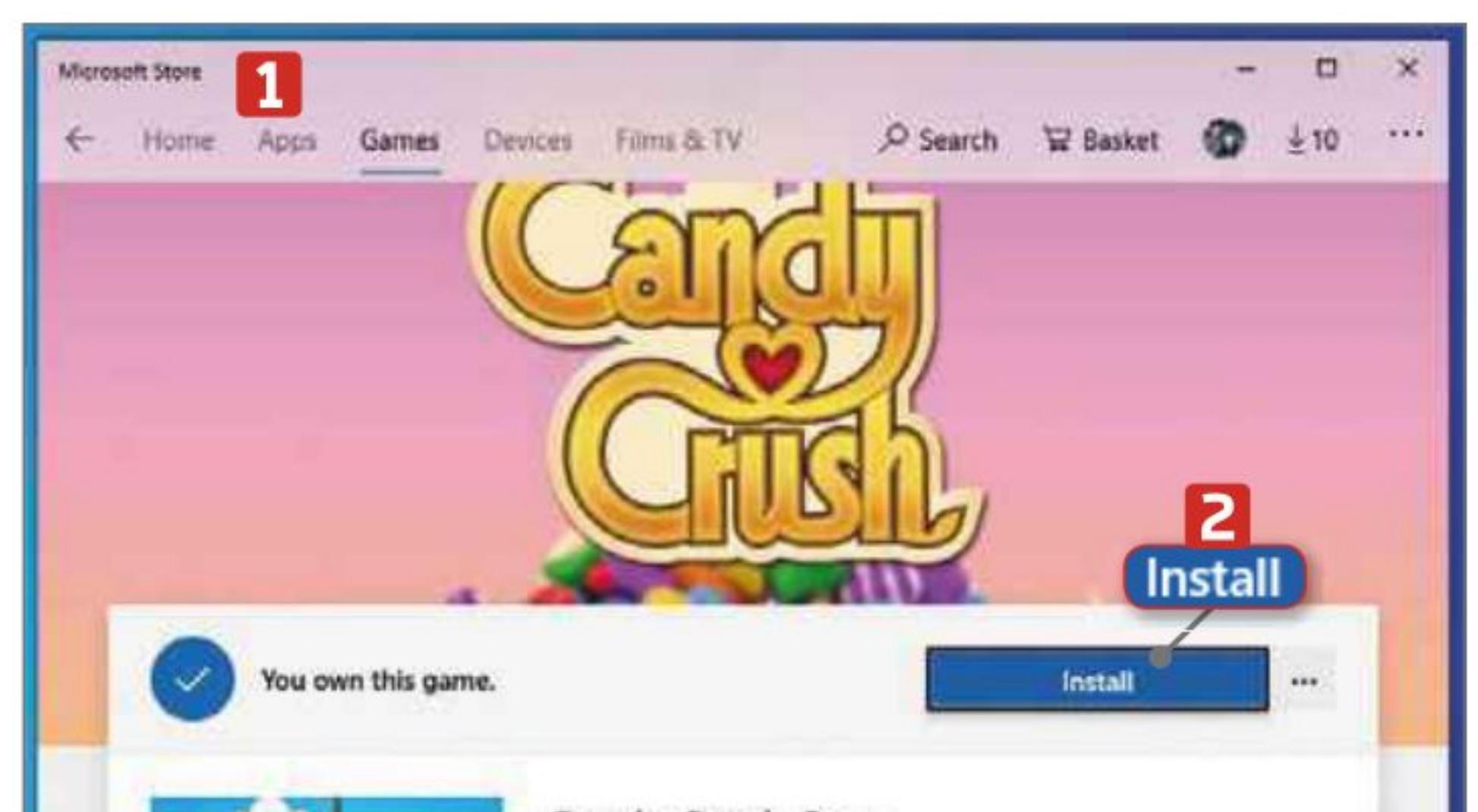
3 A PowerShell window opens and Revo starts the process of uninstalling the software. It creates a Restore Point – if you have that feature switched on – then runs the default app's uninstaller if it can. Next, click Scan **1** to see if any files have been left over.



4 There should be nothing left of the software, but in some cases you may find detritus still lurking in the Registry. You can Select All **1** and Delete it, **2** or select highlighted items by ticking the boxes next to them. When you're happy that you've eliminated enough, click Finish. **3**



5 You can also use Hunter Mode to remove a Windows 10 app. The app must be open, showing on the taskbar or running as an icon in the notification area. Click the Hunter Mode icon and a target appears on the screen. **1** Click and drag this to the app or icon that you want to remove.



6 If you make a mistake, you should be able to return to your backup and reinstall anything you don't want to remove, although any other changes you've made in the meantime will be lost. Alternatively, find the app you erased in the Windows Store **1** and reinstall it from there. **2**



Protect your passwords on your Android phone

Bitwarden is a useful password manager available on just about every platform, from Windows and macOS to browser extensions. We covered the desktop version in Issue 466 (bit.ly/webuser466) but now the Android app has

Bitwarden: bitwarden.com | 10 mins | **Android 4.4 +**

received a major upgrade. Not only does the interface feel more mobile-friendly, but its raft of intuitive updates make password management even more convenient.



1 If you haven't already got a Bitwarden account, create one by entering your email and master password **1** when prompted. Add a hint **2** in case you need to be reminded of what your master password is, because you need this to access every password you save. Tap Submit, **3** then log in.



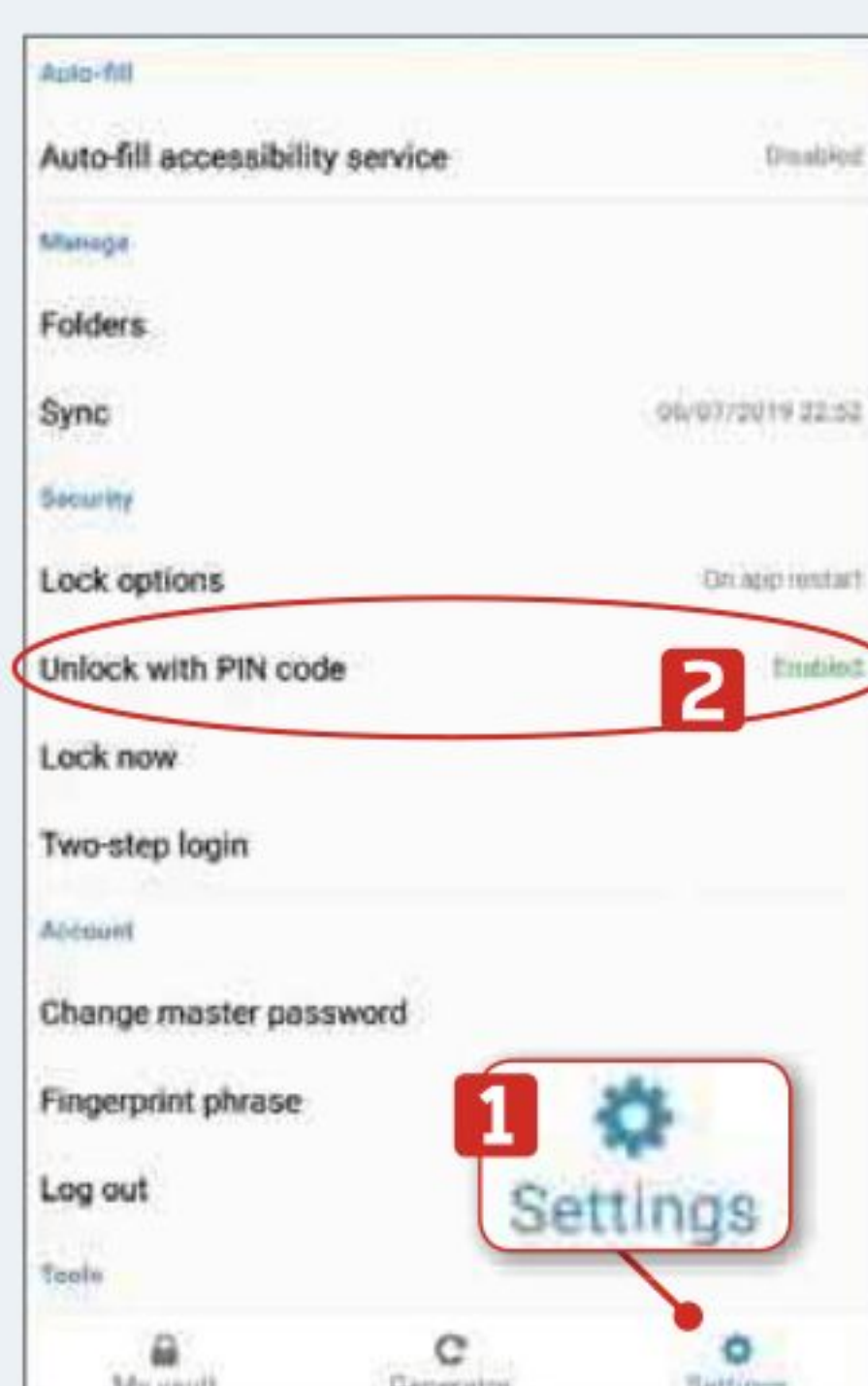
2 On the home screen, tap Add An Item or the + button. Here, we're going to manage our Gmail login. Tap Type and choose Login. **1** Identify the account by adding a Name, **2** then input your Username and Password. **3** For added security, tapping the tick **4** discloses whether the password has featured in any known data breach.



3 Scroll down to URI, **1** then add the website - in this case, www.gmail.com. Save the account as a Favourite, **2** add any useful notes, **3** then tap Save. **4** Details are stored in your Vault, where you can visit the site by pressing the arrow icon, or edit or manage details by tapping the three dots beside it.



4 One of the latest updates introduces the passphrase generator. Access this by tapping Generator **1** and changing the type from Password to Passphrase. **2** Tap OK to receive a random passphrase. To increase security or meet website demands, set how many words are included in your passphrase by using the '+' and '-' buttons, **3** or edit how words are separated. **4**



5 You also have the option to unlock the app with both Fingerprint and PIN login, which is useful if you've lost your Master Password. Tap Settings, **1** then choose both 'Unlock with Fingerprint' and 'Unlock with PIN code'. **2** Once you've given this data, unlocking the app lets you choose which method you prefer.



6 Another update lets you change the app's appearance, with dark and light modes, as well as Black and Nord (arctic blue) to choose from. **1** Press Settings and scroll down to Options and look for the Theme setting. Tap and scroll to your chosen theme. This restarts the app, so log in again to see your new-look Bitwarden.

Weekend Project

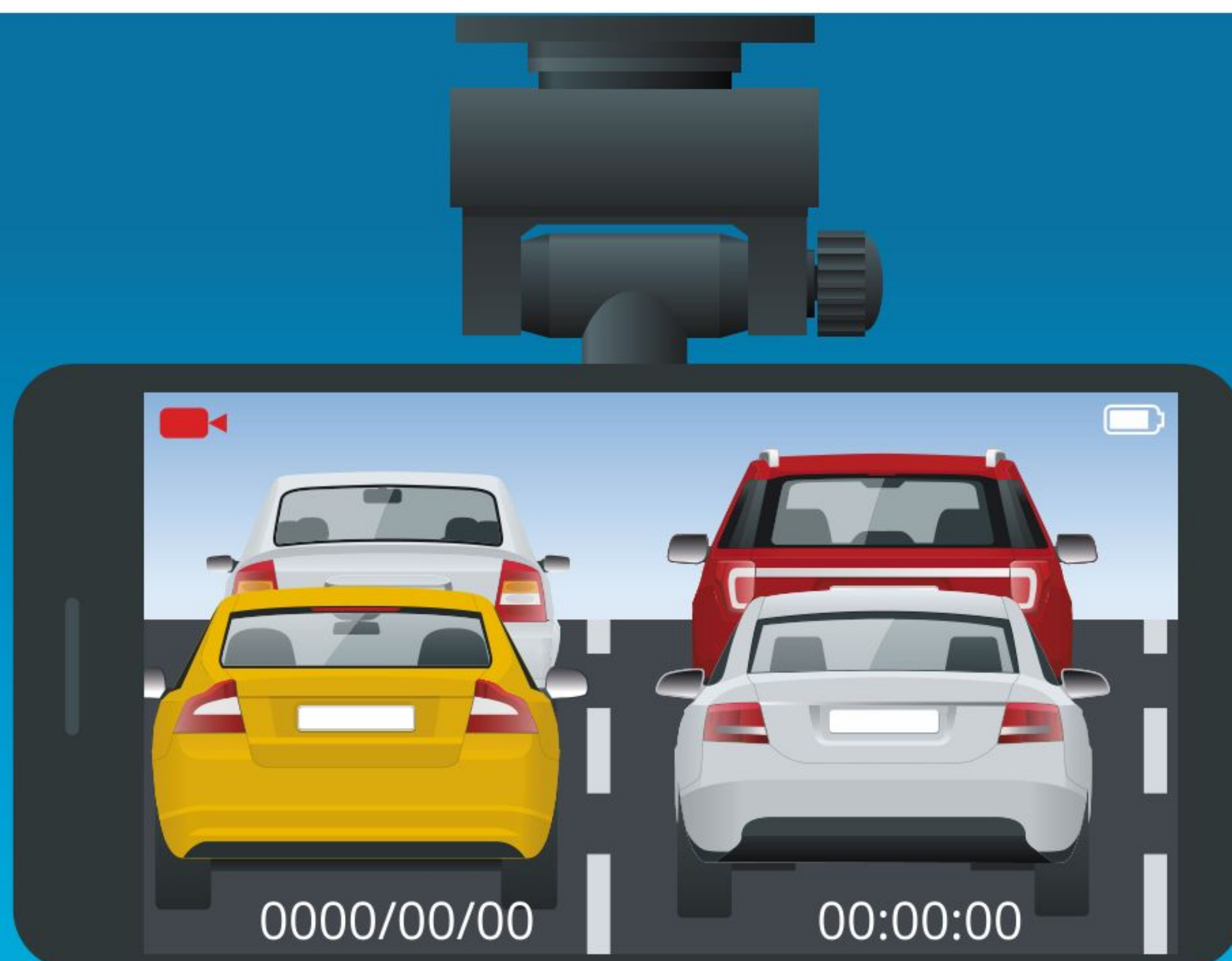
Get to grips with some serious tech tinkering to boost your computer and other devices



How to...

Use an old Android phone as a car-mounted dash cam

You don't have to buy expensive new hardware if you turn your old smartphone into a dash cam. **Wayne Williams** explains how



Dash cams, which record activity going on outside your vehicle, have become increasingly popular. Ownership in the UK has risen from 1% to over 15% in just four years, and for good reason. As the AA explains at bit.ly/aa480, "Many car accidents aren't clear cut. If there is any doubt over fault and if it's your word against theirs, footage recorded by a dash cam can help to resolve the dispute quickly. If the footage proves the

other party was at fault, you may not have to pay your excess, or if you've already paid, your excess may be reimbursed". Dash cams can also help protect your no-claims discount, lower your insurance premiums and discourage thieves.

There are plenty of dash cams available to buy, but if you have an old smartphone that you no longer use to make calls, you can use that instead.

What you'll need

The first item you need is a spare smartphone – we've used an Android device. There's nothing to stop you using your current handset, but you won't be able to use it for anything else while you're driving – displaying the route in Google Maps, for example – so it's better to dedicate a device exclusively to this one task. Remove all other apps from the phone and make sure you're logged out

of services such as Gmail, so your recording isn't interrupted by incoming messages. Make sure there's plenty of free storage space on the device and consider adding a large SD memory card if your phone supports one.

You also need a dash mount to hold your phone in a position where the camera has a good view of the road ahead. There are plenty of these to choose from but it's important to note

that you need to be careful where you position it – attaching your device to the windscreen or to a side window could obscure your view of the road, which is dangerous and could get you into trouble. You also need a car charger and a USB cable to ensure that your phone battery doesn't run out, which is a common problem with older phones.

Lastly, you need a dash recorder app, to handle the recording and everything



AutoBoy Dash Cam gives you a choice of two themes. The first (older) one is based on Windows 8's tiled Start menu design

else. There are a number of choices available but some of the better options are AutoBoy Dash Cam (bit.ly/abdc480), AutoGuard Dash Cam (bit.ly/agdc480) and DailyRoads Voyager (bit.ly/drvo480). All three are very good and free to use, so it's worth trying each one to see which one you like best and familiarise yourself with how they work – you don't want to be messing around with the controls while driving. We show you how to get started with AutoBoy in our Mini Workshop on page 61.

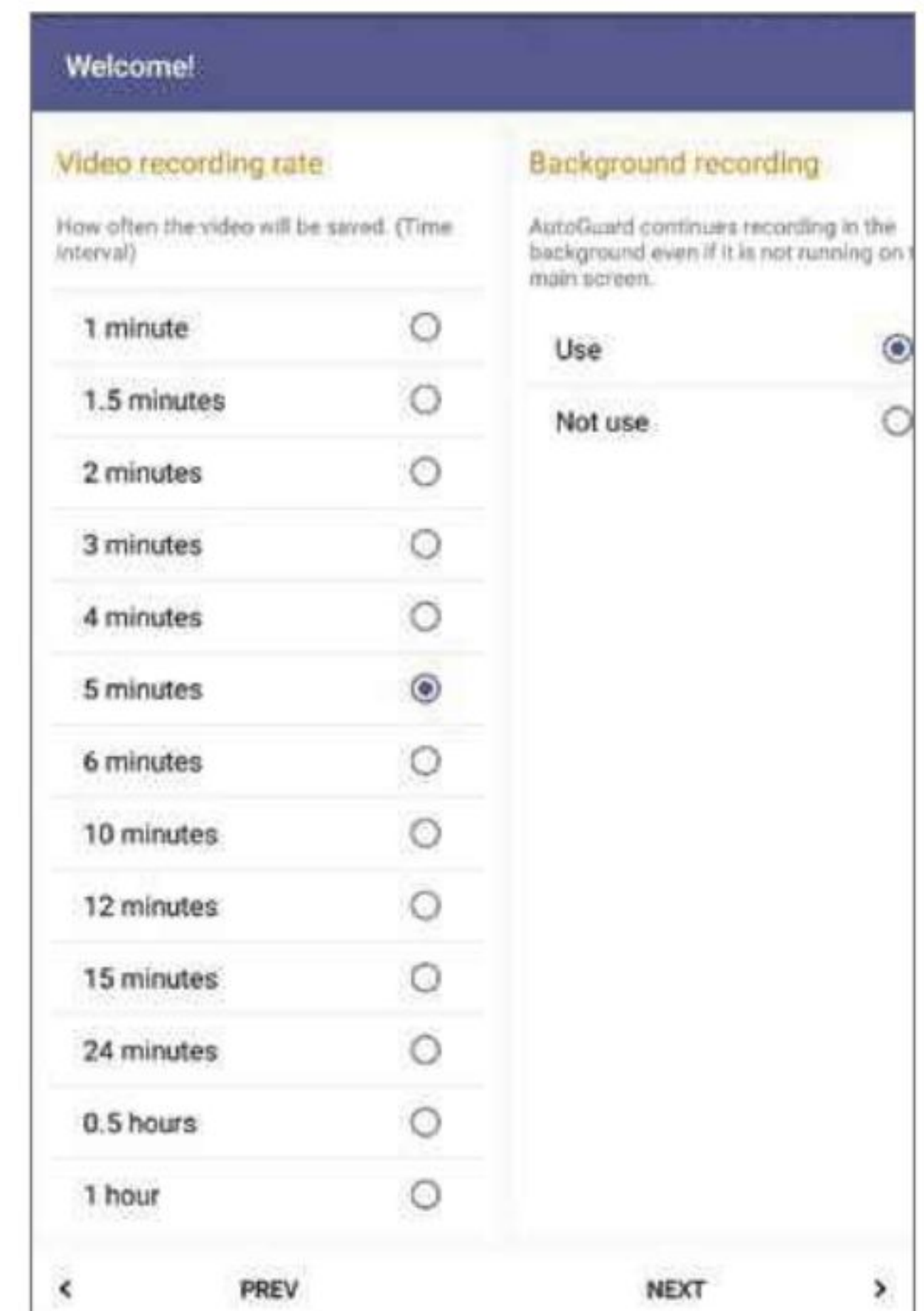
Dash-cam apps start recording automatically once you set off and continue recording in the background. They delete old videos to make space for new footage, and should protect important recordings in the event of a crash (and optionally contact emergency services). They also record useful information, including where you are, the speed you're travelling at, the direction in which you're heading, and the date and time. You can access photos and videos

on your device, and upload content directly to YouTube through the app.

Choose a mount

There are many types of dash cam to choose from, which means there are plenty of different mounts, too, so you should be able to find something to link your device to your car, whether you decide to attach it to an air vent or plug it into the CD player. Check, however, that they aren't designed to show you the screen while you drive – for viewing Waze or Google Maps, for example – because these are less likely to give your phone's camera an uninterrupted view of the road ahead. Do some research beforehand to work out which mount best suits your own car's dash and windscreen.

One of Amazon's recommended 'choices' is the Artek Universal Mobile Phone Car Mount Holder (bit.ly/arte480), which has a sticky gel pad that can be mounted in various locations and can be rotated 360 degrees for horizontal and



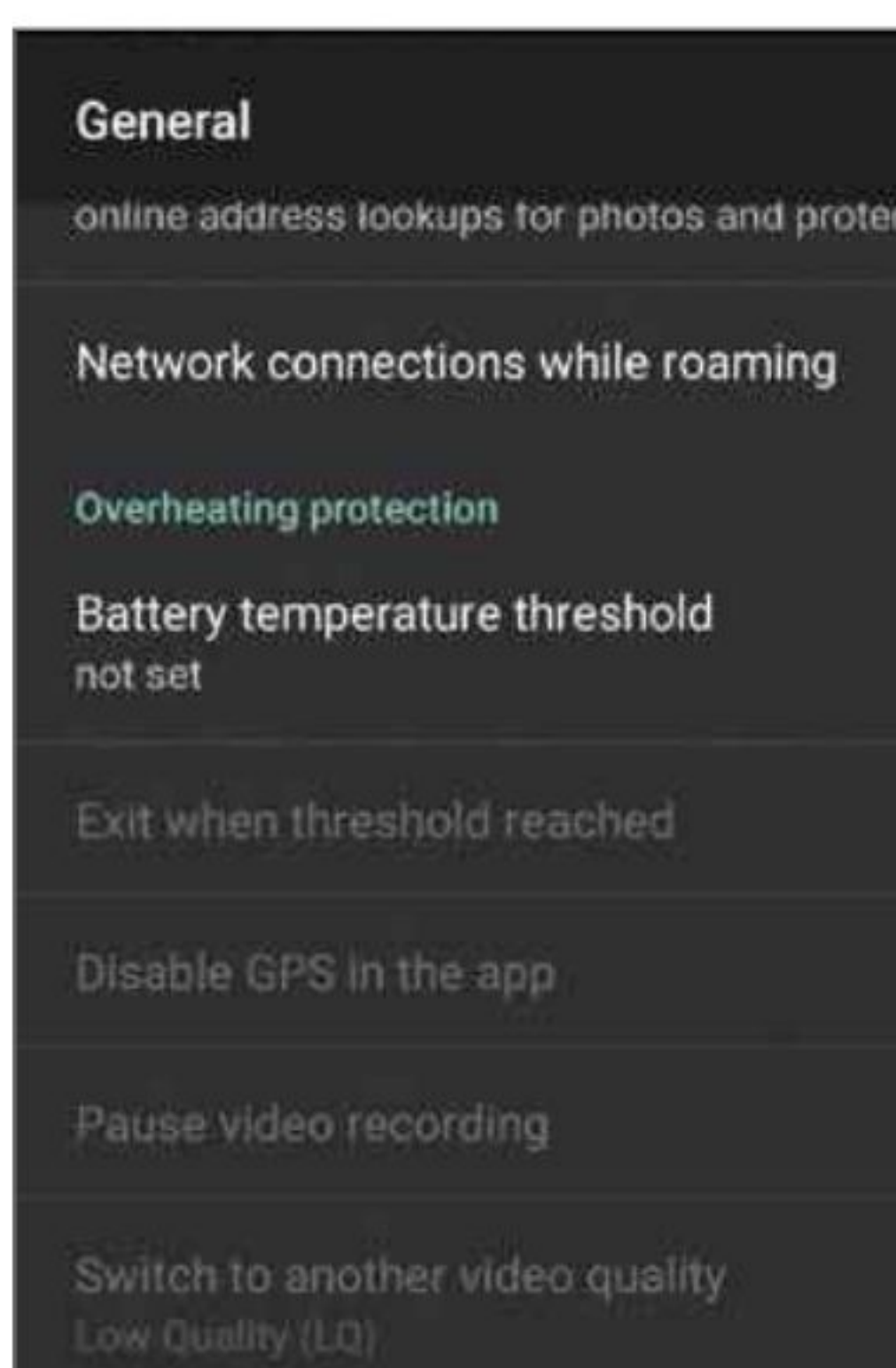
AutoGuard's Welcome wizard guides you through the setup process

vertical viewing. This costs just £6.99 so is a good place to start.

If you're happy to spend a little more, then the iOttie Easy One Touch 4 smartphone mount (bit.ly/iot480) is worth a look because it can be attached to your car dashboard or windscreen – again, using a reusable sticky gel pad. There's a telescopic arm that lets you angle the phone just how you want it, and the top mount rotates 360 degrees. It's rather pricey at £27, though.

Using dash cams abroad

Using a dash cam is perfectly legal in the UK, but other European countries are less keen on them. In some countries, such as Austria and Portugal, they are banned, and you could be fined for using them.



DailyRoads Voyager protects your device from overheating



Tap the exclamation mark in AutoGuard to save the current recording as an accident video and optionally contact the emergency services



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	Provider	Package name	Monthly price	Contract length	Broadband speed	Allowance	First-year cost*
1		TalkTalk: Fast Broadband	£19.95 (£27 after 18 months)	18 months	11Mbps avg. speed	∞ unlimited	CHEAPEST £239.40
2		Shell Energy: Fast Broadband	£19.99	18 months	11Mbps avg. speed	∞ unlimited	£239.88
3		Sky: Broadband Essential	£20.00 (£25 after 18 months)	18 months	11Mbps avg. speed	∞ unlimited*	£240.00
4		Virgin Media: Big Bundle + Fibre Broadband + Weekend Calls	£29.00 (£59 after 12 months)	12 months	108Mbps avg. speed	∞ unlimited	£348.00

Terms & Conditions apply - see ISP sites for details

* Fair-usage or restriction policy applies.

Data supplied by www.broadbandgenie.co.uk. Correct as of 9 July 2019.

Ofcom

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

In the next issue of our sister title Computeractive...

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ARTECK Car Mount is a basic, inexpensive mount for your smartphone

In other countries, such as France and Germany, they are legal but there are restrictions to be aware of.

The biggest problem comes down to privacy – you may not be allowed to record anything without the people you're filming knowing about it, and you may not be able to share the footage unless you obscure faces and car number plates first.

What to be aware of

We feel the upsides to having a dash cam easily outweigh the downsides, but you should be aware that if you are involved in an accident that is your fault, your own recordings could be used against you.

On a more practical level, if you're using your phone as a dash cam, it's going to get very hot when sunlight streams in through the windscreen

on summer days. Dedicated dash cams are designed to withstand the heat, but phones aren't, so soaring temperatures could lead to your device shutting down, rebooting or otherwise malfunctioning. Where you mount your phone can help, as can removing the device when you're parked. This is an advisable precaution anyway because a phone in plain view, even an old one, could attract thieves. That said, apps such as DailyRoads Voyager offer overheating protection, so if things get too warm, the app can take action to prevent damage to your hardware.

Another problem to be aware of is that phones have a smaller field of view than most dash cams, so they won't be able to capture the full picture in front of you. ■

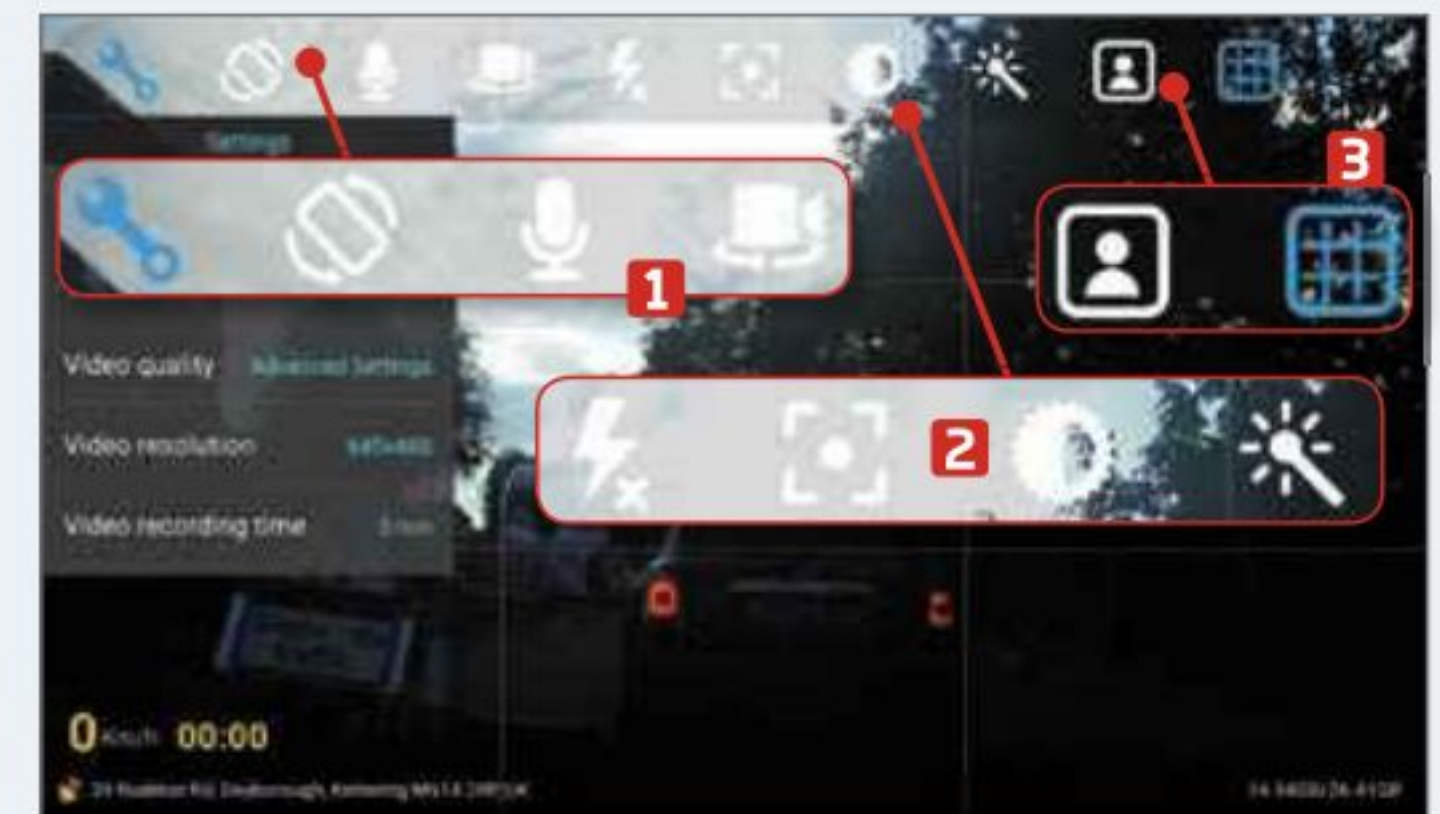


iOttie Easy One Touch 4 is an expensive mount, but it offers some useful versatility

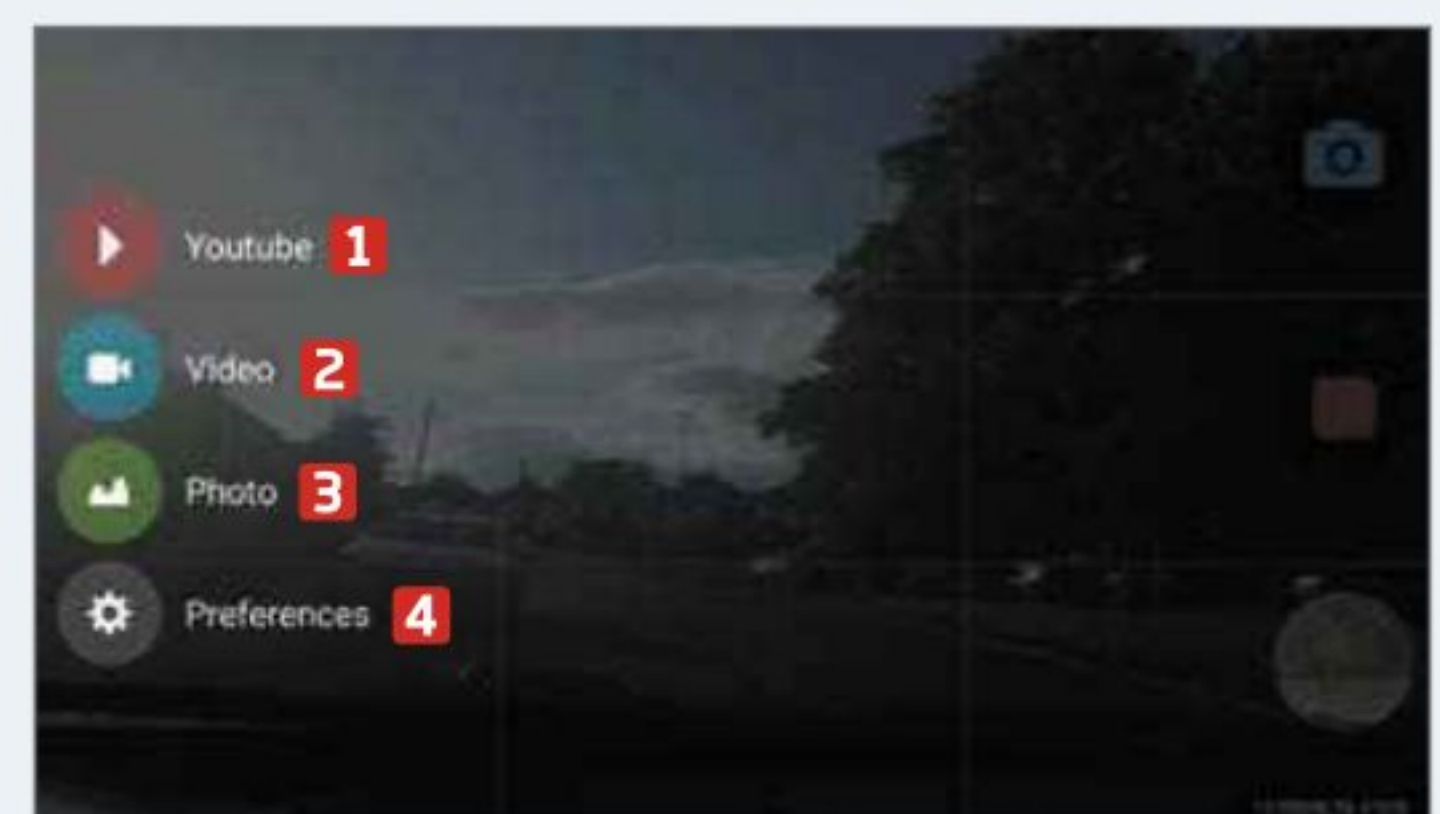
MINI WORKSHOP Install and use AutoBoy Dash Cam



1 Grant the app the required permissions, choose a theme and tap Start. The screen displays the view ahead. AutoBoy starts recording video as you drive, **1** and you can take a photo **2** by tapping the icon. The most recent image/recording can be accessed here. **3** It also displays how fast you're travelling. **4**



2 When not recording, tap the three-dot button in the top-left corner to access Settings, change the screen orientation, toggle audio, and switch between the front and rear cameras. **1** You can also manage flash, focus, exposure and colour effect. **2** The other options let you pick a scene mode and toggle grid lines. **3**



3 Slide in the menu from the left to reveal options to access your YouTube account and any uploaded videos, **1** view previous recordings **2** and photos, **3** and open Preferences. **4** The Preferences screen lets you configure your YouTube account, change the theme, manage recordings and access advanced settings.

NEXT ISSUE

How To... Turn the new Raspberry Pi 4 into a desktop PC

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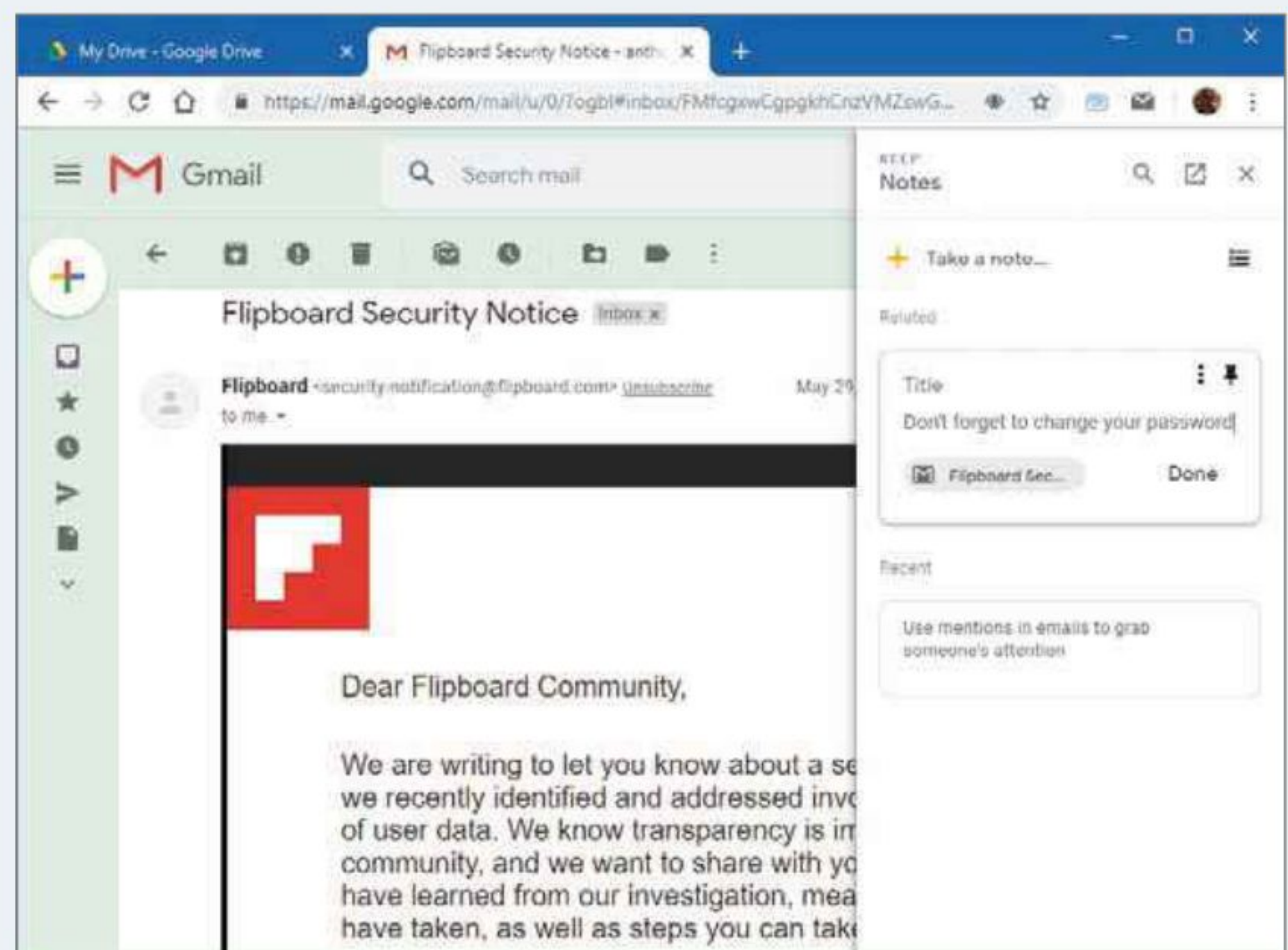
Web User Masterclass

Improve Gmail and Outlook webmail using add-ons and secret tools

Add notes to emails

In the top-right corner in Gmail, you'll see three icons for Calendar, Keep and Tasks. If they're not there, you've probably hidden them – look for a semicircular button with a left-pointing arrow in the bottom-right corner and click it. Click the yellow Keep icon to expand Google Keep into a larger panel. This is a note-taking app that can be accessed within Gmail, Google Drive, on the web at keep.google.com and by installing the Google Keep apps on iOS and Android devices.

Back in the Keep tab in Gmail, click the plus button to create a new note. If you are reading an email at the time, a link is added to the note as a button at the bottom. When reading a Keep note, if you want to know which email it refers to, click the button to open the email that prompted you to create it. The email and note are shown side by side.

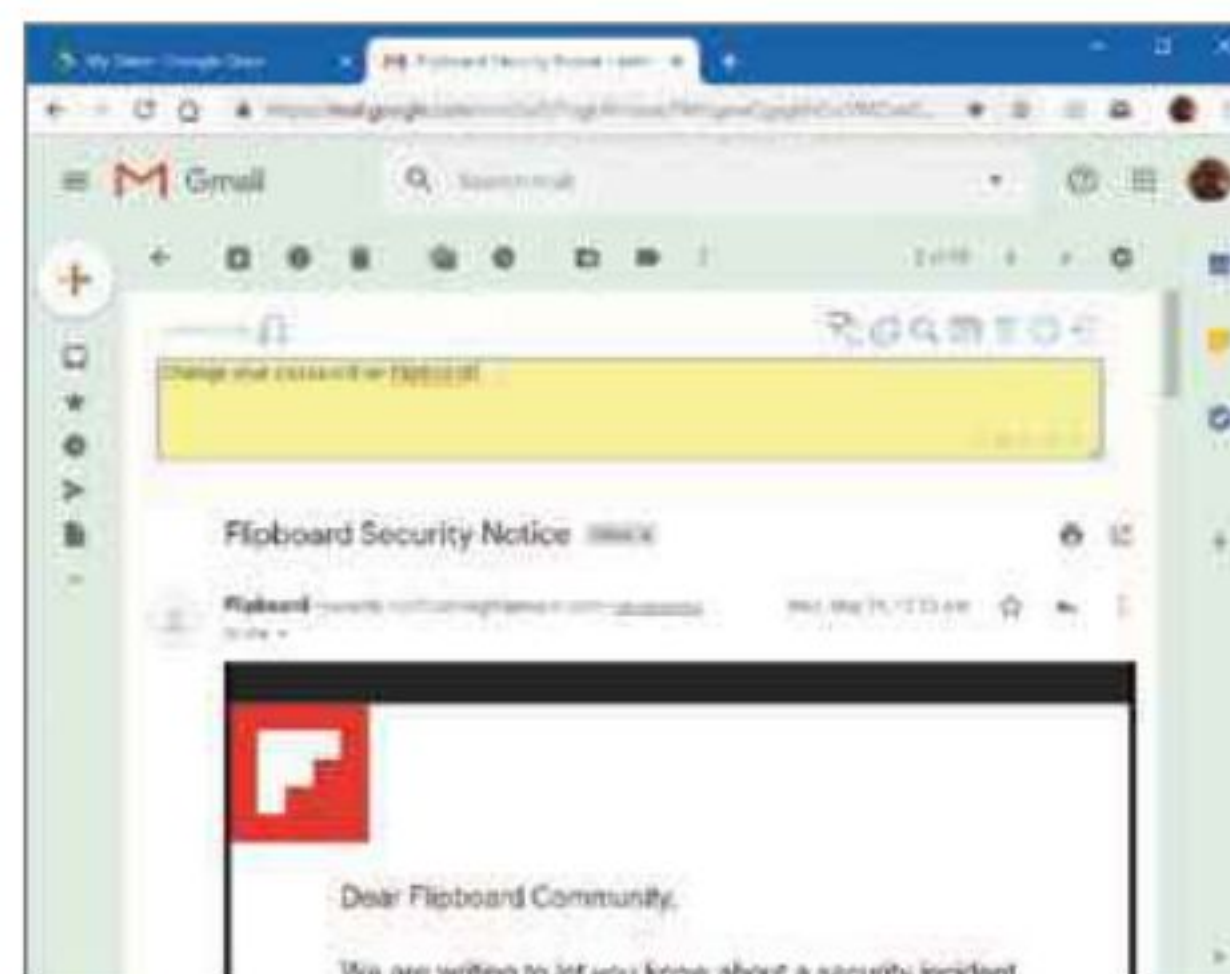


Use Google Keep to store notes about emails in Gmail

Use Simple Gmail Notes

A Chrome extension called Simple Gmail Notes (bit.ly/sgn480) has some advantages over Keep. For example, its notes attach themselves to emails and are displayed at the top when you open them, so you don't need to hunt for the note in Keep. Notes are highlighted before email subjects in the inbox, so it's easy to see which messages have notes attached.

Install the extension, go to Gmail and open an email. Click the link just above the notes box to log into Google Drive, so the extension can create a folder on Drive that contains the notes. You can then add notes to emails by clicking in the yellow box at the top. The toolbar above the note on the right lets you choose the note colour or delete an



Store notes with emails in your inbox using Simple Gmail Notes

unwanted note. Click the cog icon to customise the extension's settings.

Discover mystery senders

If your email address is in the public domain, you may receive messages from people you don't know. To save you having to Google their name to find out who they are, the Discoverly Chrome extension (bit.ly/disc480) does the job for you.

Open an email and a contact card appears in the top-right corner. The information it contains can vary – it may include the sender's name, email address and location; or it might display

buttons to show LinkedIn and Twitter profiles. It also reports non-human senders, which is useful if you prefer to remove yourself from automated mailing lists.

Enable Gmail notifications

Keeping a mobile device by your computer means you can be notified of any new emails by its dings and chimes, but there are other options. Open Gmail, click the cog icon and select Settings. On the General tab, just over halfway down, 'Desktop notifications' gives you the option of switching on notifications for all new messages or just 'important' ones. Google will decide what is important and what is not.

A similar option is to install Checker Plus for Gmail (bit.ly/cpgm480), a Chrome extension that adds an icon to the right of the address box. This badge shows how many unread emails there are in your inbox.

Click the icon to see a list of the most recent messages without having to go to the Gmail website. You'll see the title, time and a couple of lines of the message body.

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.



Move the mouse over an email to bring up a toolbar with buttons that let you delete it, archive it, mark it as spam, mark it read or open Gmail to read the full message. To compose a new email, click the large red plus icon.

Enable Outlook notifications

In Outlook webmail, go to the website and click the cog icon. Turn on 'Desktop notifications' to be notified when new messages arrive. An icon can also be

added to the Chrome toolbar using Notifier for Outlook (bit.ly/nfout480).

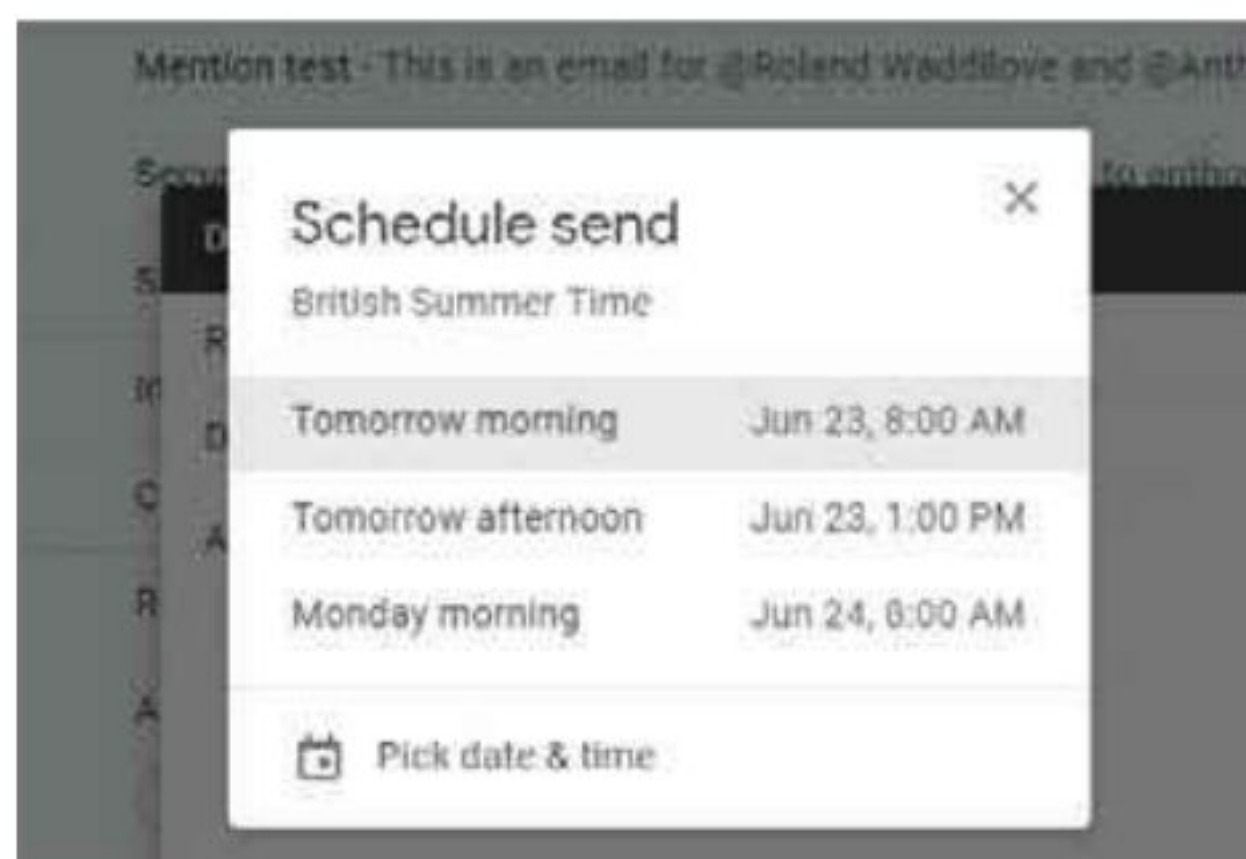
If you're running Windows 10, you can add any number of email accounts to the Mail app, including Outlook, Gmail, Yahoo, iCloud and anything else you have the login and mail server details for.

Enable notifications in Windows 10's Mail app

If you haven't already added your email to the Mail software, click the cog icon at the bottom, then return to Settings and click Notifications. You can choose to show notifications in the Action Centre, show a notification banner, play a sound and show notifications for folders pinned to the Start menu.

Schedule emails for later

If you've composed an email but don't want to send it right away, you can save it as a draft, then return to your Drafts folder later to manually send it. But if you're worried that you'll forget, or you might not be at your computer at the moment you want it sent, a better method is to schedule it. In Gmail, create a new message and click the down arrow on the Send button. Choose tomorrow morning or afternoon, the next day, or click 'Pick a date & time' to choose when to send it.



Gmail has an option to delay sending a message until later

Turn emails into to-do lists

Sortd for Gmail (bit.ly/std480) is an extension for Chrome that turns your email inbox into a Kanban-style to-do board. The Kanban way of organising tasks is to create vertical columns that contain lists of tasks to do, tasks you are doing and tasks you have done. If you've ever used Trello (trello.com) at work, you'll feel at home with this system.

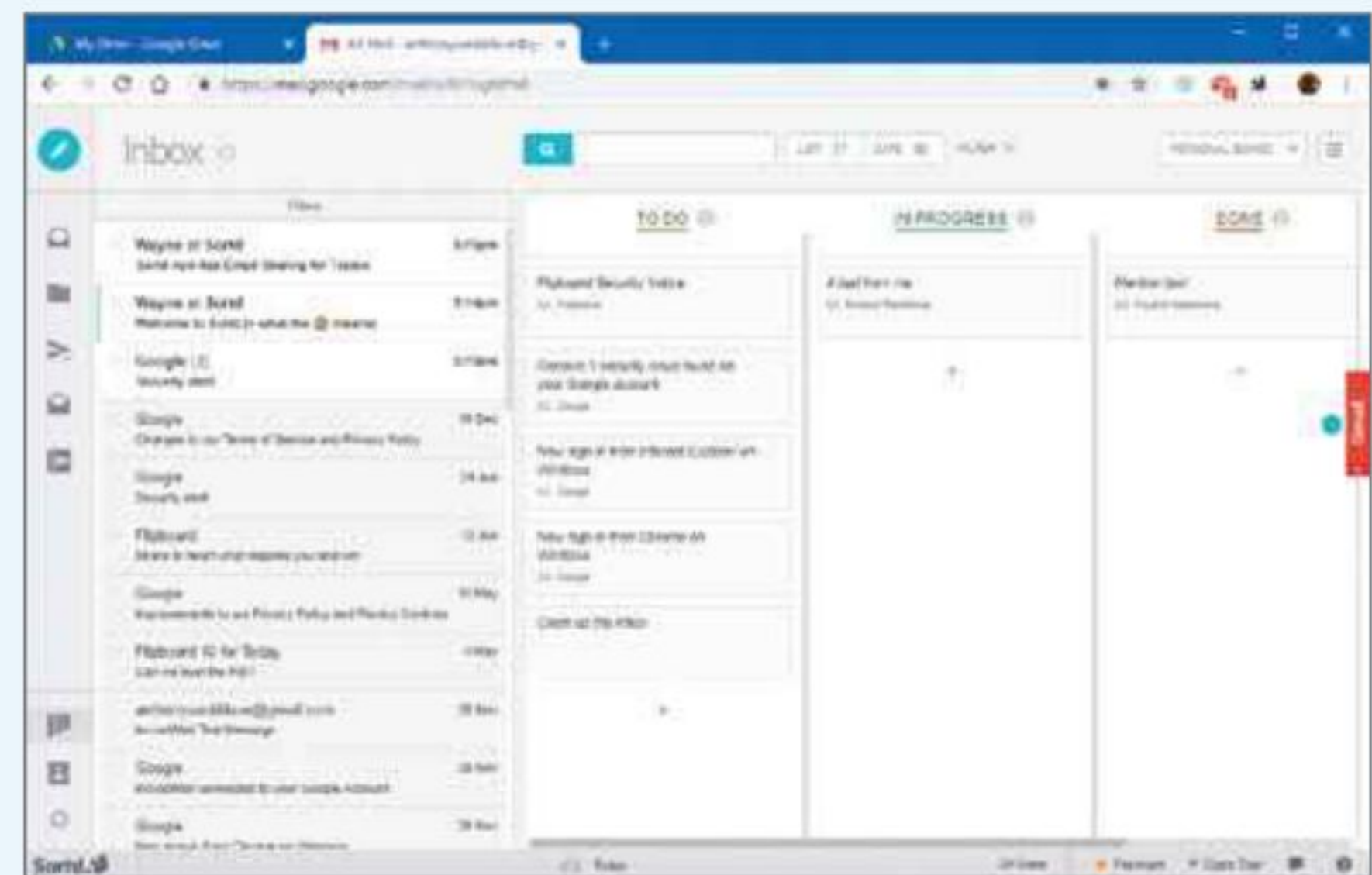
After installing the extension and answering a series of questions (a bit intrusive, but it's a free service), you get four columns. The first column is your inbox. Emails that require some sort of action from you, such as a reply, can be dragged from the inbox and dropped in the To Do column.

On completing a task, such as replying to an email, drag it to the Done column. If an email requires some work that will take time, it can be dragged to the In Progress column. Then, when it's finished, you can drag it to Done.

Sortd gives you an overview of your inbox that allows you to see immediately which tasks have been completed and what still needs to be done. It takes a little while to get used to at first but this style of task manager is becoming increasingly popular.

Other tasks can be added to the lists and clicking the plus button at the bottom of a column lets you add a task or to-do. Click Personal Board, top-left, to create other boards that can be used to store tasks and to-do items.

To get back to the normal Gmail inbox, click the cog icon in the bottom-left corner and log out.



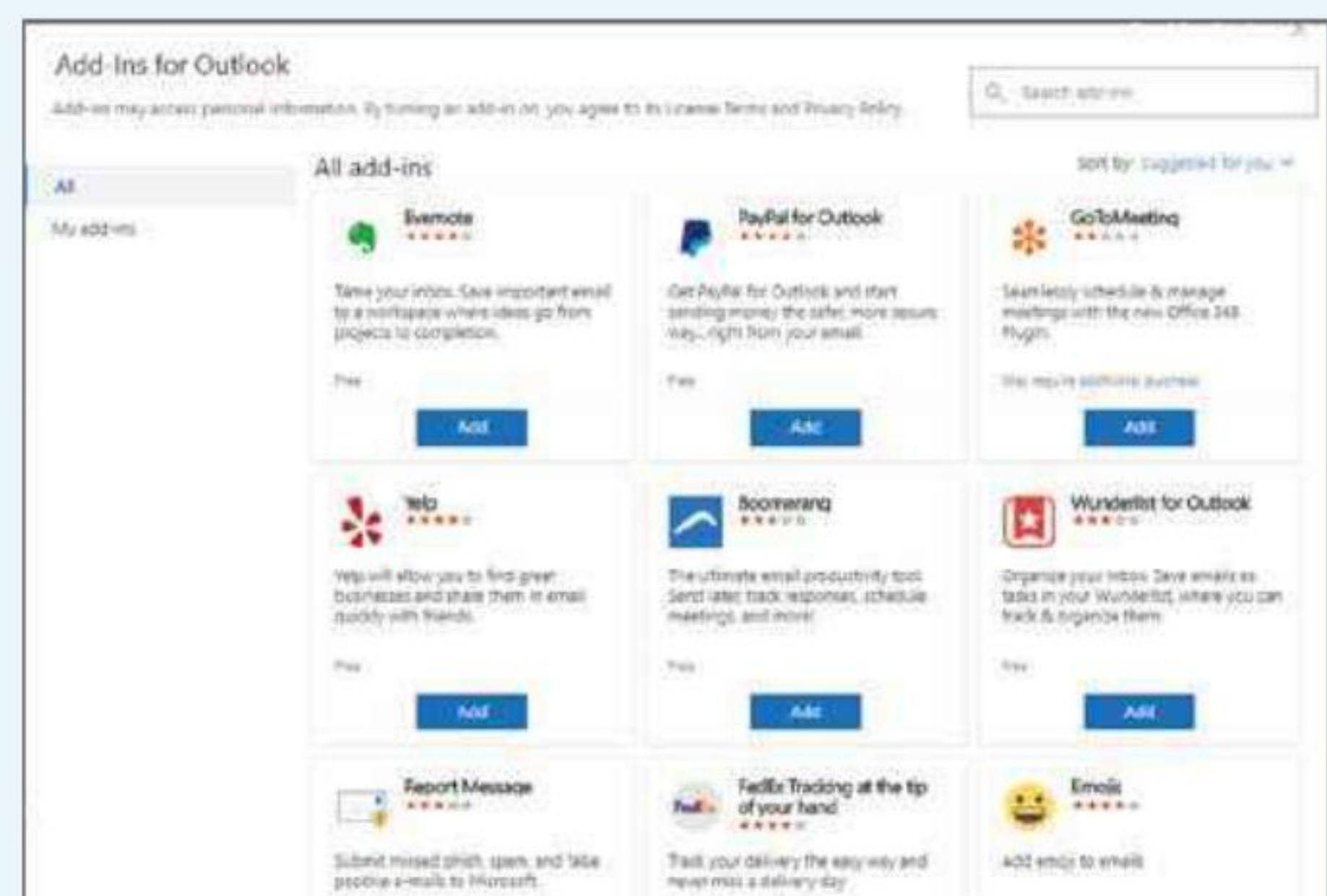
Sortd turns your emails into tasks and adds them to Kanban-style boards of vertical columns

Get Outlook add-ins

There are extra features you can add to Outlook webmail but they're not easy to find. Go to outlook.live.com and create a new email – below the compose window, you'll see a toolbar. Click the three-dot button to open the menu and select 'Get Add-ins'.

There are dozens of add-ins available but many of them are designed for business users and require payment. However, there are some good free ones for personal use, such as Evernote (evernote.com), which enables emails to be saved to an Evernote workspace; and Asana (asana.com), which saves them as tasks and to-do items.

The PayPal add-in lets you send money via email, while Boomerang is more of a business tool for tracking emails – scheduling them and so on – but you can get a free account that has a few imposed limits. The Emojis add-in lets you add emoji characters to your messages, while Giphy and Giphycat provides the same function for animated GIFs.



Add-ins for Outlook add extra features to the webmail service

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



GENERAL PC

Fix a persistent driver error

Q Every now and then, I get the following error code: DRIVER_IRQL_NOT_LESS_OR_EQUAL (iaStorA.sys).

I don't know what triggers it, but the result is a blue screen which I can only get rid of by restarting my PC. I've tried updating the drivers and running a Windows memory diagnostic check, but with no luck. I have a Dell desktop PC running Windows 8.1. What does the error mean and how do I fix it?

Roger Keene, via email

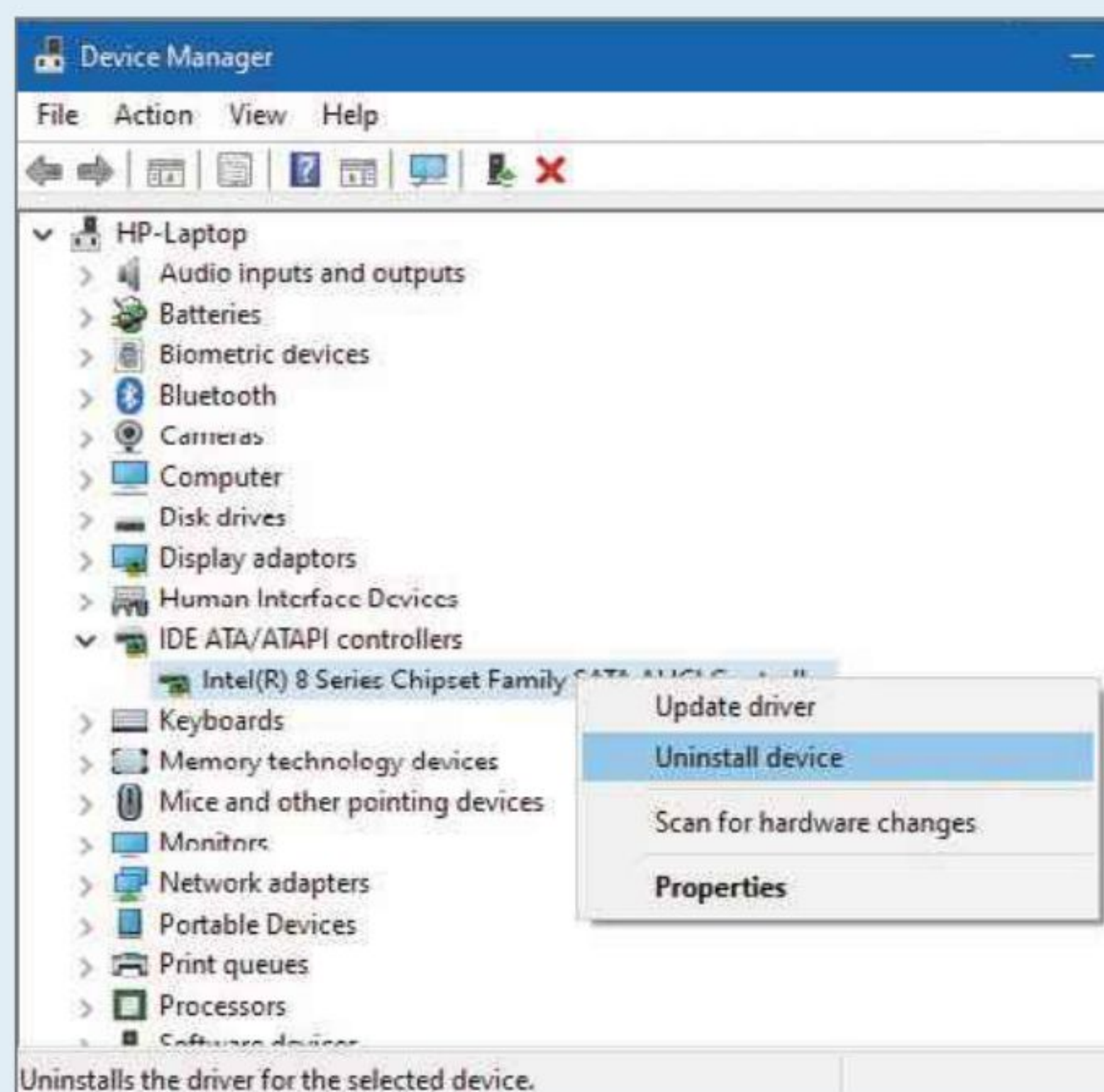
A This is a low-level error where the iaStorA.sys file is probably being blocked from accessing memory by a bug in the driver. The file is from Intel's Rapid Storage Technology, and you can download the necessary drivers from Intel's website. Go to downloadcenter.intel.com and click the option to 'Automatically update your drivers'.

If that doesn't do the trick, type **Intel RST** in the search box. Among the results, you'll see 'Intel Rapid

Storage Technology (AHCI) for Windows 7/8 on Intel Desktop Boards' (bit.ly/irstid480) and 'Intel Rapid Storage Technology (RAID) for Intel 6 Series Chipset-Based Desktop Boards' (bit.ly/irstsc480).

One of these should be compatible with your PC.

Some people have found that simply removing the driver solves the problem. Start typing **device manager** in the taskbar's search box and press Enter when it appears on the list. Expand 'IDE ATA/ATAPI controllers', right-click each of the drivers and select Uninstall, then close the Device Manager



Uninstalling a device in Windows doesn't stop it working - it reinstalls the driver, which can sometimes fix bugs

and restart your PC. Windows will automatically install new drivers, and the replacements may work better than the ones you currently have.

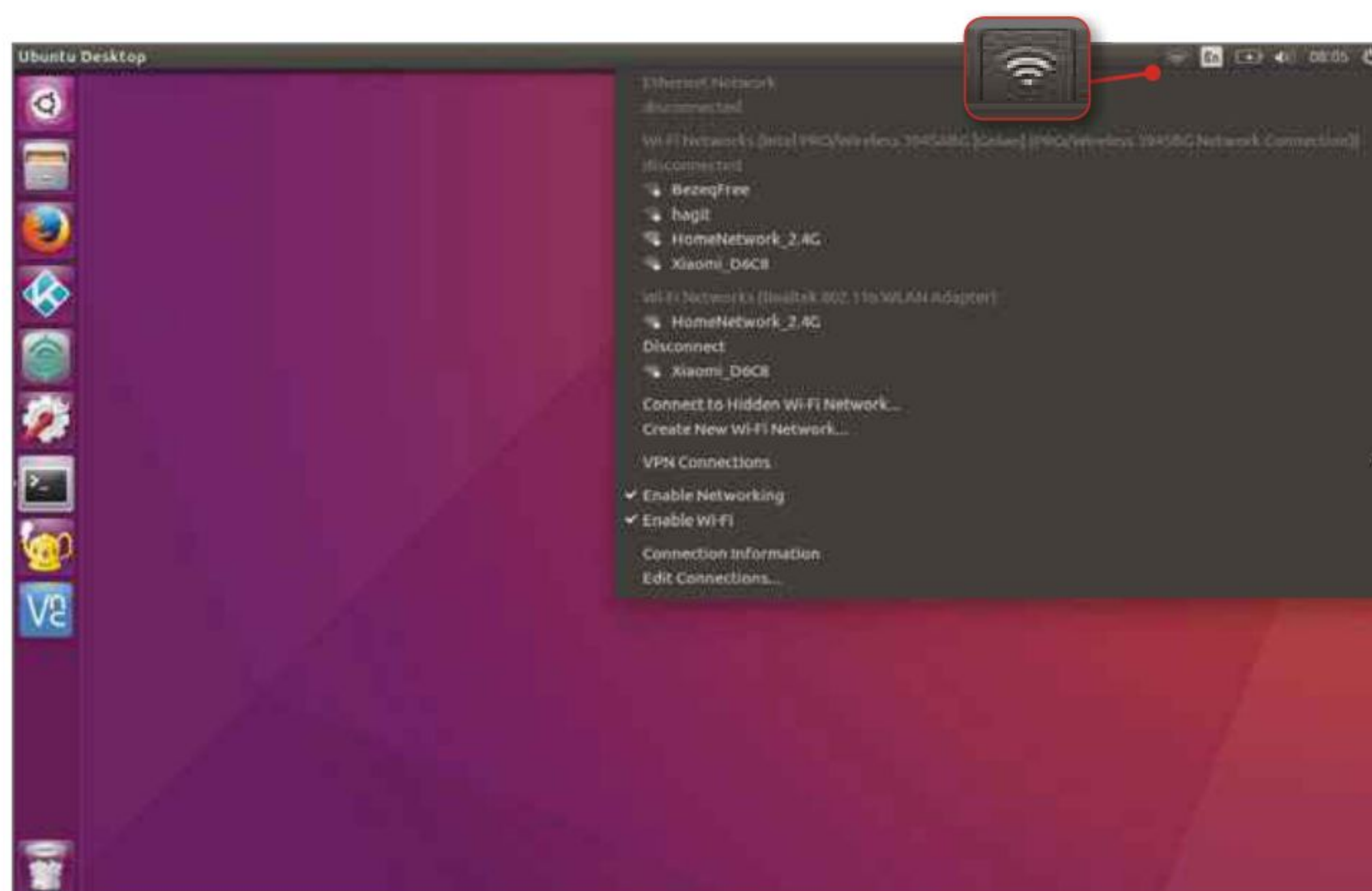
HARDWARE

Try Ubuntu from a USB stick

Q In your cover feature for Issue 477 (bit.ly/webuser477), you explained how to run software from a USB Stick, but I'm afraid your advice doesn't seem to apply to a 15in HP Pavilion laptop running Windows 10 Version 1903. I've spent a whole day trying to get my notebook to boot into Ubuntu.

I managed to get my desktop PC, which runs Windows 10 Version 1903, to boot into the trial version of Ubuntu from the USB stick without any trouble, but it failed to find the wireless dongle, so I couldn't connect to the internet.

Then came the multiple attempts at getting the laptop to boot from the USB. HP's help is worse than useless, and YouTube let me down, too. I tried disabling Secure Boot and changing the



Click Ubuntu's Wi-Fi symbol to configure its connectivity settings



boot order. There are only two USB choices, but neither worked.

I got as far as a warning that Secure Boot has been disabled and that I need to type in a code and press Enter. I did this, although the number I typed never appeared on the screen, and for the 23rd time the laptop booted into Windows 10.

Billy Armstrong, via email

A To boot your PC from an external USB device, first switch it on and plug the device into a USB port. Hold down the power button to power off the PC, then switch it on again and keep pressing the Esc key every second until the Startup Menu appears. Press F9, which should open the Boot Device Options, and use the up and down arrow keys to select your USB device, then press Enter to boot from it.

It's usual to have two or more USB ports, so if one doesn't work, try another. If you can't select the USB device you want to boot from, make sure Secure Boot is disabled (see bit.ly/hpsb480 halfway down the page). If a message appears saying Bootmgr is missing, it's probably because the USB device hasn't been made bootable. If so, try recreating it.

The problem with Wi-Fi on your desktop PC could be due to Ubuntu failing to detect the hardware or not loading the driver – if it even has one.

Linux is great when it works, but fixing problems often involves entering complex terminal commands that may or may not work. Open a Terminal window and type `sudo lsmod`, then press Enter. Look through the list of modules for the name of the wireless adapter chipset (if you don't know what it is, run Device Manager in Windows and expand 'Network adapters' to find out). Type `sudo modprobe module-name` and press Enter.

Visit the Wi-Fi adapter manufacturer's website (in Windows) to see if there is an Ubuntu driver available that you can download. Save it to a location that you can access after booting into Ubuntu.

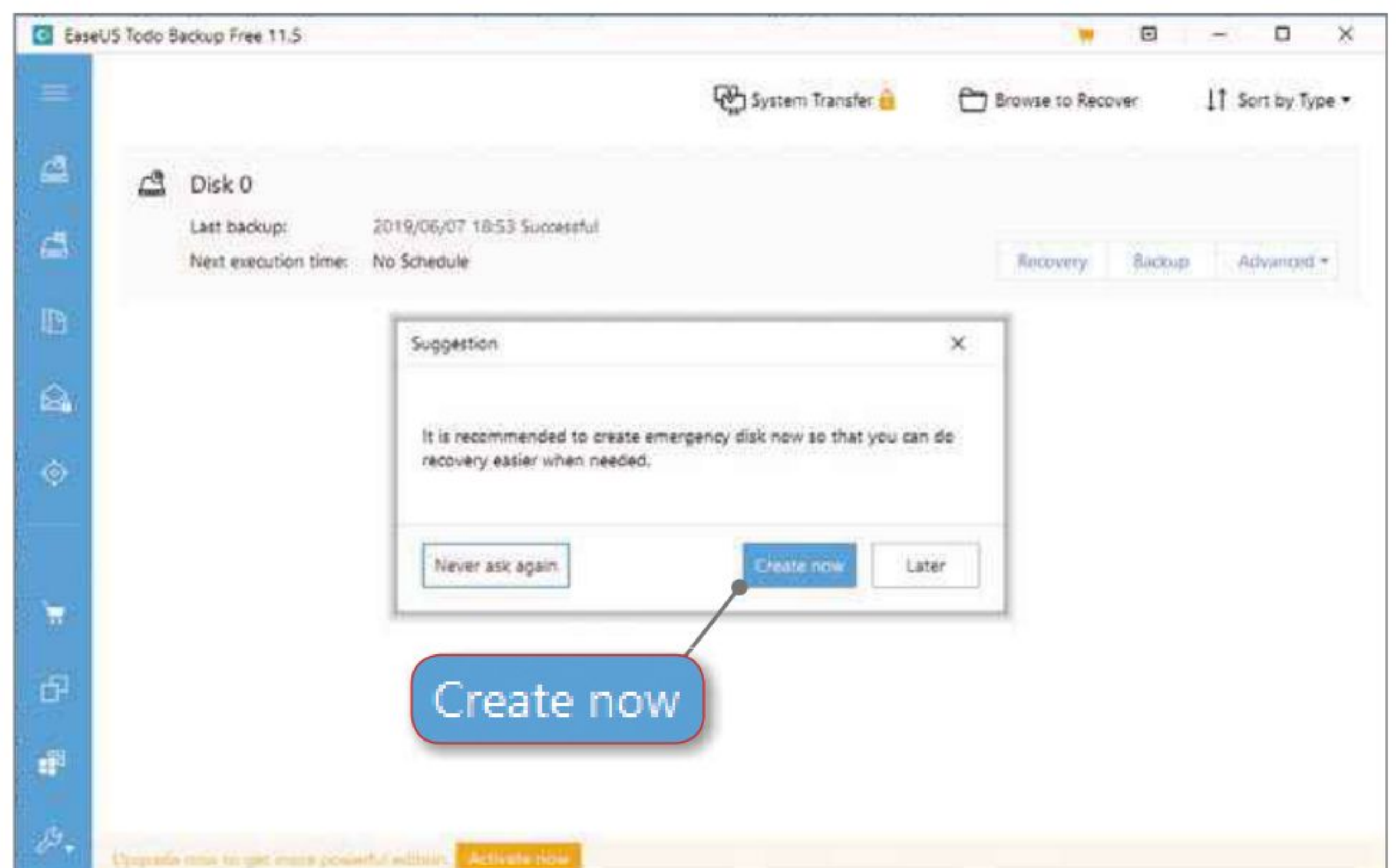
HARDWARE

Secure a noisy hard drive

Q My computer's hard drive has started making a noticeable noise. It used to be silent, except for the fan, but now it makes all sorts of strange noises, including a clicking sound. I'm worried that the drive may be failing. What should I do?

Adrian Cole, via email

A Your hard drive should make barely any noise, so this is not a good sign and means the drive could fail at any



Backup software is free insurance for your hard drive. Make a backup and an emergency disk you can boot from

moment. If you haven't already done so, get a USB hard drive of equal size or larger and use backup software to create a full system image, which is a complete backup of the drive and all its partitions. Most backup software, such

as EaseUS Todo Backup Free (bit.ly/easetbf480), can do this. Once you've created a backup, continue to make daily incremental backups, which only adds files that have changed since the last backup. If or when the drive fails,

NETWORKING

Fix IP address clash in network printer

Q I installed an Epson XP-255 Wi-Fi printer using the disc provided. I can print from my laptop when I'm not using the internet, but when the wireless printer is switched on, I can't get an internet connection on my laptop. If I turn off the wireless printer, the internet comes back on my laptop.

Gee Sherlock, via email

A It sounds like there is a network clash between the printer and the PC. Every device on the network must have a unique IP address – if two are the same, one or both devices won't be able to access the network.

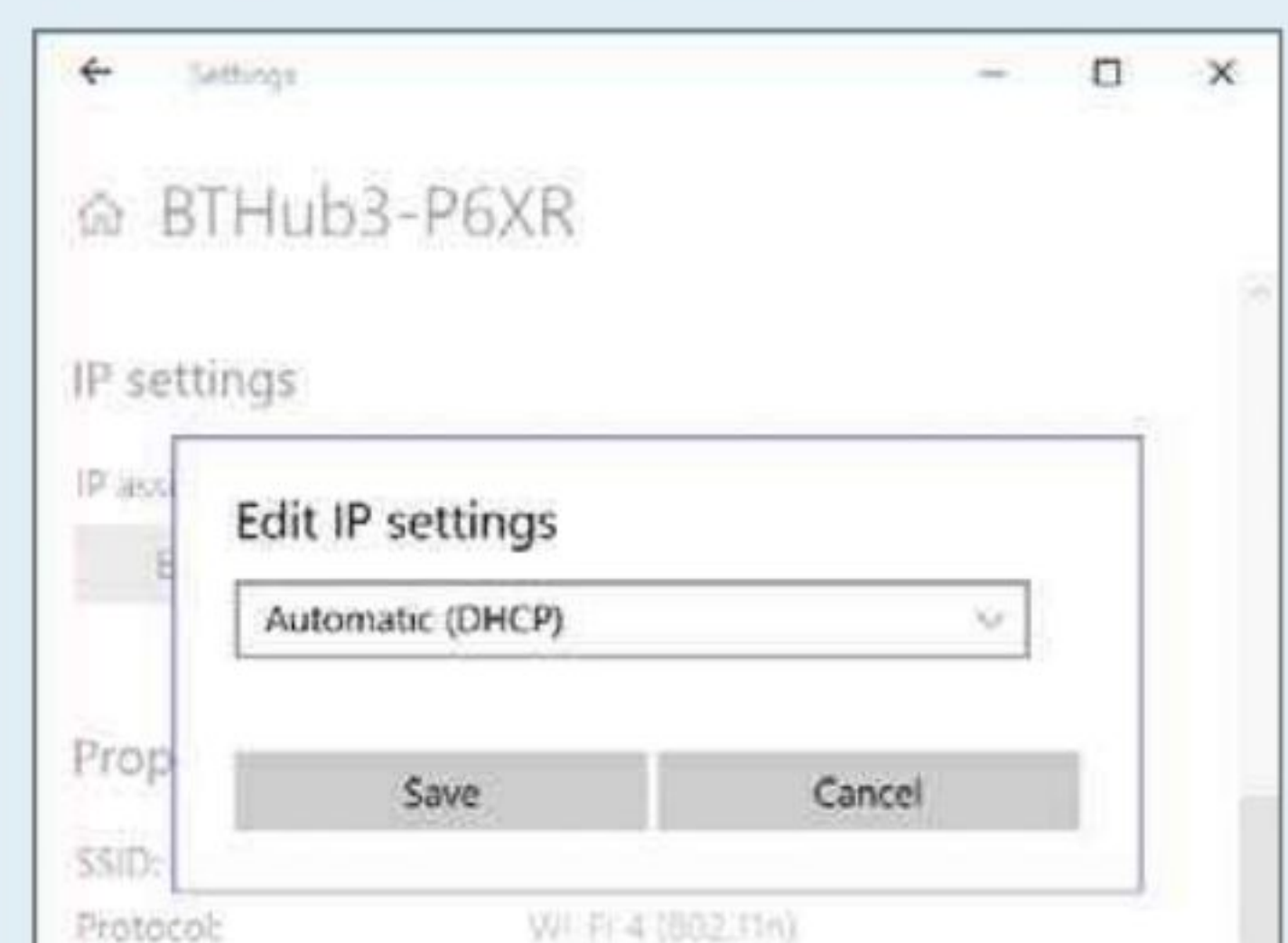
Switch off everything that uses the internet, including your PC, phone, tablet, TV box, printer and even the router. Now turn each device on again, starting with the router, allowing each one time to boot up before turning on the next. Routers automatically assign each device a unique IP address, so when everything is back on again, they should all be different.

If the problem persists, your devices may have fixed IP addresses. It's possible that you've set these manually, and accidentally given two devices

the same address. In Windows, right-click the Wi-Fi icon in the notification area and select 'Open Network & Internet settings'.

The 'Network troubleshooter' is worth trying, but if that doesn't help, click 'Change adapter options'. Right-click Wi-Fi in the next window and choose Properties, then double-click Internet Protocol Version 4. The next window should say 'Obtain an IP address automatically'. The printer should also obtain its IP address automatically, so check its setup, too.

Alternatively, go to Settings, Network & Internet, Status, 'Change connection properties', and choose Edit under 'IP settings'.



IP addresses should be set to automatic to avoid accidental clashes



replace it and restore your backup. Make sure you have a rescue CD or USB stick ready so you can boot your PC.

A full backup is the best option, but it may also be helpful to store important files in OneDrive, Google Drive or Dropbox, because they keep a copy online. If the drive fails, your important files will still be safe in the cloud.

BROWSERS

Stop Chrome typing backwards

Q I've had a strange intermittent problem with Chrome for a while: sometimes when I'm typing in the browser, the words appear backwards – 'Web User' appears as 'resU beW', for example. The problem usually goes away if I reboot my PC, and it only affects Chrome. What on earth is going on? Is it a bug?

Sam Woods, via email

A This is probably caused by a bad Chrome extension. It could be a bug – or even a joke! One way to find out is to open an incognito window, which disables all extensions. We suspect the problem will go away. If it does, go to the menu, choose 'More tools', Extensions and disable any extensions you don't recognise.

Another possible solution is to type **chrome://flags** in the address bar, which reveals many hidden Chrome settings. If you look down the list of items, you'll find two that affect the text direction: 'Force UI direction' and 'Force

Experiments

75.0.3770.100

Available

Unavailable

Force UI direction

Explicitly force the UI to left-to-right (LTR) or right-to-left (RTL) mode, overriding the default direction of the UI language. – Mac, Windows, Linux, Chrome OS, Android

[#force-ui-direction](#)

Default

Force text direction

Explicitly force the per-character directionality of UI text to left-to-right (LTR) or right-to-left (RTL) mode, overriding the default direction of the character language. – Mac, Windows, Linux, Chrome OS, Android

[#force-text-direction](#)

Default

Bundled Connection Help

Enables or disables **redirection** to local help content for users who get an interstitial after clicking the 'Learn More' link on a previous interstitial. – Mac, Windows, Linux, Chrome OS, Android

[#BundledConnectionHelp](#)

Default

Search Chrome's Experiments settings for 'direction' to stop text typing backwards

text direction'. Both of these are usually set to Default, but there are options to select 'Right-to-left' and 'Left-to-right'. Set them to 'Left-to-right'.

HARDWARE

Fix a mouse-wheel problem

Q My mouse has developed a really annoying fault. When browsing the web, I like to spin the wheel to scroll because it's easier than clicking and dragging the scrollbar, but it's become erratic and spinning the wheel either has no effect at all or, more often, scrolling is jerky, erratic and impossible to control.

Cameron Moore, via email

A If your mouse is battery powered, try replacing the batteries. If that doesn't help, the wheel mechanism may be worn out. It's a mechanical controller so is susceptible to faults due to wear and tear. You may need a new mouse.

The problem is less likely to be a software fault, but there's no harm in checking. Open the Control Panel, then Mouse. Select the Wheel tab and change how many lines and characters the mouse wheel scrolls at a time. Click Apply and try it out. If there is no difference, the problem is probably a hardware fault. You could try dissecting the mouse, cleaning it and reassembling it, but it's less hassle to buy a new one.

While you're waiting for your new mouse to arrive, you can try a few alternatives to spinning the mouse wheel. If you press on the mouse wheel while viewing a web page in Chrome, the pointer turns into a four-headed arrow inside a circle. Moving up from the centre of the screen scrolls the page down, and moving down scrolls up. The up and down keys on the keyboard also scroll web pages, but you may need to left-click the page first.

ONLINE STORAGE

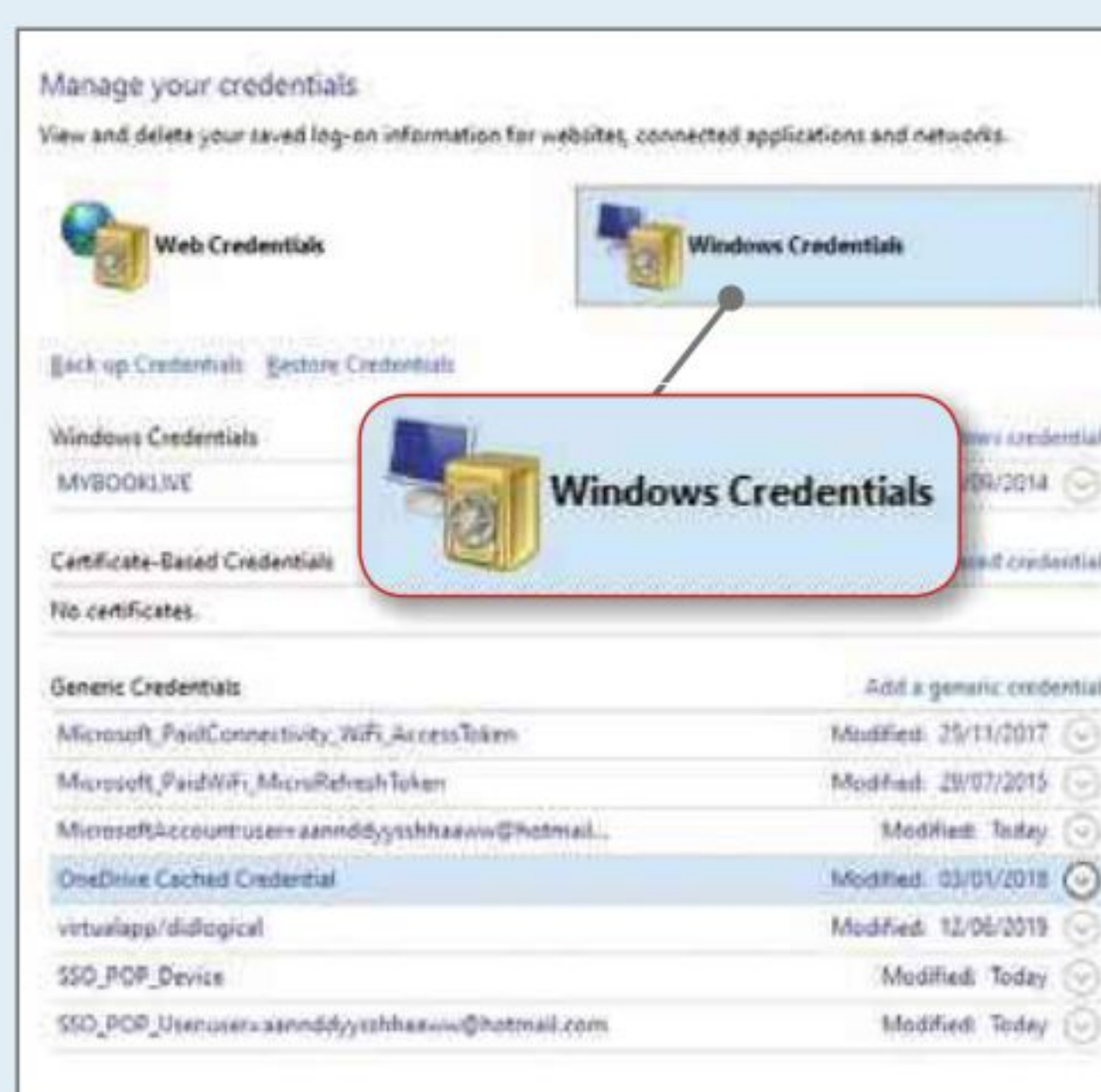
Unlock OneDrive

Q The OneDrive app on my PC won't connect to my OneDrive account. I can log into the website through a browser, but the OneDrive folder on my PC has stopped syncing because it can't sign in.

Mark Egan, via email

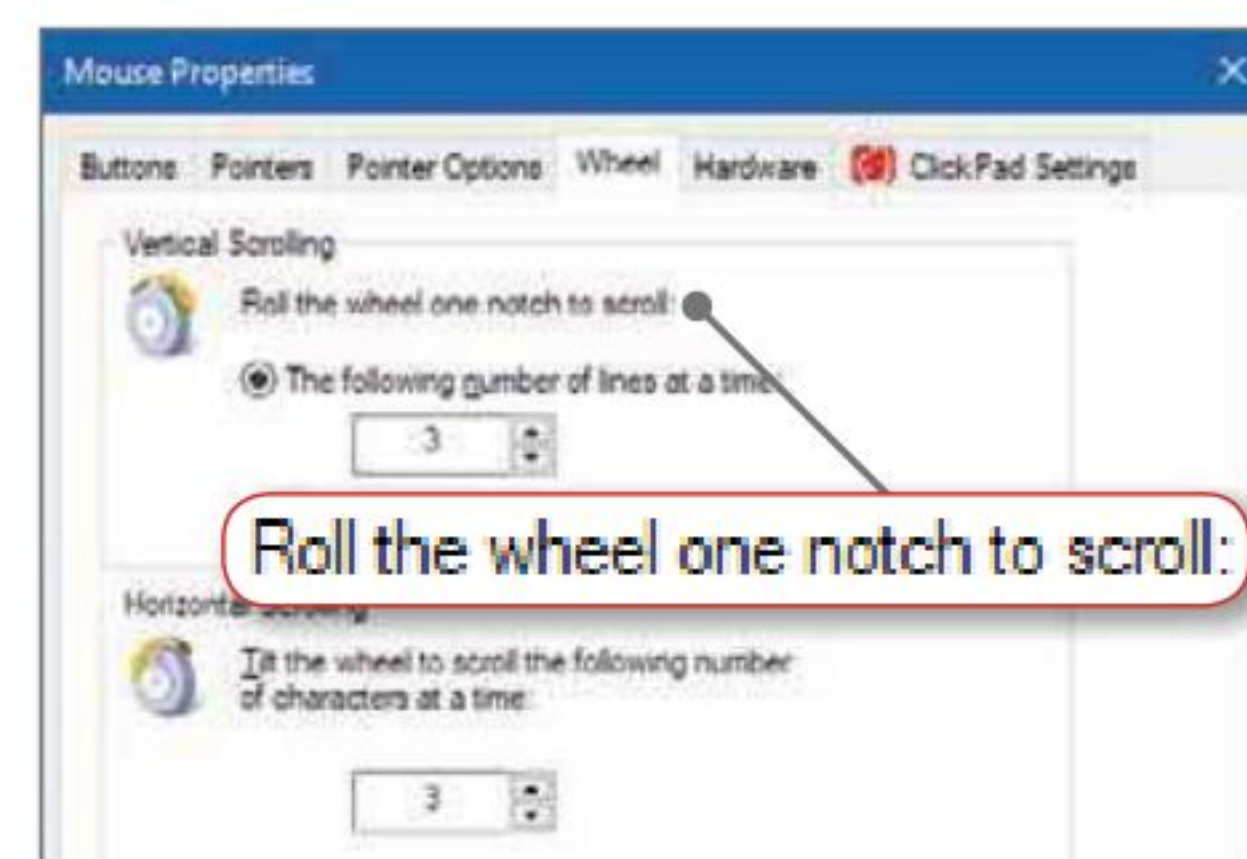
A Start with the simplest fix: right-click the OneDrive icon in the taskbar and select Close OneDrive, then restart Windows to see if OneDrive starts properly.

If not, search Windows for the Credential Manager, which is where all your login details are stored. Select Windows Credentials, click OneDrive Cached Credential, then click Edit



Windows stores usernames and passwords for online services in Credential Manager

and update your username and password, or just click Remove. Search Windows for OneDrive, then Run the app to restart it.



Adjust the sensitivity of your mouse's scroll wheel in Mouse Properties



This fortnight Roland has been keeping cool in the heat thanks to a USB-powered fan plugged into his PC



Readers' Helpdesk

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

WEBSITES

Get notifications when websites are updated

Q Part of my routine as a journalist is to check for updates on web pages I've bookmarked. This can be very time-consuming, and I wonder if there is a way to automate the process? I don't need to be alerted when minor changes are made to the websites I regularly look at, but it would be very useful to receive an email alert for major changes, such as the addition of an article.

Mark Bowen, via email

A We hate to think how many hours you spend clicking Refresh on your favourite websites, Mark, and you have our sympathies!

We can recommend some tools to help you out, but it's worth pointing out that most of them charge a monthly subscription (because everything does these days). Free versions tend to limit the number of checks you can make per day, but if you're determined to dodge

this cost, you could set up a series of free accounts with different services checking different websites. Setting up alerts usually involves choosing a URL, giving your email and selecting how often you wish to scan for changes. The top website checkers are

Wachete (www.wachete.com), Visualping (visualping.io) and ChangeTower (changetower.com) – the latter two are particularly adept at detecting visual as well as text changes to a web page. If you don't mind an old-fashioned looking interface, try Follow That Page (www.followthatpage.com). It looks like it hasn't seen an update in a while, but



Get notified whenever your favourite sites are updated

READERS RESPOND

SEARCH

Search UK-only websites

A In Issue 472 (bit.ly/webuser472), Mike Nunn asked about UK-only search engines. After much searching, I stumbled on bit.ly/uws480, which has a multitude of UK-based search engines. The Google search box is particularly good and seems to filter out foreign results to show UK-only websites, which is great when I'm shopping.

Michael DuPont, via email

Despite Google's best efforts, it is possible to search UK-only websites



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.

SOFTWARE

Q The Anyget Windows 10 app is no longer available for PC from the Microsoft Store. Can you recommend an alternative?

Edward Brown, via Facebook

APPS

Q Is there an Android app that can combine all my social-media accounts in one place, so I can check them all in one go?

Chloe Weston, via email

offers a generous 20 checks per day and a filter for blocking out parts of a site you're not interested in. If you need an option with Chrome extension support, try Distill (distill.io) – we like it so much we're doing a workshop on it next issue.

You could also download the Web Alert app for Android (bit.ly/alert480), developed by students at the University of Hamburg. Note that the developer says the app won't work on JavaScript-heavy sites, though.

Steve Clark, Features Writer, Web User

BROWSER TOOLS

Disable add-ons that remove website overlays

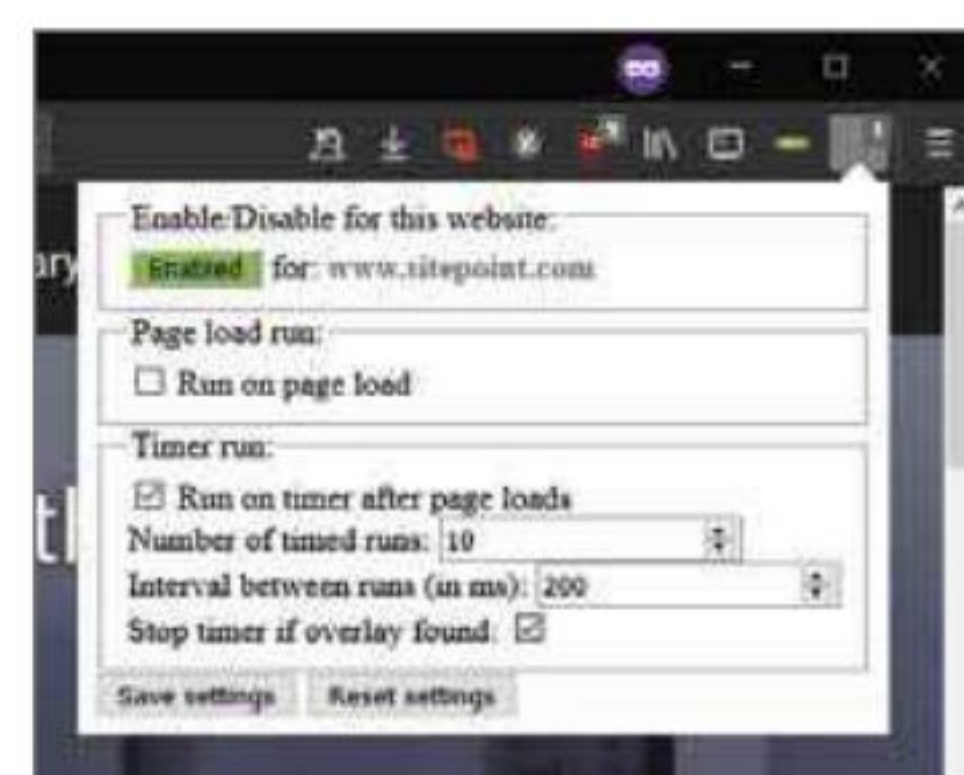
Q Just how much research did Web User do on Overlay Remove Auto, the Firefox add-on that stops overlays on websites (Best New Browser Tools in Issue 477, bit.ly/webuser477)? I installed it and was immediately unable to log into Outlook, Gmail or Protonmail. Disabling

the add-on fixed this, so I've binned it after just a couple of hours.

Robert Eaglesham, via email

A Sorry to hear you've had problems with the add-on, Robert. The Web User team checks every browser tool thoroughly but in this case, we should've made clear that it removes content from certain websites, such as Google and YouTube, so you need to disable it. The developer says they are "working on a new version which will have the option to be disabled by default and only auto hide on enabled sites". Hope that helps!

Steve Clark, Features Writer, Web User



You may need to sometimes disable Overlay Remove Auto

Your Top Tips

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



TOP TIP

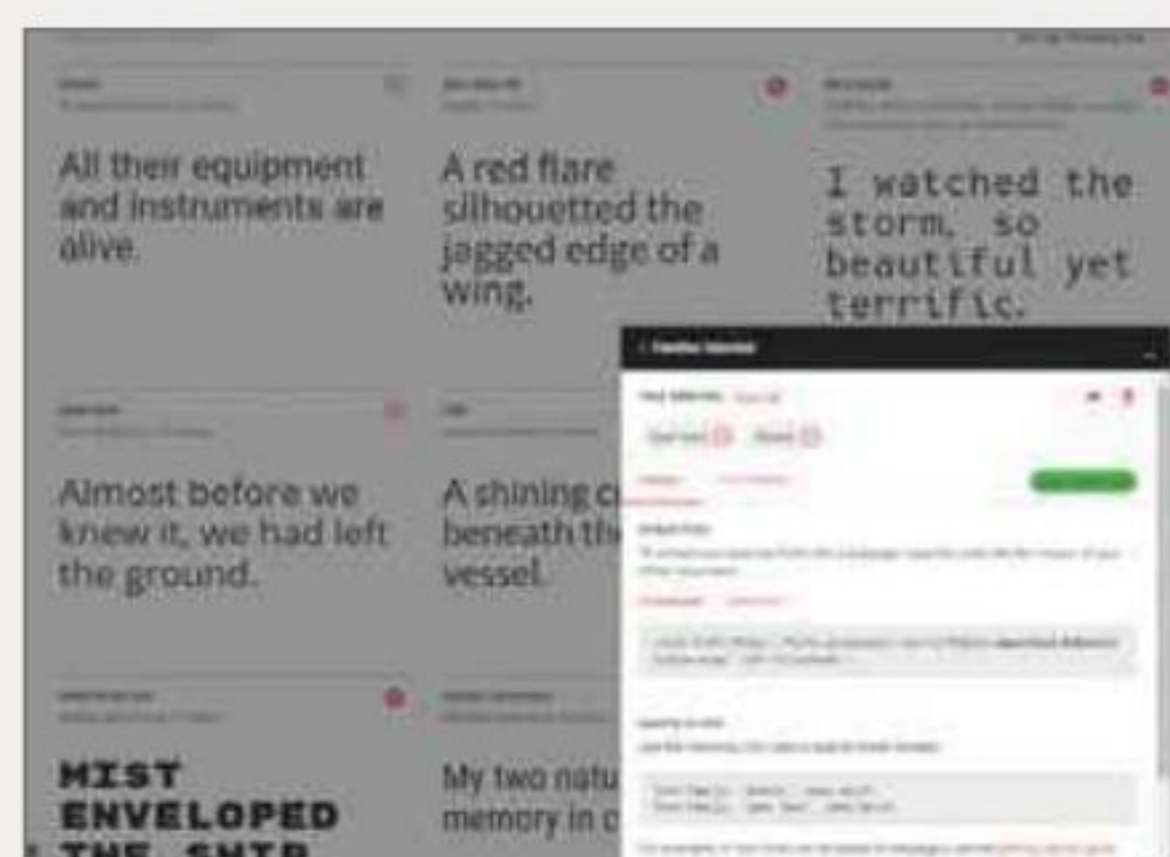
GOOGLE

Get hundreds of fonts free

In Issue 477, R Johnson told us how to get more fonts from the Microsoft Store. Well, Google Fonts offers an additional 916 fonts, and here's how to get them: visit fonts.google.com on your Windows PC and click the '+' button to select the fonts you like. Next, click the download arrow to save the selected fonts as a single Zip file to your computer.

To install the fonts, open the Zip file using File Explorer (there's no need to extract the files) and you're presented with one or more folders – one for each font you selected. Open the folder (named after the font) and read the Open Font License (OFL) text file. Now, double-click the TrueType font file to preview it and, if you like what you see, click Install to complete the task. Repeat this step for each font.

Bonus tip: If you use Microsoft Word and regularly share documents in Google Docs, install Roboto and use it



Google offers 916 fonts you can install on your PC for free

instead of Calibri (the default for new Word documents). This ensures your documents look the same on both word processors and will make differences in layout, such as page and line endings, a thing of the past.

Font trivia: Roboto is the system font for Android devices. Google developed the font to be “modern, yet approachable”.

Richard Edwards, via email

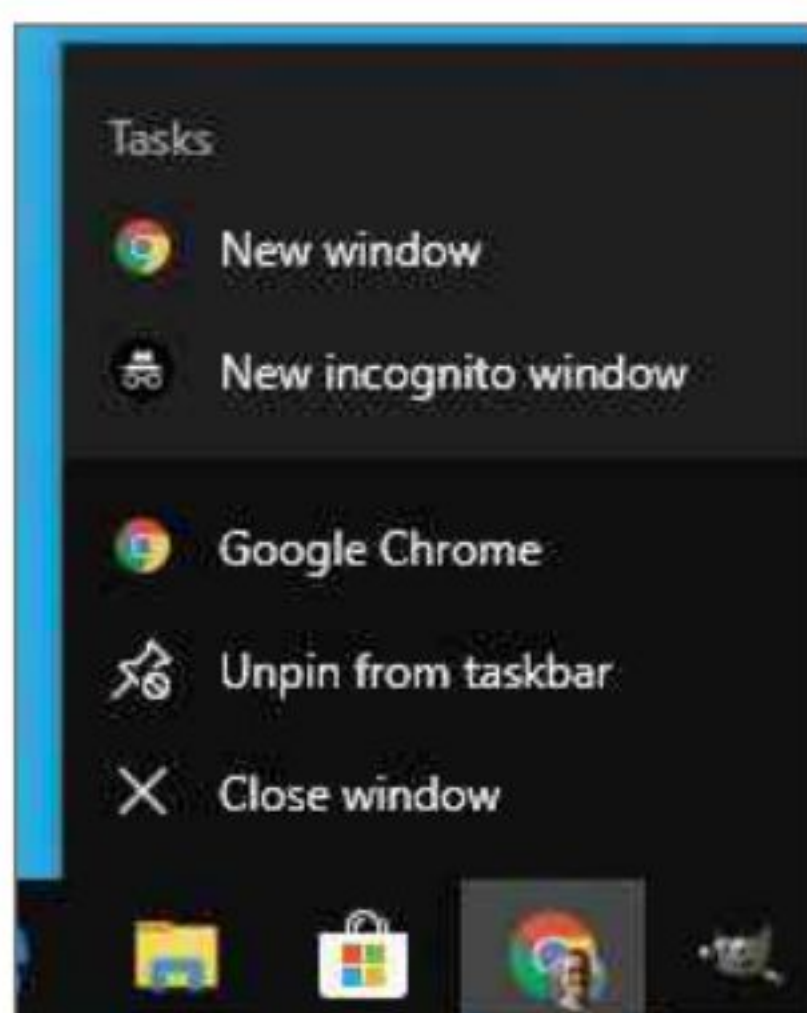
WINDOWS

Control Windows jump lists

It's useful to keep your most used programs, such as Chrome, on the Windows taskbar so they are easy to access. When you right-click these icons, you may see a list of recent or most used actions in a 'jump list'. This is handy for reopening a recent file, going to a website, opening an incognito window and so on.

Here are a few of my favourite tips for jump lists. When you hover the mouse over a jump-list item,

Use the Settings app to hide jump lists' recently accessed files and websites



click the pin icon on the right to keep it permanently on the menu, or it may be removed. If there are items you don't want to see again, right-click them and select 'Remove from this list'.

Jump lists show recently accessed files and websites, which you may want to keep private if you share a computer. To disable them, open the Settings app and go to Personalisation, then Start. Switch off 'Show recently opened items in Jump Lists on Start or the taskbar...'. The jump lists will still show tasks, such as 'New incognito window' for Chrome, but not recently accessed sites.

Paul Bowen, via email

GENERAL PC

Move programs between desktops

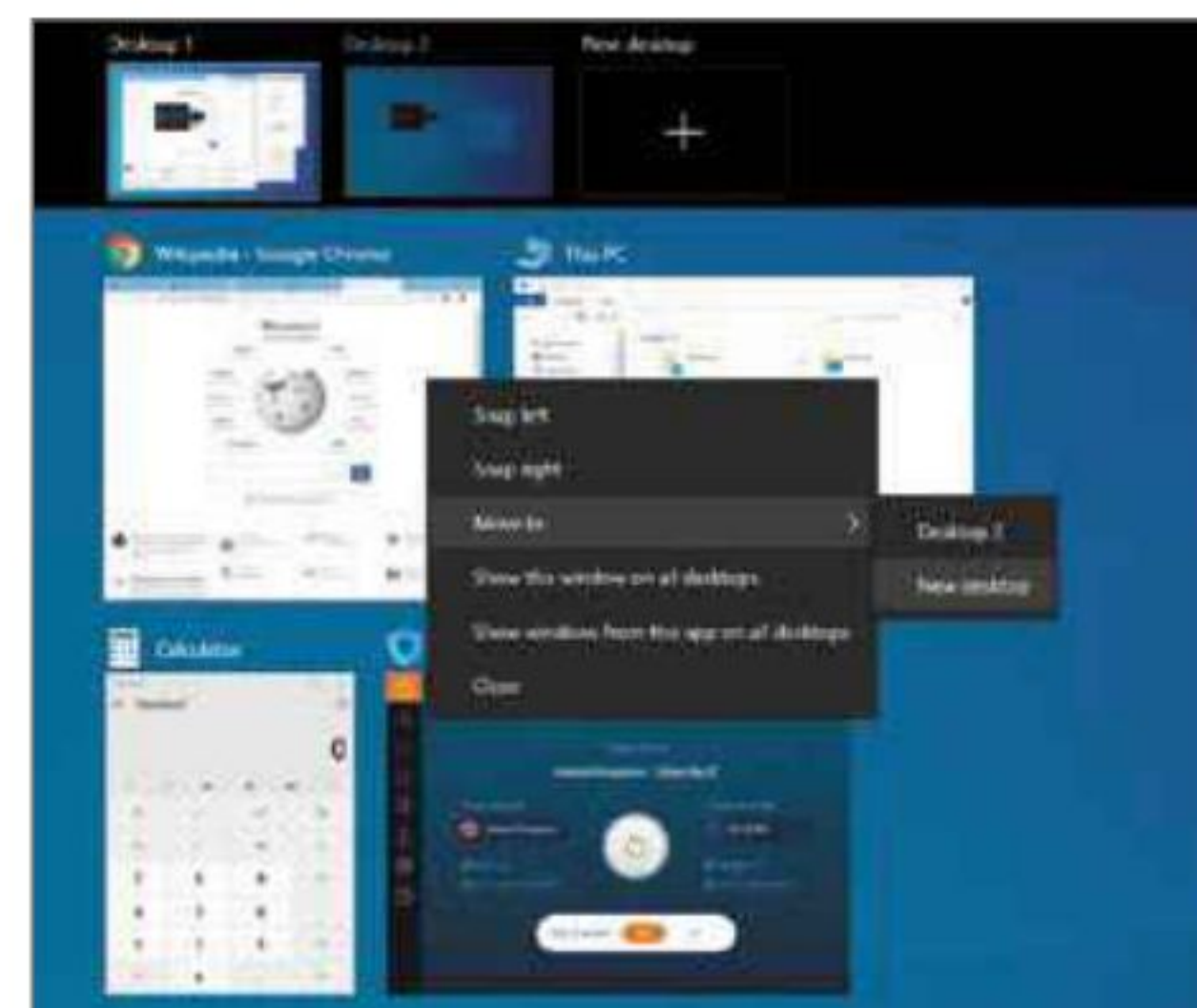
My desktop often ends up crowded with the many programs I have open. One solution is to have more than one

desktop. Press Windows+Tab and you'll see an option at the top of the screen to make new desktops, along with thumbnails of all open programs and desktops. You can drag a program to a new desktop to get more screen space, then press Ctrl+Windows+left/right arrow keys to switch between them.

Press Windows+Tab and right-click a program thumbnail image to see a menu of options that let you snap a window to the left or right side of the screen, and choose another one to fill the other side. You can also show a specific window or all the windows from a particular program on all desktops, which is useful for tools you may be using on every desktop, such as notes or a calculator. You can also create a new desktop and move the program to it with one click.

I've found that two desktops is the ideal number – any more than that and I spend too much time switching between them.

Adam Coleman, via email



Create extra desktops and move program windows between them with Task View

WINDOWS

Remove the ribbon from File Explorer

I've never been a fan of the ribbon interface in File Explorer, but I didn't fancy toying with Registry hacks to remove it. Now I don't need to, thanks to Ribbon Disabler (bit.ly/ribbon480).



It's made by the same chap behind the much-loved Winaero and after unzipping and running the file, it completely eradicates the ribbon, giving File Explorer a much cleaner appearance that's similar to the classic version.

Daniel Scott, via email



Bring back the old File Explorer look with Ribbon Disabler

GENERAL PC

Stop sharing clipboard contents

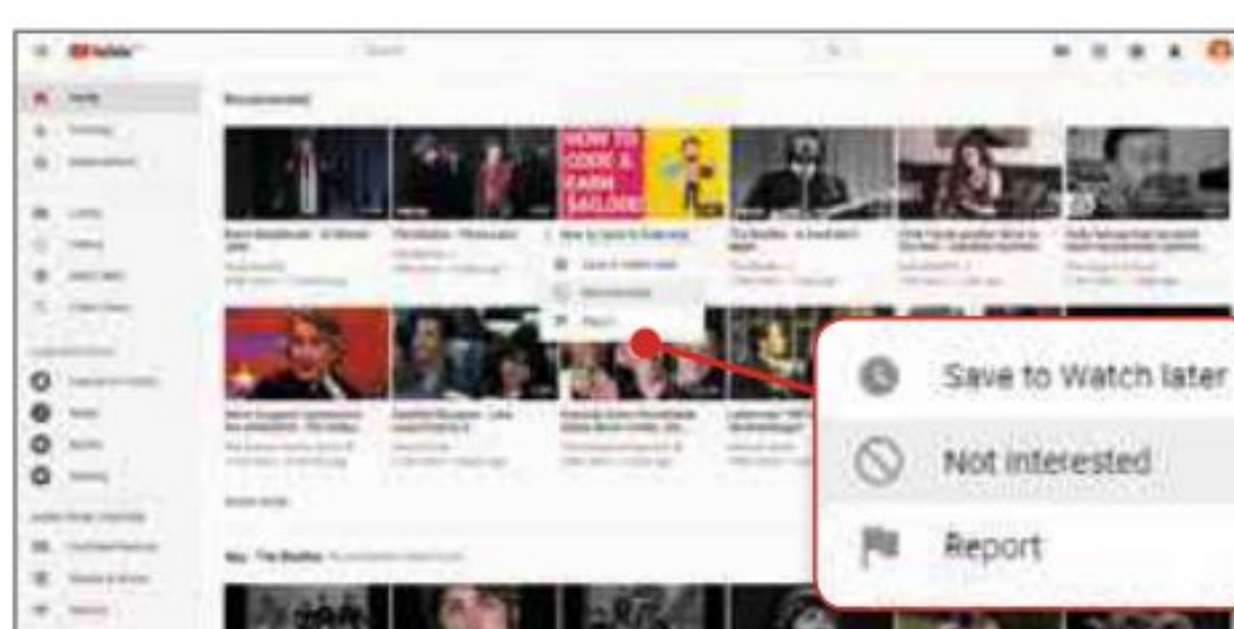
Did you know that Windows 10 has multiple clipboards? And that Microsoft receives a copy of everything you copy to the clipboard? If you don't like the idea of being spied on, here's how to stop it. Open Settings, System, Clipboard and see if 'Clipboard history' is on. This is a useful feature so you may want to leave it on, but below that you'll see an option to 'Sync across devices'. If this is on, clipboard text is being sent to your Microsoft account. To stop this, select 'Never automatically sync text that I copy'. Press Windows+V to see the clipboard items and click the three-dot button next to an item to show a menu containing an option to sync. You can choose which items to sync, which is more private than syncing everything.

Tim Morgan, via email

VIDEO

Change your YouTube recommendations

YouTube tries to figure out what sort of videos I'd like to see, but always seems to get it wrong. Often I get suggestions for videos that are only loosely related to my interests, or for guides that I'd previously searched for but no longer need. Now, though, Google has announced in a blog (bit.ly/youtube480) that it's updated the way you manage recommendations. It's well worth a read, but the main points are that you can



Take control of the recommendations you see on YouTube

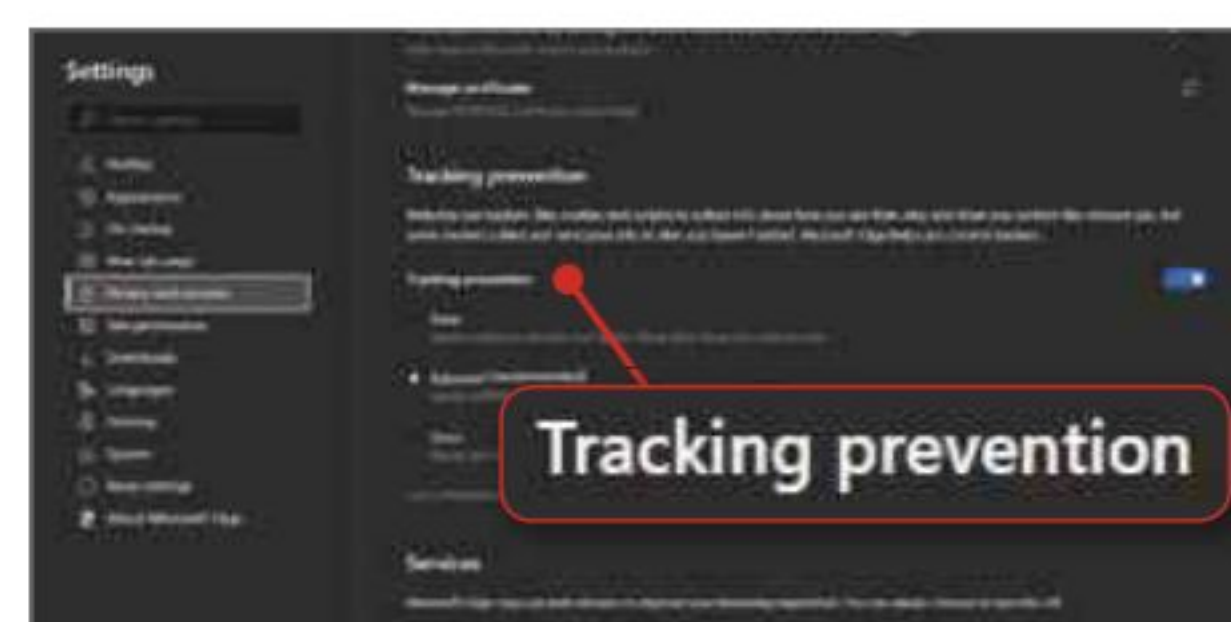
refine which topics appear on the homepage and Up Next videos (if you switch on autoplay). You can also stop certain channels appearing on your feed by clicking the three dots and selecting 'Don't recommend' or 'Not interested'. Goodbye algorithms, hello control!

Jonny MacDonald, via email

BROWSERS

Prevent tracking in Edge Chromium

I'm absolutely loving Microsoft's new Edge browser – thank you for continuing to cover it in the magazine. One thing I've noticed is that in the Canary version of the browser – the true beta – you're now able to stop websites from collecting your details by turning on the Tracker Prevention option. To set this up, open Edge Canary and type `edge://flags/#edge-tracking-prevention` in the address bar (alternatively, search `track` at `edge://flags`). Enable 'Microsoft Edge tracking prevention' and, after relaunching the browser, click the three dots and go to Settings, 'Privacy and services', then scroll down to 'Tracking prevention'. You can now choose the



Switch on Microsoft's Tracker Prevention to stop websites following you

level of prevention that suits you best, whether it's Basic, Balanced, or Strict.

Norman Costa, via email

SECURITY

Use Android as a two-factor authentication for iOS devices

Does anyone else hate two-factor authentication? I know it helps protect my accounts, but I also find it severely slows down my flow, particularly at work. I'm glad, therefore, to see that Google now lets you use your Android phone as a two-factor authentication device when logging into your iOS devices, which is great for people like me who use both. It does require a little bit of setup before use, though.

To start, add your account to your Google device and enrol for Google's '2-step Verification' at bit.ly/twostep480.

While you're there, add a security key – which, in this case, will be your Android phone.

Next, switch on Bluetooth on both your Android and iOS devices. Log into your Google account via the Google Smart Lock app, which can be downloaded at bit.ly/gsmart480. You'll be prompted to verify it's you, then you're good to go.

Rob Critchley, via email



Verify your identity on iOS using Google's two-step verification

BLUNDER OF THE FORTNIGHT

VIDEO

Create automated notes for YouTube videos

The number of hours I've spent trying to make notes on YouTube videos – pausing footage, switching to Notepad, losing my train of thought... Frankly, it's been an ordeal. But, as automation becomes the norm (see Issue 479), the Gnotes extension for Chrome (bit.ly/gnotes480) offers automated notes from YouTube videos. Go to any YouTube video, copy the URL, then click the Gnotes icon. Paste the link into the search box and the video appears below. When asked if you wish to share your screen, choose Chrome Tab, select the 'script.google.com' link



Let this Chrome browser tool make notes for you

and click Share. Open your video in full-screen and decide how long to take notes for, before choosing to Generate notes in Google Docs.

Joshua Chung, via email

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



Star Email

Why I'm sticking with Chrome – for now

It's all very well for *Web User* to tell us to stop using Chrome ('Stop using Google Chrome', Issue 479), but you seem to be forgetting that everything is now geared towards that browser. Websites are designed specifically to be displayed in Chrome, Android devices have it set as the default browser and make it hard to use another one, and all the useful browser add-ons you read about are only available for Chrome (and maybe Firefox, if you're lucky).

Much as I'd like to switch to a niche and more private browser, such as Vivaldi or Brave, I also want to be able to use the web without experiencing any problems. Chrome works perfectly

with my online bank account, and I can't take the risk of changing to a browser that might not. I also like the fact that my passwords and bookmarks are synced between my PC and my phone, and I don't see the point of losing that convenience just to use a "trendier" browser.

Google might be guilty of privacy invasion and bully-boy business practices, but there's a reason Chrome became the most popular browser



in the world, which is that it does everything you need and is built for the modern web in a way that predecessors such as Internet Explorer weren't. Why would other browsers copy the same code that is used by Chrome, if it wasn't doing something right?

I'm happy to try other browsers, but for the sake of an easy life I'm sticking with Chrome, at least until a truly superior alternative comes along.

Darren Graves, via email

Back Issues disc winner



He has gotten his facts wrong

In your Inbox section in Issue 479, Roger T takes Barry Collins to task for using the word "gotten" in his column. He says this "doesn't exist in the English vocabulary" and is an "American slang word", but he could hardly be more wrong.

'Gotten' was perfectly good English usage in the Middle Ages, before the USA even existed. For example, by the Coverdale Bible (1535): "Treasures that are wickedly gotten, profit nothing"; and by Shakespeare (Henry VI part 2, c1591): "Jack Cade hath gotten London Bridge".

Yes, 'gotten' faded out of use, but that doesn't mean it's never been a British English word. Oh, and it survives today in one usage – "ill-gotten gains", anyone?

James Gourley, via email

Tablets are far from dead

I read the other day that Google is going to stop making Android tablets because they're not selling well and therefore the tablet is 'dead'. This doesn't sound right to me – lots of people I know use tablets and rely on them more than their PCs.

Perhaps the reason that tablets aren't selling well is because they tend to last

longer than phones so you don't need to replace them as often. And because you don't carry your tablet around with you, it's less likely to be dropped, damaged or stolen.

Phones may have big screens these days, but they're still fiddly to use with many websites and too small to properly enjoy films on, while laptops are heavy and have poor battery life. Tablets are perfect for sitting back and relaxing, whether at home or on a train, and don't



disturb people around you.

Besides, the iPad is a tablet and that doesn't seem to be getting less popular. I think all this talk of tablets being dead is off the mark – I'll certainly be hanging on to mine.

Graham Fossey, via email

5G health risks are just speculation

Why are people making such a fuss about the health risks of 5G when there has been no proven link between the

Quiz Answers: Issue 479

1 **Airwolf**



2 **Knight Rider**



3 **Magnum PI**



4 **The X Files**



5 **Saved by the Bell**



6 **Buffy the Vampire Slayer**



WINNER!

Well done to **Michael Branning** who wins a Web User Back Issues Disc



WIKIPEDIA ARTICLE

AOL



technology and medical problems? Members of my local Facebook group have even started a



campaign to oppose 5G masts being set up in our area, because they allegedly cause cancer, autism and Alzheimer's. Based on what? Nothing but groundless speculation, from what I can tell.

Personally, I couldn't give a fig about 5G because I don't intend to be downloading films on my phone, especially when there is perfectly good Wi-Fi around. But I do object to people making a needless fuss about health risks when there is no solid evidence. As I understand it, 5G is simply an upgrade of the technology used by existing mobile networks, and no research so far has been able to establish a link between those and medical problems.

Surely there are bigger things for us to worry about at the moment, such as climate change and the economic fallout from a no-deal Brexit?

Jason Helms, via email

Dusty put High Wycombe on the map

I enjoyed browsing the People Map of the UK (bit.ly/people478), which appeared in your What's New Online section in Issue 478. However, I was saddened to see that the most famous person to be associated with High Wycombe is comedian James Corden, who once told the audience of his US chat show: "I'm from a place called High Wycombe, which you will almost certainly not have heard of, most people in Great Britain haven't heard of it."

I would much rather have seen Dusty Springfield's name on the map, as she was brought up in High Wycombe and is one of Britain's most beloved singers, or one of our many notable cricketers. I am not a big fan of Mr Corden, although I appreciate that he has done very well for himself in America.

Keith Shears, High Wycombe



What you say...

AMAZON JUST TURNED 25. WHAT WAS THE FIRST THING YOU BOUGHT FROM THE STORE?

A book: the *A to Z of Photoshop*. But when Amazon increased minimum postage for free delivery to £20, I stopped buying from them, so nothing in the last three years. I prefer eBay.

John Hewett

In 2003, I bought the DVD of *Pirates of the Caribbean - The Black Pearl*.

Maire Hardisty

A DVD player for £99. It was huge, but it could play video CDs. Before the age of DVD burners, this was the only way you could watch stuff on the big screen. Must have been about 1999.

Russell Cox @RussWWFC

Firefly: the Official Companion (to the TV series). The book was a present for my wife, as indeed are the vast majority of my Amazon purchases, to the extent that its suggestions reflect my wife's personality more than mine.

Rich Grove

I think I bought some camera film soon after I bought a digital camera in 1998, so there was no need for it. I think it was direct from the US.

Gavin Green

I believe it was a pair of 'budgie smugglers', which I never wore.

Chris Armstrong

A couple of CDs. Can't remember what they were, but I do remember thinking that £9 each was a bargain!

Kevin Salmon

Rechargeable batteries and a charger. I've long lost the charger. And the batteries.

Simon Mellor @4KBacon

YOU CAN NOW SWITCH MOBILE NETWORK VIA TEXT MESSAGE. WHEN DID YOU LAST SWITCH YOURS?

I joined Three 11 years ago. It's good for customers and makes it easy to move networks.

Brian Brown

I have had the same number with Orange/EE for 20 years. I am a good negotiator!

Iain Loudon

I moved from Vodafone to Virgin Mobile in 2002. I'm still with them now.

Martin Phillp

I've never had to switch. I just haggle with my provider till I get a great deal.

David P-Smith @david_p_s

I switched from Three to O2 when Three put its prices up. Then O2 put its prices up. You can't win!

Scott Lavery

WHAT DO YOU THINK ABOUT THE NHS USING ALEXA TO PROVIDE HEALTH ADVICE (see page 10)?

This is because the UK government has a "profit at any cost" mentality. They see using Alexa as reduced cost to the NHS, and Amazon see it as monetisation of your health data. It's the thin end of the wedge, if you ask me. Alexa is your next doctor.

Dave Lewin

I'm not buying that garbage. Who wants to chat to plastic and wires?

Liz F Lambeth

I think it reflects the future. Seeing a doctor is not easy and this may well fulfill a need.

Harvey Skipsey

Data shared with Alexa may not be truly safe. See a doctor.

Anne Blackwood

It's ridiculous and scandalous

Geoffrey Boow

! Page 404



Crying wolf with cybersecurity is a dangerous game, warns **Barry Collins**

Trumped up Huawei threat helps nobody

Well, that was quite the comeback from Huawei. A month ago, it was the mad, bad Chinese mobile firm that posed an enormous threat to national security on both sides of the Atlantic – so bad that Google was told it couldn't put Android on Huawei handsets, and Microsoft couldn't put Windows on Huawei laptops. Now, as part of President Trump's trade deal with China, Huawei is back in the fold. Great job, guys.

Putting Huawei on the naughty step to get a better trade deal from China is far from the worst of the US president's recent (checks wording with lawyers) misdemeanours. A much criticised attitude towards women, alleged attempts to obstruct investigations into his conduct, playing diplomatic poker with dictators – all that other stuff is probably of greater concern. But don't think for a second that Trump's Huawei hokey-cokey won't have huge implications.

First, let's look back at what the president said about Huawei. As recently as late May, Trump described the company as "very dangerous" because of its alleged close links to the Chinese government and its potential to eavesdrop on mobile communications. Your local fibre broadband cabinet is stuffed full of Huawei equipment; mobile phone masts are made by Huawei; you might even have a Huawei phone in your pocket. If Beijing ordered Huawei to tap communications, would it be in a position to refuse? No, said the

“If Beijing ordered Huawei to tap communications, would it be in a position to refuse? No, said the president”



president, which is why he issued a thinly veiled executive order that essentially banned any US company from dealing with a foreign firm that "poses an undue risk of catastrophic effects on the security or resiliency of [the] United States".

And he wasn't alone. When our own government continued to insist that the security threat posed by Huawei was manageable, half the Tory back benches broke out in uproar. Jacob Rees-Mogg accused the government of "jumping into bed with the Chinese company Huawei against the advice of the US and Australians" and risking the "defence of the realm". Tom Tugendhat, who sounds like a Tolkien character but is actually chair of the Foreign Affairs Select Committee, said the UK would be "nesting a dragon" if it continued to

permit Huawei a licence to operate in this country. What do they say now that the US has U-turned?

The biggest problem with the US government pretending Huawei posed a security threat, just to scratch an extra few per cent off trade tariffs, is that it makes the current administration impossible to trust on cybersecurity threat warnings. It's hard enough to convince companies and individuals to take cybersecurity seriously as it is, which is why ransomware is still able to take out entire NHS trusts and gullible folk are still swindled out of their life savings by phishing scams.

The next time the US Cybersecurity and Infrastructure Security Agency (CISA) warns of a critical threat to security or urges people to download a patch for their phone or laptops, will anyone listen? Or will they wonder if it's just another ruse by the President who cried wolf? You know who to blame if it's the latter.

Illustration: Andrew Torrens

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