Best software / *New apps* / *Sound's good!*

BOYCOTT

Facebook Google Amazon

▶ Switch to the **NEW WEBSITES** that are smarter, fairer and don't abuse your privacy p40

PLUS

Are You Using ⚠️ **Out-Of-Date Software?**
Check & update – the easy way p48

STOP HACKERS INFILTRATING YOUR HOME WI-FI p50
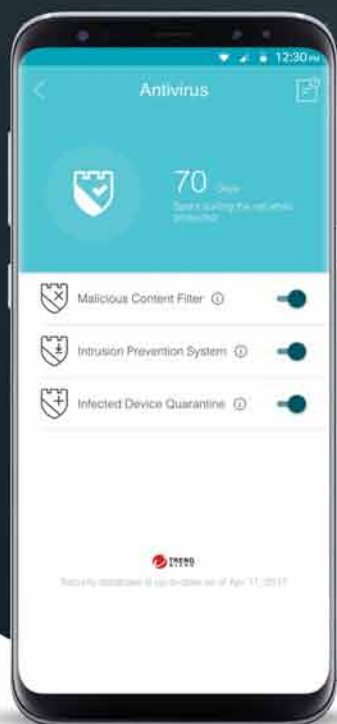The 6 rules to maximise router security

£2.20

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18

Give greedy web giants the heave-ho

Hands up, who's deleted their Facebook account in the wake of the Cambridge Analytica scandal? I must confess I haven't yet, partly because my privacy settings are locked down so tightly that nobody can even 'like' my profile picture without providing two forms of ID, a signed notice of intent and a DNA sample.

Still, if ever there was a time to quit the social network, then it's now, as Facebook's dodgy data dealings have finally been confirmed and exposed. But what should you use instead? And aren't fellow tech giants Google and Amazon just as dubious?

We answer both these questions and more in this issue's cover feature, explaining how and why you should shun the money-grabbing, data-stealing and tax-avoiding behemoths in favour of smarter alternatives that respect your privacy. True, you'll still find Facebook, Google and Amazon mentioned elsewhere in this issue – they dominate the web, after all – but we hope you enjoy trying the other services we recommend.

Robert Irvine, Editor
robert_irvine@dennis.co.uk
#webuser

5 Things you'll learn this issue

1 How to download thousands of free sound effects from the BBC's archive

> South American parrot talking and screeching.
>
> 'Cock-a-doodle-doo' ships' sirens sounded.

page 6

2 How to completely pause updates in Windows 10 for a set period of time **page 30**

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4 How to hack your monitor settings to make your screen easier on your eyes **page 56**

5 How to prevent Android apps from bombarding you with ads and notifications **page 57**

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PLUS Are You Using Out-Of-Date Software? Check & update – the easy way p48 — **p48**

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STOP HACKERS INFILTRATING YOUR HOME WI-FI p50 — The 6 rules to maximise router security — **p50**

abc Average sales, Jan-Dec 2017, 27,156 copies per issue

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Leave no trace on any PC you use **p58**

Explore iconic world locations in 3D

Concerned that some of the world's most important monuments are in danger of being destroyed, either naturally or through war, Ben Kacyra used a 3D laser scanner to produce a detailed archive of those most at risk. That was in 2001 and, over the past 15 years, his non-profit organisation CyArk has recorded more than 200 monuments across the world.

By partnering with CyArk, Google Arts & Culture aims to better contextualise a selection of those works, letting you step inside and explore the detailed, recreated monuments. The buildings include the Al Azem Palace in Damascus, Syria; the Brandenburg Gate in Berlin; and Ayutthaya in Thailand. In each case, you can read expedition overviews and introductions to the buildings before using the Google Poly 3D viewer to look around.

Scroll to the bottom of the homepage to learn more about how lasers can preserve human history and the technology involved in doing so. There are also videos documenting CyArk's work as well as a virtual-reality experiment involving Bagan's earthquake-damaged temples. You can also request a download of the data collected on the cultural heritage sites, and explore them and their surroundings in Street View.
bit.ly/arts448
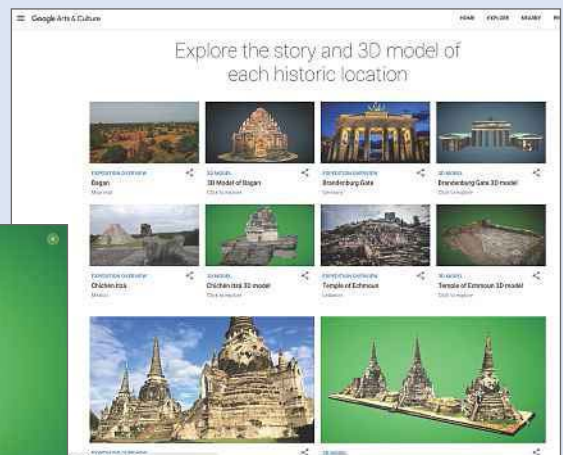
Play a jellified version of Mario

jellymar.io
This surreal version of Super Mario Bros may look familiar at first, but it soon throws a plumber's spanner in the works. Programmer Stefan Hedman has experimented with the game's physics, turning everything to jelly – including Mario himself – so the protagonist ends up floating around, bending the environment, producing craters in the brickwork and exploding in a blast of colourful pixels whenever he hits a Goomba.

Although the jelly effect makes this two-level blast of the Nintendo classic very tricky, it remains great fun since you end up looking for ways to cause the most destruction. You can play the game for free in your browser, using the cursor keys to control Mario. It's still in pre-alpha, so you can expect it to evolve over time, but for now your main challenge will be to get to Stage 1-2, where things become really odd.
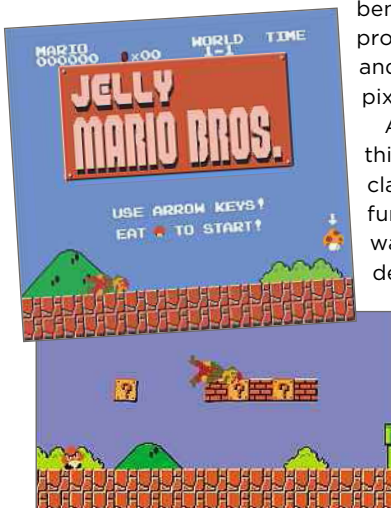
Search the BBC's SFX library

bbcsfx.acropolis.org.uk
Want to hear a South American parrot talking and screeching? Or the footsteps of an approaching stranger? Well, now you can, because the BBC has delved into its audio archive and made an astonishing 16,016 sound effects available online to stream and download for free. You can use every one of them in your own projects as long as it's for personal, education or research purposes.

Although searching the archive is cumbersome (made worse by some of the obscure descriptions and a slow search facility), each entry tells you the length of the clip and, in most cases, the category. You can then click the Play symbol to listen to an effect before deciding whether you want to download it as a WAV file. Some fun effects include a nostalgic dial-up modem and, rather obscurely, wild boars having tea from 1972.

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

Delve into Scotland's history

pastmap.org.uk/map
Zoom into this detailed map of Scotland and the data layers will show you many listed buildings, monuments, gardens, battlefield and world heritage sites north of the border. Created by Historic Environment Scotland, it helps you piece together Scottish history through viewing old Ordnance Survey maps and aerial images.

Find emoji in the real world

bit.ly/emojiworld448
Forget looking for Pokémon and instead try to find real-life equivalents of emoji by firing up this great game in your phone's browser. Grant it access to your device's camera and you'll be shown a series of emoji before being tasked with rushing around your environment to find their 'physical' versions. As you point your camera at items, a neural network identifies them, awarding you a win for perfect matches. But you have to be quick because there's a time limit to race against. The more emoji you spot, the more time you get for the next ones.

Be guided when drawing

bit.ly/pen448
Pick something to draw from the drop-down menu in this Artificial Intelligence experiment and start sketching. As you do, a green 'pen' will mark where the computer thinks you should be drawing next as it seeks to guess and influence the process. If this sounds like déjà vu, that's because it uses data from Google's Pictionary-style Quick, Draw experiment of 2016 (quickdraw.withgoogle.com) which evolved into the 'sketch-rnn' neural network. Although it's not always perfect, it's fascinating to watch the AI's thought process. You must be using Chrome to run the tool.
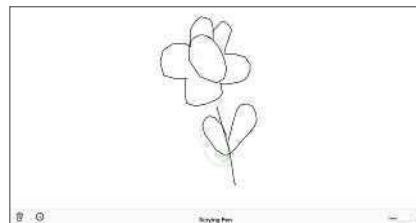
Create your own Snapchat lenses

lensstudio.snapchat.com
If you're an artistic type who enjoys using Snapchat's face filters, then why not create your own? Snapchat's downloadable Lens Studio has just released seven new templates and added Giphy integration, and although it's perhaps overwhelming for newbies, you can have fun using face paint, distorting images, adding 2D or 3D objects and triggering animation.

NEW VOICE COMMANDS

Play Lost in Space
Netflix has worked with Google on a new game to promote its *Lost in Space* remake. Say "Hey Siri, play the Lost in Space game" and answer the prompts to help the marooned Robinson family.

Enjoy a joke
Apple has updated Siri with a load of new gags that you can listen to by saying, "Hey Siri, tell me a joke." Groaners include: "I taught a wolf to meditate. Now he's Aware Wolf".

Book a train
Virgin Trains now lets you book tickets and check times using Alexa. To book a ticket, say "Alexa, ask Virgin Trains to book a ticket [when] from [place] to [place]".

Use Yahoo's RSVP cards
uk.mail.yahoo.com
Yahoo Mail now has RSVP cards that let you view calendar details of an event and respond directly within your email by choosing to accept, reject or sit on the fence. Just tap the relevant button that appears.

Send GIFs in LinkedIn
www.linkedin.com
You can now send a GIF to your professional contacts in LinkedIn. Just tap the GIF button when composing a message and you can view the animations currently trending or search for something more suitable.

Focus on faces in Instagram
www.instagram.com
Instagram has introduced a new portrait mode called Focus that looks for a face and focuses on it, while blurring the background. The option is under the Record button and lends a professional sheen to your photos.

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

BT to kill off landlines by 2025

What happened?

It's the end of an era: BT has revealed it will disconnect all landline telephones. But don't worry – you'll still be able to make and receive calls. Instead of running calls over the public switched telephone network, you'll be chatting over IP (internet protocol) telephony on the company's fibre network.

BT said the changes will start soon, with everyone hopefully switched over to the fibre network by 2025. Before the work starts, BT is running a consultation with the rest of industry, including the companies that buy access to BT's network to sell their own services.

At a technical level, BT is hoping to shut down its public switched telephone network (PTSN) and instead run calls via Voice-over-IP (VoIP) on the fibre network. It's like using Skype for calls, but you won't have to log into an app; you'll simply pick up the phone and dial a number, as you do now – but the call will run over a different network. It's effectively a switch from analogue to digital, but most BT customers won't notice much difference.

How will it affect you?

For the most part, this shouldn't change the way you make calls. You aren't being forced to give up a traditional phone that plugs into the wall in favour of a mobile device – it's just that your calls will instead be carried over fibre-broadband lines.

That's good news for BT, because it means the ISP need only maintain the one network. However, the rollout could prove a challenge because not everyone in the country has robust enough broadband to support Voice-over-IP. If your connection struggles with Skype calls, BT will need to boost your broadband before the switchover. Hopefully, that's good news for those stuck without solid broadband, because it suggests BT is willing to shore up faster

In Issue 444, we explained how you can get broadband without paying for a landline

services in areas with slower connections, but we'll have to wait until the consultation with industry regulator Ofcom is finished before we know exactly how BT plans to go about implementing this change.

To clarify, this doesn't mean we'll all get fibre broadband from BT. The ISP is able to run digital phone services over copper, thanks to new technologies that boost those speeds.

There are already concerns in the industry about how this will affect competition. The move means BT will withdraw its Wholesale Line Rental, which lets other providers offer services such as broadband and landlines over the BT network. Regulator Ofcom will be watching carefully to ensure this doesn't lead to problems in the communications market, with BT grabbing too much control.

What do we think?

In some ways, this move has been a long time coming. Back in 2014, a report from industry watcher Rootmetrics found that 95% of people surveyed didn't think they

needed a landline at all because they preferred to use a mobile phone. Of course, there are good reasons for keeping a landline, and these changes won't force you to ditch yours. Instead, BT will simply take advantage of the savings it can make by running a single network.

Many of us are already doing the same. Plenty of broadband providers, BT included, charge for a line rental when you get broadband, and they now include that cost in the overall advertised price. But why pay for a landline if you don't use it? As we explained in our 'Ditch Your Landline' cover feature in Issue 444 (bit.ly/webuser444), if you make local calls on your mobile phone and long-distance calls over Skype, there's really no reason to pay for a landline any more. Hopefully, the switchover leads BT and other broadband providers to ditch such pointless charges, as some have already done. However, because you'll still be renting a line for communications, don't expect much change on that front.

Either way, the switchover shouldn't impact your calls or your bills, other than to cut their cost. This is a sensible rationalisation by BT, and should help simplify its network infrastructure and how we conduct our communications.

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

Google unveils Chat messaging service

What happened?

Google is once again having a go at launching a messaging app, unveiling Chat to replace SMS texting on Android phones. Rather than a standalone app, Chat is an entirely new messaging standard known in the industry as Rich Communication Services, which means Android's default texting app Messages gets features such as images, video, read receipts and more.

Chat is essentially Android's version of the iMessage service on Apple iPhones, and lets users send text messages as well as set up groups, share photos and swap emoji. Chat will be built into new Android phones, but it'll be up to manufacturers whether they decide to offer the service or not.

How will it affect you?

Chat may seem unnecessary given the many messaging options already available – including Facebook Messenger and WhatsApp – but like iMessage, it lets you send texts to people who aren't using Chat. You can only send a message via WhatsApp to someone else who has that app installed, but with Chat, if the recipient doesn't use the service, they'll receive the message as a text.

App makers will also be able to use the Chat standard to develop their own messaging tools. Chat support has already started rolling out, but Google said it'll take up to two years to become mainstream.

What do we think?

This is a better route for Google to take than launching yet another messaging app. We've already seen Hangouts, Huddle, Allo and Duo, alongside Google Talk for Android – keeping track of them all is a pain, as is getting all your friends and family to sign up for an app that's probably going to disappear in a few years.

This new standard should improve texting on Android handsets, but Google hasn't sought to encrypt or otherwise secure Chat in the manner of Apple iMessage. For this reason, messaging apps such as WhatsApp are still worth considering if you use an Android device.

iPhones vulnerable to trustjacking flaw

What happened?

Security firm Symantec has warned about iPhone 'trustjacking', which is when attackers exploit settings on the Apple phone to access private data. When you charge an iPhone by plugging it into another device, such as a laptop, you'll see a message asking "Trust this computer?". There's no reason to choose yes' – it will charge regardless – but if you do, the computer will be able to access your phone's data, which is handy for transferring files or backing up settings because the two devices can sync over the same Wi-Fi network.

If you do give your 'trust', you could be at risk of trustjacking because enabling the setting opens a way for attackers to target your iPhone. The Symantec researchers noticed this by accident after one of them realised he could connect to a co-worker's phone simply because they were on the same Wi-Fi network, which was marked as trusted.

How will it affect you?

The flaw could allow someone to grab your data, such as photos or messages, or install malware. However, you'd have to both be on the same trusted network. For this reason, researchers have not seen trustjacking attacks in the wild.

To revoke trust on your iPhone, go to Settings, General, Reset and tap 'Reset Location & Privacy'. The trust feature is handy when you're at home on your own network, but be wary that others who connect to your Wi-Fi could abuse it to access your phone's contents.
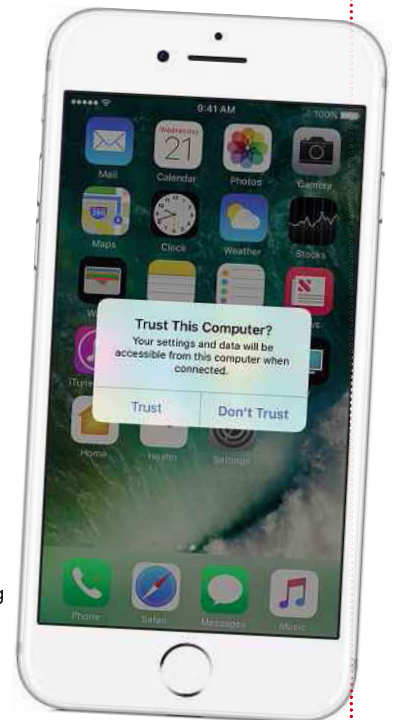
What do we think?

We're all used to simply choosing 'OK' when we see a pop-up dialogue box on our computers and smartphones, and we often don't understand what the settings actually allow. Thank goodness Symantec noticed this flaw, though it's a shame Apple didn't spot it first. Hopefully, it will do a better job of testing features for weak points in the future, but at least this one hasn't yet led to any hacks beyond the security researchers' lab.

Minecraft malware infects 50,000 players

What happened?

Minecraft, the immensely popular world-building game with more than 74 million players, has a malware problem. Users who download skins for their avatars from the official Minecraft website are unwittingly allowing malicious code onto their computers.

Currently, nearly 50,000 Minecraft accounts are known to be infected with the malware, which is designed to reformat a hard drive and delete backup data and system programs.

The problem was first spotted by security software developer Avast's Threat Labs. The team discovered that user-created and uploaded Minecraft character skins created as PNG files were being used as a distribution method for homemade malware before being uploaded to Mojang's Minecraft website. Mojang is aware of the problem and is currently working on fixing the vulnerability.

Avast doesn't believe that the malicious code has been created by hardened cybercriminals, instead citing inexperienced players looking to exploit others for their own amusement. The code itself is, in Avast's words, "largely unimpressive" and can actually be found on websites that provide step-by-step guides to creating DIY viruses using Microsoft's built-in Notepad word-processing tool.

How will it affect you?

So far, the number of infections is comparatively small compared to the number of active Minecraft players. But it's worth noting that user numbers grow by nearly 20 million each year, so there's real potential for an epidemic. Also, 43% of Minecraft users are under 21, and young people are particularly vulnerable to this type of homemade malware infection.

Obviously, not all skins for Minecraft are infected with a virus – that would be severely detrimental to Minecraft's user-created appeal – but there are at least three skins out there known to be carrying malware. If you've downloaded any of these or similar ones, you should run a scan on your system right away.

What do we think?

Most parents and players trust third-party skins hosted on the official Minecraft website, but it appears Mojang isn't screening every upload for potential viruses. So even if you regularly scan your machine, your trust in the Minecraft website could lead you to think that any flagged problem is merely a false positive.

Protecting yourself against Minecraft malware is simply a matter of running regular antivirus scans on your system. Most decent security software will remove the threat once it's been detected, but if it's a particularly bad infection, you may have to reinstall Minecraft and take extra care with any skins you install in future.

👁 FIRST LOOK

Honor 7A
www.hihonor.com

Available in black or blue, the Honor 7A looks and feels like it costs several hundred pounds more than its £140 price tag. At a slender 7.8mm, its aluminium body and curved edges make it comfortable to hold, and although the phone has a large 5.7in display, its 18:9 aspect ratio means the screen is narrow enough to use with one hand and has a little extra height.

Around the back of the phone, there's a single 13-megapixel camera with a dual-LED flash and an ultra-responsive fingerprint sensor. There's also a 3-in-1 card slot, which lets you use a microSD card and two SIM cards simultaneously. Impressively, it also includes Face Unlock, and is the cheapest phone yet to do so.

Honor has opted for a micro-USB port at the bottom instead of USB Type-C, but has also, thankfully, included a 3.5mm headphone jack at the top of the device. According to Honor, the speaker is able to go "200% louder than a conventional smartphone",

and we were indeed surprised at the volume it achieved without distorting.

The 7A's rear camera includes standard Honor features, such as panorama, night and Bokeh mode, but it's limited to core features, with no image stabilisation or autofocus. Its front-facing 8-megapixel camera is arguably more impressive, with a flash the company calls 'Soft Light', which allows for better selfies in low light.

Honor has included a 2015 octa-core Snapdragon 430 processor, 2GB of RAM and 16GB of internal storage, which can be expanded to 256GB via the phone's microSD card slot. Battery life provides an impressive 16 hours of talk time.

With its impressive features, attractive design and great-looking screen, the Honor 7A may well be the best budget smartphone of 2018.

? WHAT'S THE RUMOUR

Is Apple going to kill off iTunes?

Rumours suggest that Apple is planning to scrap paid-for iTunes music downloads next year. According to sources inside the company, as reported by Digital Music News (bit.ly/digital448), Apple has set a firm date for the iTunes store's shutdown. It's likely that the service won't close overnight, but will be phased out gradually starting from 31 March 2019. After that point, buying new music won't be possible; instead, Apple reportedly intends to shift its focus to its Spotify rival, the Apple Music streaming service. However, it's believed that Apple has no plans to revoke user rights on purchased songs, which means any music you've bought will always play on all Apple devices and you'll still be able to manage your downloaded music collection.

Apple had previously denied any plans around possibly killing its service but in an interview with the BBC, Apple Music executive Jimmy Iovine explained that the store would shut down "when people stop buying". Iovine avoided providing a date for the shutdown, but his admission suggests that Apple is certainly thinking about the prospect.

Apple Music may not yet be as big as Spotify, which has 71 million paid subscribers, but the number of people using Apple's service is growing. As of Apple's last report, Apple Music has more than 40 million paying users with around another seven million on its free trial. By closing the iTunes Store, it's likely that more people will finally bite the bullet and sign up for Apple Music.

LIKELIHOOD RATING
✓✓✓ ✓ ✓

It's very rare that Apple submits to pressure to confirm rumours, so we expect the company to remain tight-lipped on this matter until March 2019. However, with music streaming now significantly more popular than downloading, the closure of the iTunes Store certainly won't come as a surprise.

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

MousePad+
bit.ly/mousepad448 | **From $29 (£20.34)**

MousePad+ combines a mouse mat with a wireless charger, so you can effortlessly charge your phone on your desktop. It comes with a USB-to-USB-C transmitter dongle to plug into your PC or laptop, and is compatible with all iPhones and Android devices that support wireless charging. Made from natural wool fibre and handcrafted leather, it's available in three colours and folds up neatly so you can carry it around. The MousePad+ team has already exceeded its £10,566 goal and will deliver worldwide.

WEBOMETER

WE LIKE...

↑ Flash to be killed off in 2020
Adobe has confirmed that it will retire Flash in 2020, after it was revealed that less than 5% of websites now use the outdated technology. Increased vulnerabilities in the software have caused developers to replace Flash with HTML5.

↑ Windows 10 to get Lean version
Microsoft is apparently working on a cut-down version of its operating system, called Windows 10 Lean. This will be a 64-bit edition that is 2GB smaller than Windows 10 Pro, with a number of features removed to save drive space.

WE DON'T LIKE...

↓ Opera shuts down its VPN
Opera has permanently discontinued its free VPN app for Android and iOS, though it will continue to offer a built-in VPN in its desktop browser. Turn to page 36 to see which VPN we recommend using instead on your mobile device.

↓ TSB suffers online account chaos
UK bank TSB apologised after an upgrade to its systems caused its online banking platform to collapse. Some customers reported being able to access other people's accounts while a handful were incorrectly credited with £13,000.

Stay Safe Online

News about the latest threats and advice from security experts

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

Russian hackers target millions of devices

UK and US security agencies have alerted governments and private companies to a global, state-sponsored hacking campaign emanating from Russia.

The FBI, Department for Homeland Security (DHS) and the National Cyber Security Centre (NCSC) issued a joint Technical Alert describing a Russian-backed assault on routers, firewalls and business networks in an attempt to launch man-in-the-middle attacks. Even routers in small offices and homes are at risk, the agencies said.

Ciaran Martin, chief executive of the NCSC – an arm of British intelligence agency GCHQ – told *The Independent* that Russia was the West's "most capable hostile adversary in cyberspace", and that "the purpose of these attacks could be espionage, the theft of intellectual property." He added: "There are millions of machines being globally targeted".

The guidance issued by the security agencies includes advice about password and device security. Specific advice has also been given to manufacturers, security vendors and ISPs, to encourage them to move away from using older equipment and standards for security protocol.

The NCSC warned that the scale and severity of the threats facing the UK were "bigger than ever", and that it was highly likely 2018 would bring further attacks.
bit.ly/russian448

Android phone makers lie about security patches

Some of the biggest Android smartphone manufacturers are thought to be misleading users about important security updates. The claim comes from technology analyst firm Security Research Labs, which has reason to believe that Android manufacturers are telling users that their devices have been updated, when in fact they are missing important patches issued by Google.

Over the past few years, Android manufacturers have earned a reputation for being slow to issue important software updates. Statistics released by Google show that just 1.1% of Android devices run the latest Android version.

The researchers spent two years analysing the firmware of 1,200 phones from companies including Google, HTC and Motorola, and found that even the biggest Android manufacturers have been making misleading promises about security updates.
bit.ly/patches448

Security Helpdesk | Your questions answered by security specialists

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

Q How can we stop web companies harvesting our private information?
Andrew Marvell, Twitter

A Any online platform you use collects information about your behaviour, location and interests. Browsing history may be combined with physical location, shopping purchases with watched TV shows, commute to work and so on. Basically, you're tracked from the moment you wake up until you go to sleep.

It's difficult to completely avoid being tracked – and the data that has already been shared cannot be taken back. However, there are a few proven privacy protection methods that can easily be implemented by anyone using the internet:

● **Download all your Facebook data if you are deleting your account.** If you have decided to delete your Facebook account, first download all your data that is held by Facebook – just to see the extent of what they have been collecting. Go to Settings, General Account Settings and click 'Download a copy of your Facebook data'.

● **Delete all suspicious apps.** It's important to revoke access to Facebook applications that are no longer in use, as well as suspicious apps that offer users ways to get 'likes', followers or view private accounts on Instagram and other types of social media.

● **Delete cookies, which are one of the most common ways to track your online behaviour.** These are small pieces of code that are downloaded to your browser when you visit a website. When you visit that site again, this will be recorded through the cookie, so you can be targeted with ads. You should regularly clear your browsing data to get rid of cookies.

● **Use a VPN to encrypt data between your device and the internet, and make sure your browsing history remains confidential.** NordVPN is fast and easy to use, and is known for focusing on privacy, security and having a zero-logs policy. It reroutes and encrypts all web traffic by hiding your IP address.

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

☆ Best New Websites

Site of the Fortnight

SERVICES   `NEW`

Firefighters 100
bit.ly/fire448

As celebrations go, this online retrospective of 100 years of the Fire Brigades Union is hot stuff. The in-depth timeline alone makes for fascinating reading, and the site's impressively simple navigation lets you filter entries by a specific topic, type and time. Articles analysing key historical events, often interspersed with vintage video footage and well-chosen photos, make for a compelling social history backed up by access to an extensive digitised archive of the FBU's journal, Firefighter, which spans 70 years. We recommend starting with the trailer on the homepage and working your way around.

Our rating ★★★★★
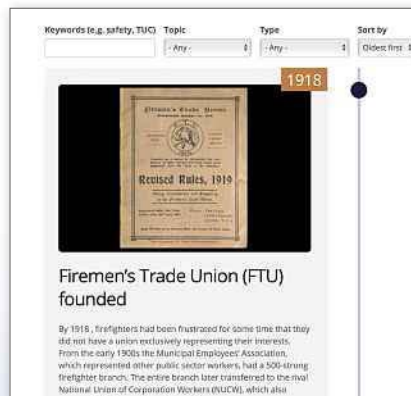
TIMELINE
Filter the timeline by topic, such as Equality, Industrial Action and War

FEATURES
The many well-written articles include a look at the legacy of the Smithfield fire

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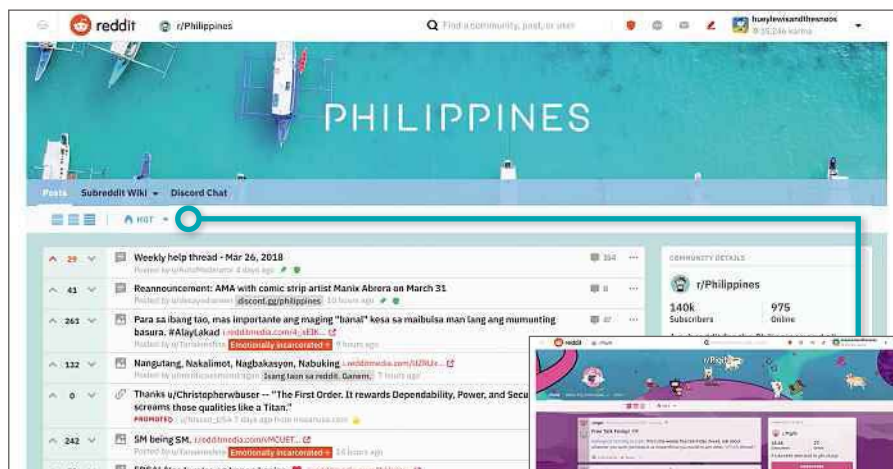
SOCIAL

Reddit
www.reddit.com

Reddit may be popular but it's never been celebrated for its looks, which makes this revamp (currently only visible to select users) long overdue. Certainly, from what we've seen so far, the new design is an improvement: the menu bar has been repositioned, there are now three views to choose from, you can use endless scrolling and there's an improved editor that lets you combine text, links and images into a single post. There's bound to be some resistance from regular users who resent change, as well as a few bugs to iron out at this early stage, but you can check out the reactions of Redditors at reddit.com/r/redesign.

`RELAUNCH`

Our rating ★★★★☆

TRAVEL   `NEW`

Do Not Pay Travel
bit.ly/donotpay448

Do Not Pay's bots have overturned thousands of parking tickets since 2016 and it's now taking on flight refunds. It does so by scanning your Gmail inbox for travel confirmations from past bookings to check if the price of travel has fallen. It also scans the terms and conditions for loopholes, and seeks to negotiate a cheaper price or cancel and rebook. The site promises to keep your data safe, but asks for your phone number, date of birth and card details. If that doesn't put you off, the service sends you texts asking what you want to do next and keeps your interactions simple.

Our rating ★★★★☆

Reviews by David Crookes

We review this fortnight's best new and relaunched websites and rate them for content, design and features
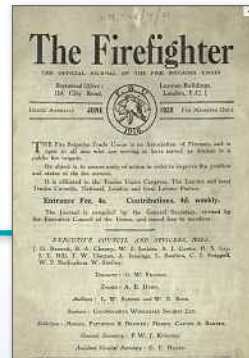
DIGITAL ARCHIVE
Read full copies of fascinating Firefighter journals dating back as far as 1932

EVENTS
See details of firefighting events taking place throughout the UK in 2018

POLITICS
The Broad
thebroadonline.com

Concerned by "a culture of social pressure and intellectual tip-toeing" which is leading to self-censorship and a threat to freedom of speech on university campuses in the UK, The Broad provides an impartial platform to all views: left, right and centre. It's sometimes let down by unappealing headlines and unnecessary hype (flagging one section as Most Controversial), but its serious yet diverse subject list, ranging from Brexit and animal rights to mental health and gender, presented in a clear and tidy layout, certainly make for an enjoyable and thought-provoking read.

Our rating ★★★★☆

CULTURE
Culture Jersey
culture.je

Some people associate Jersey solely with the 1980s series *Bergerac*, so we weren't surprised to see an event called Bergerac's Island listed on this site. As a guide to Jersey's arts and culture, it's undoubtedly comprehensive, not only highlighting many large-scale events but also covering local reading groups and dance masterclasses. The search page is beautifully presented with category, keyword and date filters, while the event overviews contain all the information you need alongside links to the relevant websites. The blog, written by staff at Jersey Library, is building nicely, too.

Our rating ★★★★☆

EMPLOYMENT
Gig to Gig
gigtogig.co.uk

The 'gig economy' is not without controversy, but some people enjoy the flexibility it offers, and this site – which has expanded from London to Glasgow and Edinburgh – lets you find employment by entering your availability, experience, qualifications and type of work. Businesses can advertise shifts, too. Although anyone registering must visit the site's HQ to finish their application, hourly rates are guaranteed at £8.25 minimum and there's a promise of holiday pay. We love the clear explanations and that you can use the accompanying mobile app to track work and payments.

Our rating ★★★★☆

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

⭐ Best New Websites

RELAUNCH

Table Now
www.tablenow.co.uk

There's no such thing as a free lunch but Table Now has negotiated discounts and deals at more than 300 restaurants in the North West, proving that it's possible to eat for less. There's a fee of £2.50 per person to access each deal, but it saves you having to pay a monthly subscription and you should make that back with the overall saving. The search engine lets you find eateries by cuisine and the type of offer, and the deals are clear: once you find a restaurant, you can read the offer details, select the number of diners, choose a time and then book. There are also TripAdvisor ratings but, annoyingly, no restaurant menus to peruse.

Our rating ★★★☆☆

NEW

EVENTS

Bath Venue Finder
bathvenuefinder.co.uk

Anyone seeking to put on an event or meeting in picturesque Bath used to have to directly contact the individual venues. Not any more. This new venue finder launched by tourist board Visit Bath makes it easy for people to find suitable buildings. The site looks great and uses a search system that allows you to specify the room layout from a drop-down menu (from a boardroom to an exhibition) and use a slider to select the number of attendees. The results can then be selected and compared, or viewed on a map. Once you've made a selection, it's just a matter of filling in a form and waiting for a response.

Our rating ★★★★☆

RELAUNCH

MOTORING

Eurekar
www.eurekar.co.uk

This motoring news and reviews website is heading in the right direction with a bright redesign and a strong roster of experienced writers. The site gives a strong overview of vehicles you're most likely to buy – rather than just gawp at as objects of desire – and it groups news by manufacturer, which is great if you already own a particular vehicle or are brand loyal. The Inside Story section has hard news and excellent advice, such as how to avoid buying a stolen car, but is sometimes cluttered with car reviews that belong in their own section. You can search for local dealers and cars to buy, and there's an e-newsletter, too.

Our rating ★★★★☆
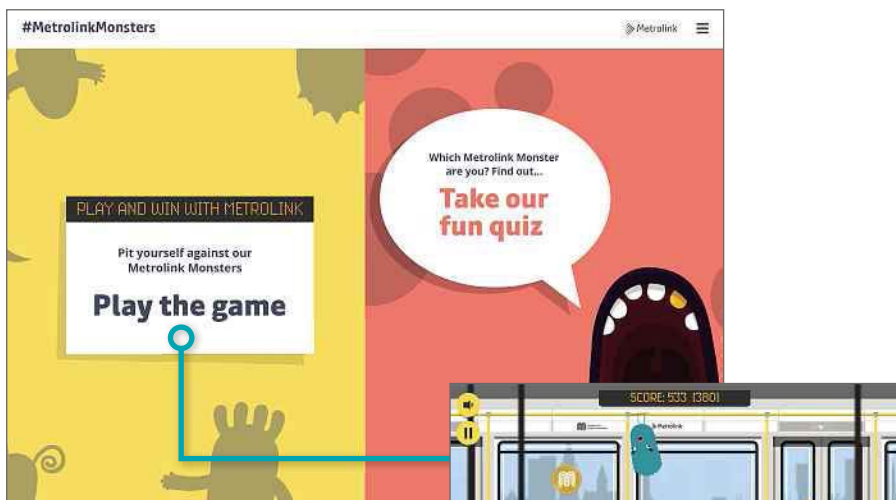
NEW

TRANSPORT

Metrolink Monsters
www.metrolink-monsters.co.uk

Good behaviour on Manchester's Metrolink tram system appears to have gone off the rails in recent months, but hopefully things will get back on track with the help of some colourful monsters. This site introduces all 10, from Litter-Lout Lenny to Sneezy Sally, and places them within a fun 'endless runner' game that challenges visitors to get a high score and potentially win prizes by avoiding monsters, and collecting coins and Travelcards. Answer the quiz to find out what kind of monster you are, with the chance to win a prize by sharing the result on social media. Adults may find the site a bit patronising, but it's very polished and an inventive way to tackle tramline troubles.

Our rating ★★★★★

NEW

TECHNOLOGY

Chilligrips
www.chilligrips.co.uk

This highly specialised site mainly sells grips that fit onto video-game controllers: either for the thumbsticks or the entire gaming pad. They're very cheap, starting at a quid, which makes us all the more surprised at the descriptive explanations of their benefits, the ability to zoom into the products and the opportunity for shoppers to write reviews. We liked the ease of the checkout process but felt the fledgling blog needs more substance and should post more frequently. That said, the site – which also sells a couple of phone cases and some gaming mice – is well designed and shows great promise.

Our rating ★★★☆☆

</> Build a Better Site

Specialist tips, top tools and practical help

Top Tips of the Fortnight

Bust WordPress jargon
Technology is riddled with unfathomable jargon and even supposedly friendly tools like WordPress are plagued by it. Thankfully, WordPress's developers have recognised the problem and launched a useful jargon buster (bit.ly/wpjg448). If you think it might be a useful reference, you can download a PDF version from the site.

Allow Google to retain Analytics data
If you use Google Analytics (analytics.google.com), you should have received an email about data retention outlining how long Google is allowed to hold your information for. This is associated with the legislation around GDPR but we'd advise against requesting that Google deletes this particular set of data, because it's so useful to be able
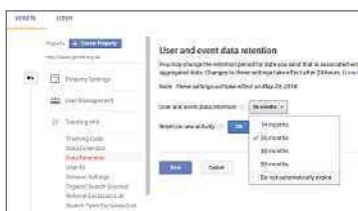
to compare your website to its historical performance. To help make your choice, sign into your account, then choose the site you want to adjust. In the Property column, click Tracking Info, then Data Retention and select the period you want to leave data for. You can also choose to have the clock reset itself every time you access the service, so it'll only disappear if you stop using it.

Deal of the Fortnight
Get 50% off Cyberhost Pro's Website Hosting package (www.cyberhostpro.com) – pay just £1.80 per month for the first year.

Web-building Helpdesk

THIS ISSUE'S EXPERT:
Oliver Burkill,
Enterprise Support
Manager, eUKhost (www.eukhost.com)

EUKHOST

Q The last time I designed a web page was at the dawn of the millennium. Back then, you had to worry about which browser your visitors used. Is this still a problem?
Martin Frame, via email

A Many people now develop websites using tools that have already been thoroughly tested for browser compatibility. Even if you are building a website from scratch, the browser situation is much better now, so unless you're experimenting with obscure web standards, this isn't something you need to worry about. What you do need to ensure is that your site works on mobile browsers, which 18 years ago weren't a concern. It's definitely worth checking that your site displays properly on a smaller screen.

⚙ MINI WORKSHOP | Use your online storage as a free web host
DriveToWeb: drv.tw | ⏱ 10 mins | Google Drive or OneDrive

If you have space on your Google Drive or OneDrive account, you can use it to host a simple website for free. Upload the files to your storage space and use DriveToWeb to turn it into a website that people can visit
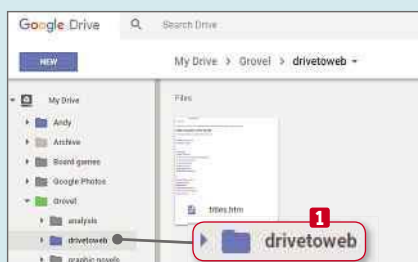
1 You need to have a website ready and prepared to upload, which should consist of at least an HTML file, though it could also include images and anything else you want to add. Choose whether you want to keep your files in Google Drive or OneDrive, then create a folder and upload your website's files to it. **1**
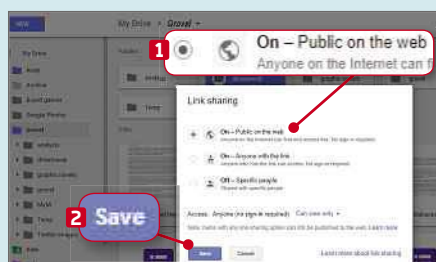
2 Right-click the folder that's holding the files and click Share. In Google Drive, click Advanced, then click Change next to 'Private – Only you can access'. Select 'On – Public on the web' **1** and click the Save button. **2** In OneDrive, click 'Get a link', which activates sharing (though you don't actually need the link).

3 Go to drv.tw and click the button of the service you've chosen. You'll need to sign in with your account credentials. Follow the instructions and the Admin Panel will appear displaying the address of your web page as a link at the top. **1** Click it to see the page online.

✚ Email us your website building questions at webuser@dennis.co.uk
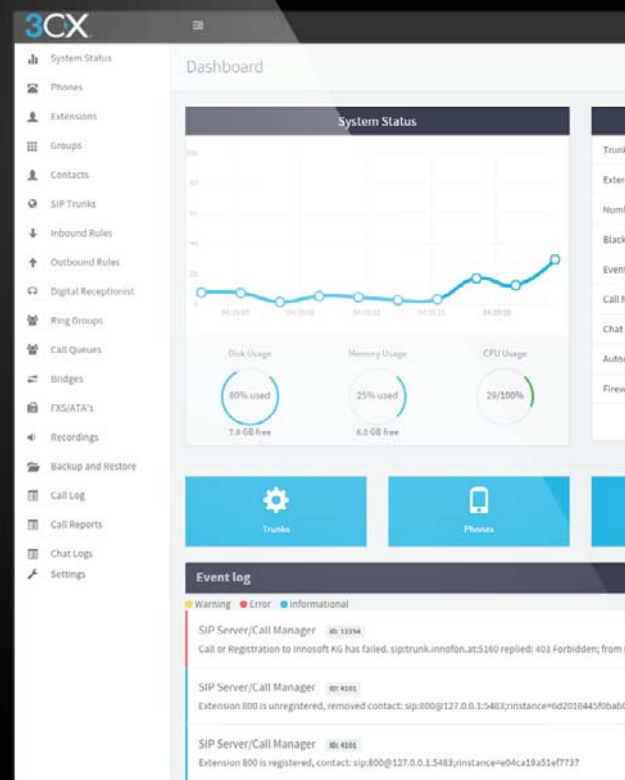
Pick of the fortnight

NOW TV

Watch Benedict Cumberbatch in *Patrick Melrose*
From 13 May

Sherlock star Benedict Cumberbatch is back to chew up your screen, this time as the fictional alter-ego of British novelist Edward St Aubyn. If you think that sounds a bit dull, just wait: St Aubyn endured a brutal childhood at the hands of his abusive father and complicit mother, and by the time he escaped to Oxford University he was a heroin addict. So Cumberbatch has plenty to get his acting chops around, in a series that veers from black comedy to harrowing psycho-drama.

And it's not just Cumberbatch. The cast of this Showtime-produced five-parter reads like a BAFTA Awards guest list, with Hugo Weaving, Jennifer Jason Leigh, Celia Imrie and Pip Torrens (*The Crown*'s scene-stealer Tommy Lascelles). Each episode is based on one of St Aubyn's novels, including Booker Prize nominee *Mother's Milk*, all adapted for the screen by bestselling author David Nicholls (*One Day*).

Sky Atlantic has bagged the rights to screen *Patrick Melrose* in the UK, so you can watch it online via Sky Go and Now TV. A Now TV Entertainment Pass costs £7.99 per month after a 14-day free trial. You can catch the trailer now at bit.ly/patrick448.

Have a James Bond-athon
From 5 May

Fancy watching the living daylights out of every 007 film in one sitting, so you can decide once and for all which Bond is best? Here's your chance – as long as you don't mind excluding Daniel Craig.

Amazon is adding 20 pre-Craig Bond movies to its catalogue, from 1962's *Dr No* (Sean Connery) to 2002's *Die Another Day* (Pierce Brosnan). The line-up also includes every Timothy Dalton and Roger Moore outing as the suave spy, including *Goldfinger*, *From Russia With Love* and our personal fave, *Live and Let Die*. George Lazenby vehicle *On Her Majesty's Secret Service* is in there, too, but the original David Niven *Casino Royale* isn't.

Meanwhile Amazon has thrown its hat (and a ton of cash) into the bidding ring for the Daniel Craig 007 films. This gazillion-dollar battle also features Apple, Fox, Universal, Sony and Warner Bros, and its ongoing plot is even harder to follow than *Spectre*. As soon as the winner is no longer classified info, we'll let you know.

Watch end-of-life documentary *End Game*
From 4 May

"We're here to talk about this crazy thing called death," say Oscar-winning filmmakers Rob Epstein and Jeffrey Friedman in their 40-minute Netflix Original documentary. They set out to explore a subject few of us like to think about, let alone discuss, by telling the stories of several terminally ill patients, their families and the medics who care for them. The result could have been mawkish, but it manages to be sensitive, insightful and even beautiful. Watch the trailer at bit.ly/endgame448.

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

Catch the new season of *Dear White People*

From 4 May

Sitcoms that tackle prejudice and class with a predominantly black cast aren't exactly two a penny, and the first season of *Dear White People* prompted a big old tweetstorm last year. But the show was a huge critical success, scoring a rare 100% rating on Rotten Tomatoes, so it's back for 10 more half-hour episodes of biting millennial satire, narrated by none other than Giancarlo Esposito (*Breaking Bad*'s Gus Fring). Check out the controversy-baiting trailer at bit.ly/dear448.

Survive *The Rain*

From 4 May

Hold on to your brollies, this is definitely not a downpour you want to get caught in. This new Netflix Original series follows the fortunes of two young Danish siblings who emerge from a bunker to find that most of the population has been wiped out by a virus. Not just any old virus, but a virus spread by – you guessed it – rain. Our heroes team up with fellow survivors to grapple with post-apocalyptic adolescence, in a kind of Scandi-noir *Lord of the Flies*. You can watch the official HD trailer at bit.ly/rain448.

Watch the Women's FA Cup Final live online

5 May

"In a world where the England football team is second in the FIFA rankings…" More post-apocalyptic sci-fi? Nope, it's women's football, whose popularity is growing seriously fast. This year's Women's FA Cup gets full coverage from the Beeb, with the final going out live from Wembley Stadium on the iPlayer website and app, as well as on TV. Kick-off is at 5.30pm. You can still watch the semi-finals on catch-up, so we won't spoil them by telling you who's made it to the final. The semis feature Chelsea v Manchester City and Everton v Arsenal, and are available to watch online at bit.ly/facup448 until 15 May.

Join *The Adventures of Rocky & Bullwinkle*

From 11 May

DreamWorks has switched from Netflix to Amazon with its latest creation. We say "latest", but Rocky the flying squirrel and Bullwinkle the talking moose aren't exactly newcomers to kids' TV and have been saving the day since 1959. This reboot features such 21st-century voices as Tara Strong from *The Powerpuff Girls* (Rocky) and Brad Norman from *America's Most Haunted* (Bullwinkle). It's fast and funny enough to keep even the most easily bored kids entertained, and wry enough to appeal to adults, too. Season One arrives on 11 May, and you can watch the trailer at bit.ly/rocky448.
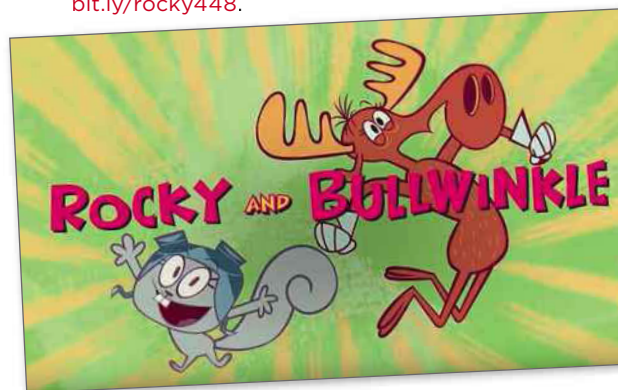
Game, set and match to Amazon Prime

Amazon has won exclusive UK TV rights to show the US Open tennis tournament, starting with this summer's competition at Flushing Meadows in New York in August.

Anyone with Amazon Prime membership will be able to stream the tournament, which won't be shown on TV anywhere in the UK and Ireland. Coverage includes on-demand access to matches, highlights and news conferences.

The five-year deal, said to be worth $40m (£30m), adds to Amazon's already impressive tennis offering. Last August, the company paid £50m for the UK rights to show the ATP World Tour, the men's global tournament featuring Andy Murray, Roger Federer and Rafael Nadal, from 2019.

Subscribers to the 'Prime + Eurosport Player' package can also watch the Australian and French Open tournaments, for which Eurosport has exclusive UK rights. Eurosport costs an extra £4.99 per month after a one-month trial, on top of £7.99 per month for Amazon Prime.

Credit: lev radin / Shutterstock.com

Product Test

We test and compare the latest products

Apple iPad (2018)

Apple's new entry-level iPad is its cheapest full-size tablet ever. We find out what's new

You'd be forgiven for barely noticing Apple's recent revamp of its standard iPad, which offers little fanfare for the home consumer but sees Apple pushing the tablet into schools and colleges. However, with the lowest price that a full-sized iPad has ever sold for and a number of small but significant upgrades, this new model is well worth considering if you're looking for a new tablet.

The new price is only a slight drop from the previous model but any decrease is unusual from Apple, particularly with a device that's been updated with new components and features. The £20 drop takes the basic 32GB Wi-Fi-only model to £319, but every little helps.

If you want more storage, the 128GB Wi-Fi-only model costs £409. You can add another £130 to either device – taking them to £449 (32GB) and £539 (128GB) – if you want to add a SIM card for mobile data, though you could just tether the device to your phone's mobile data connection instead.

Apple Pencil

The biggest hardware news is that this is the first of the non-iPad Pro models to work with the Apple Pencil, with all the same tilt- and pressure-sensitive features. It comes into its own when used in apps specifically designed for it, though it can also be used for taking handwritten notes or sketching quick diagrams and pictures, and it's great for annotating documents in Apple's word processor, Pages. You don't get quite the same feedback and satisfaction of using a pen on paper, but it's incredibly close. The stylus has also seen a price drop and now costs £89, which is £10 cheaper than its launch price.

Even more enticingly, you'll be able to buy alternative stylus devices for this model, though so far only Logitech has announced one – the Crayon is a chunkier, more rugged-looking stylus, clearly aimed at children. It's due this summer at a cost of just $49 (around £34) and plugs into the iPad's lightning port rather than operating wirelessly, as Apple's Pencil does.

What's new?

Other than compatibility with the Apple Pencil, not much has changed. The new iPad's looks and physical attributes are identical to last year's £339 model and it's more or less indistinguishable from the outside, with the same excellent display and highly responsive feel, whether you're using the Apple Pencil or your fingers.

As before, the new tablet has a 9.7in display with

> " Any price drop is unusual from Apple, particularly with a device that's been updated with new components and features "

CPU Benchmark Results

Legend: ■ Single-core ■ Multi-core

Chart (Geekbench 4 score, 0 to 10,000):
- Apple iPad (2018)
- Apple iPad (2017)
- Apple iPad Pro 10.5in
- Apple iPad Pro 12.9in (2017)
- Apple iPad Mini 4

Battery Life

Chart (Hours, 0 to 15):
- Apple iPad (2018)
- Apple iPad (2017)
- Apple iPad Pro 10.5in
- Apple iPad Pro 12.9in (2017)
- Apple iPad Mini 4

PRODUCT INFO

Apple iPad
Price: From £319
Buy from Apple:
www.apple.com/uk

SPECIFICATIONS

- 64-bit A10 Fusion processor
- 9.7in LED-backlit multi-touch IPS display
- 2,048 x 1,536-pixels resolution
- 264 pixels per inch
- 32GB or 128GB of storage
- 8-megapixels rear camera
- 1.2-megapixels front camera
- 802.11a/b/g/n/ac dual-band Wi-Fi
- Bluetooth 4.2
- Supports Apple Pencil
- iOS 11 operating system
- 240 x 169.5 x 7.5mm
- 469g

FOR

✓ Cheapest 9.7in iPad ever
✓ Supports Apple Pencil
✓ Faster than previous iPad

AGAINST

✗ Disappointing battery life

FASTER PERFORMANCE

iPad Pro 10.5in, £619
bit.ly/ipro448

SMALLER SCREEN

iPad Mini 4, £399
bit.ly/imini448

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a resolution of 2,048 x 1,536 pixels. It fills most of the front of the device, though having any kind of bezel around the edge is beginning to look a little old-fashioned in the face of the chassis-filling displays we're seeing on other tablets, laptops and phones.

There's a rear-facing 8-megapixel camera and a 1.2-megapixel camera on the front. Unlike the iPhone X, the iPad keeps its Touch ID button, which you'll find in the usual position below the screen when holding it in portrait mode.

Internally, the hardware upgrades are relatively minor. There's a new generation processor, the Apple A10 Fusion, which is a significant upgrade on the 2017 model's A9, but its power falls well short of the A10X installed in the more expensive iPad Pro.

The screen is excellent – as technically competent as you could expect for the price. It's vibrant and colour accuracy is high, with a contrast ratio that's slightly better than the previous model at 1,023:1, while brightness reaches 507cd/m² (candles per square metre).

Surprisingly, its battery life isn't as impressive as previous iPads. In our standard battery-life tests, the 2018 iPad lasted 8 hours and 43 minutes, whereas the previous version lasted over 14 hours, and even the iPad Mini 4 managed more than 10 hours. That's still better than most Windows 10 laptops, though, so you shouldn't need to worry about it running out of power before the end of the day, as long as you aren't working it too hard.

Perhaps the biggest omission is that there's no Smart Connector contact for the addition of a keyboard, as seen on the iPad Pro models. That doesn't mean you can't use a keyboard at all – the device has Bluetooth so it can connect to any compatible wireless keyboard, including Apple's own.

Apple's mobile office software, which includes Pages, Numbers and Keynote, all have extensive support for the Apple Pencil and have been upgraded for the new iPad. There are also updates to some of Apple's other apps, and we particularly liked the new version of Garage Band, which is now much easier to use for creating simple tunes.

OUR VERDICT

★★★★☆

There's a lot to like about Apple's new tablet. It's more affordable than ever and it works with the Apple Pencil. However, while the overall performance is a step up from the iPad's previous incarnation – largely thanks to its faster processor – its battery doesn't last as long. The 8-9 hours should still get you through a day of use, but it's a significant drop compared to the previous version and falls well behind the battery life of the iPad Pro models.

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

Amazfit Bip

We test a budget smartwatch that covers all the bases and is comfortable to wear

Despite having a name that looks like a typo, the Amazfit Bip is an intriguing addition to the world of smartwatches. It's aimed squarely at the cheaper end of the scale, costing less than £70, yet it tracks your daily steps, heart rate, sleeping schedule and – incredibly, for such a cheap device – even traces your location with GPS.

Admittedly, it does none of those things as well as its £300-plus rivals, but the watch is surprisingly well made. The 1.28in, 176 x 176-pixels resolution screen is protected by Corning Gorilla Glass, and is dust-and splash-resistant. It's not the most beautiful of smartwatches but its appearance doesn't give away its budget price. More importantly, it's very comfortable to wear, with a rubber strap that moulds itself to your wrist. Within five minutes, you won't even notice that it's there.

App and accuracy

The Amazfit Bip is the latest in a line of budget wearables produced by Chinese company Xiaomi. The watch syncs with Xiaomi's own smartphone app, Mi Fit, which is designed exclusively for use with Xiaomi's range of devices. We found the app's design and layout overly simplistic, and the English translations sometimes questionable, but it's able to pull up handy stats on a range of different activities, including average heart rate, stride, step frequency, uphill distance and sleep patterns. The Mi Fit app is available on both Android and iOS, but support for feeding data into other apps is limited: it connects to Google Fit, for example, but not Strava.

We tested the watch's distance-measuring accuracy against a Polar M430 watch worn on the opposite wrist during a 5K run, and found a difference of about 100m – which isn't bad considering how much cheaper it is. However, it did record 300 steps while we were sleeping!

Heart-rate measurement wasn't spot on either, but few smartwatches manage this as accurately as a finger on the pulse and a stopwatch. Our tester's resting heart rate was measured at 59bpm by the Bip, while the human reading put it at 66bpm, though this isn't actually too far off.

What the watch lacks, which you'll often find in more expensive devices, is NFC for contactless payments, a microphone for responding to messages and the ability to control music.

But in other areas, the Amazfit Bip is more than serviceable and one of its standout features is its incredible battery life. We enabled every function we could find, turned up the screen brightness, and used the Bip to track GPS location during a walk and a bike ride. Over two days of light use it lost just 3% of its total charge. We reckon an average user will get around two to three weeks between charges.

> " The quality and range of features built into the Amazfit Bip defies belief "

PRODUCT INFO

Amazfit Bip
Price: £68.99
Buy from:
bit.ly/abip448

SPECIFICATIONS
- 1.28in color touch display
- 2.5D Corning Gorilla Glass
- Optical heart-rate sensor
- Compass
- Barometer (senses elevation)
- GPS and GLONASS route tracking
- 20mm changeable watch band
- IP68 rating – resistant to dust, rain and splashing
- 190mAh Li-Polymer Battery
- 31g

FOR
- ✓ Great value for money
- ✓ Long battery life
- ✓ Heart-rate and sleep monitoring

AGAINST
- ✗ Average app
- ✗ No music
- ✗ No microphone

OUR VERDICT ★★★★☆

Given its low price, the quality and range of features built into the Amazfit Bip defies belief. It monitors workouts, sleep and heart-rate, and includes GPS tracking and more, all managed by a cheerful, if simplistic, app. It's also one of the most comfortable watches we've worn and its heroic battery life means you'll hardly ever need to take it off.

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

🛒 Web User's Best Buys

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

HARDWARE

LAPTOP

Asus ZenBook UX410

£539.95 from **bit.ly/asuszb447**
Tested: Issue 447

This laptop, with its compact aluminium body and impressive design, feels built to last. Performance was middling, though it's fine for everyday tasks, and the screen looks fabulous.

KEY SPECS

Dual-core Intel Core i3-7100U processor ■ 4GB memory ■ 128GB storage ■ 14in 1,920 x 1,080-pixels screen ■ USB-C, USB 3, 2 x USB 2 ports ■ 802.11ac Wi-Fi ■ Windows 10 Home ■ 323 x 223 x 19mm ■ 1.4kg ■ 1-year return-to-base warranty

MONITOR

BenQ GL2580HM

£109.99 from **bit.ly/benq445**
Tested: Issue 445

This BenQ monitor's stylish slim bezel and attractive design are matched by its solid performance and good-quality colour display. However, it's not suited to serious gamers.

KEY SPECS

24.5in screen ■ 1,920 x 1,080-pixel resolution ■ 16:9 aspect ratio ■ 16.7 million colours ■ 50-76Hz refresh rate ■ 1,000:1 native contrast ■ 2ms response time ■ HDMI, DVI and VGA ports ■ two 1W speakers ■ 42.6 x 55.7 x 17.5cm ■ 4.4kg

PC

Palicomp AMD Gravity RYZ1

£799.99 from **www.palicomp.co.uk**
Tested: Issue 443

This is the best PC we could find for under £800. It's powerful, well built and well balanced, so long as you're happy to use an overclocked processor.

KEY SPECS

AMD Ryzen 5 1600 processor ■ Asus Prime B350M-A motherboard ■ 8GB DDR4 memory ■ GeForce GTX 1060 graphics card ■ 240GB SSD ■ 1TB hard drive ■ 475 x 468 x 230mm tower case ■ Windows 10 Home 64-bit

SMARTPHONE

Samsung Galaxy S8

£506.99 from **bit.ly/sams442**
Tested: Issue 442

The Samsung Galaxy S8 is a terrific all-rounder. It's fast, looks wonderful, has a superb camera and boasts one of the best screens we've ever seen on a phone.

KEY SPECS

Octa-core 2.3GHz Exynos 8895 processor ■ 12-megapixel rear camera, 8-megapixel front camera ■ 4GB RAM ■ 64GB storage ■ 5.8in 1,440 x 2,560-pixel screen ■ Android 8 ■ 68.1 x 148.9 x 8mm ■ 155g ■ One-year return-to-base warranty

MINI PC

Asus VivoMini

£672.99 from **bit.ly/asus440**
Tested: Issue 440

With capable performance, generous storage and extensive connectivity, the Asus VivoMini is an impressively versatile mini PC. It's great for use in a home office and usefully offers both a main SSD and a back-up hard drive.

KEY SPECS

Dual-core 2.5GHz Intel Core i5-7200U processor ■ 8GB memory ■ 128GB SSD, 1TB hard drive ■ 6 x USB ports ■ 802.11ac Wi-Fi, Gigabit Ethernet connectivity ■ 190 x 190 x 52mm ■ Three-years return-to-base warranty

KEYBOARD

BakkerElkhuizen UltraBoard 940

£79 from **bit.ly/bakk438**
Tested: Issue 438

The Ultraboard 940 is designed for all your computing needs – desktop, laptop and mobile. It's very comfortable and has a much better build quality than most portable keyboards.

KEY SPECS

Compact form ■ Scissor-switch technology ■ Multimedia function keys ■ 2 x USB 2 ports ■ Wireless ■ Height adjustment ■ Windows, MacOS, Android, iOS ■ 285 x 147 x 19mm ■ Two-years return-to-base warranty

All prices correct at time of review

Affinity Designer...

We gave you the chance to win a copy of the professional graphic-design software Affinity Designer. Here, we showcase the work produced by our winners

Launched in 2014, Affinity Designer is an award-winning graphic-design program that's compatible with Windows and MacOS. It's the fastest, smoothest, most precise software available, helping you create exceptional, professional designs – whether you're working on branding, concept art, print projects, icons, illustrations, web graphics and much more.

Affinity Designer is incredibly fast to use – you can pan and zoom at 60fps (frames per second). You'll see changes you make in real time, helping you make perfect adjustments. It's also highly customisable, letting you create keyboard shortcuts that suit how you work, use flexible live shapes to ensure spot-on geometry and exert precise control over curves. Dazzling colours and silky smooth gradients bring your designs to life, while sophisticated text tools let you create your own exquisite, custom typography. Usefully, you can undo/redo your work over 8,000 steps, so it's easy to retrace your changes, and zoom in by an astounding factor of 1 million per cent.

Affinity Designer is available for Windows and MacOS, priced at £48.99 for the full program (there's no subscription). For more information about Affinity Designer, and to purchase the software and create your own designs, visit affinity.serif.com/designer.

FIVE THINGS TO KNOW ABOUT AFFINITY DESIGNER

The complete graphic solution
Affinity Designer is the fastest, smoothest, most precise vector graphic design software available. Every feature, tool, panel and function has been developed with the needs of creative professionals at its core.

Tool of choice for beautiful illustrations
Affinity Designer's precise control over curves, eye-popping colours and blistering performance ensure stunning results every time.

Dazzling colours
Colour is at the heart of your design, and Affinity Designer delivers in droves, with support for all major formats, ICC profiles and the latest wide gamut displays.

Precise curves
The fundamentals of crafting curves are covered expertly with the precision-engineered pen tool, which allows you to re-sculpt, hone and adjust to perfection.
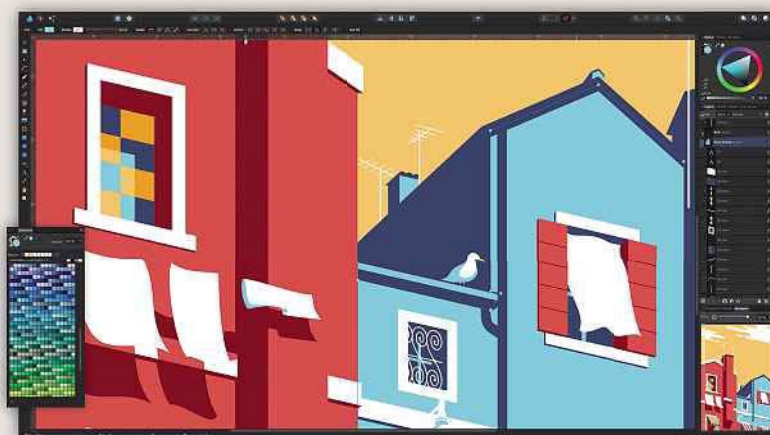
Flawless geometry
Affinity Designer's fully customisable shapes are incredibly fluid to adapt, with automatic snapping points to ensure spot-on geometry with everything you do.

Your creations!

Affinity Designer Showcase

In Issue 435 of *Web User*, we ran an exclusive competition in which we gave away copies of Affinity Designer to creative *Web User* readers who told us what they'd like to use the software for. Here, we showcase four very different examples of the work we received from our winners.

Swimming Pool by Rhys Doyle ▶

Rhys says: "I didn't really have a final design in mind when I started playing around with Affinity Designer, but I was inspired by its curve tools and shapes to create this swimming-pool scene. I really like the vibrant colours – the distinct shades of blue and the red elements really leap out at you. I can't wait to see what Affinity lets me come up with next."
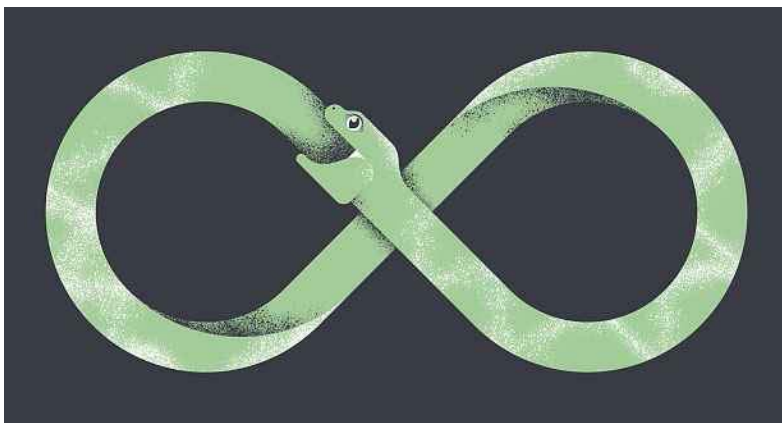
Ouroboros by Neil Donnelly ▲

Neil says: "This is my interpretation of the ancient Ouroboros symbol, which depicts a serpent eating its own tail. This is meant to represent the infinite cycle of nature and the symbol is said to date back to Ancient Egypt. Although it looks complicated, Affinity Designer made creating the design surprisingly easy and I'm planning to transfer it to a T-shirt."

Circle Mania 2 by Tom Erbe ▶

Tom says: "This website concept is for an in-progress sequel to an Android game I created a few years ago, called Circle Mania 2. Affinity Designer was extremely easy to use, super fast compared to other similar software and just worked! I didn't need a degree to use it, and if there was anything I was unsure of, the very helpful community on the forums answered my queries."

◀ *Computer Madness* by John Young

John says: "I thought I would draw someone who should probably be reading your magazine or getting some help from you and your team. Affinity Designer is a great program to use with lots of excellent tools that give you loads of scope to create designs. I will certainly enjoy making more designs for stock-image sites such as Shutterstock."

⬇ Best Free Software

PRIVACY TOOL

Avira Privacy Pal

bit.ly/avira448
Min requirements: Windows 7/8/10
File size: 5.1MB

Thanks to bombshell revelations such as the recent Facebook/Cambridge Analytica scandal (see our cover feature on page 40), we web users are more aware than ever about privacy on the web, but that doesn't mean we know how best to protect it. Privacy Pal, from security firm Avira, helps you shield your data by identifying privacy problems in Windows, preventing tracking and removing traces of your activity.

Privacy Pal's opening screen displays your system's protection status in a colour-coded wave. This shows the percentage of your data that's currently protected, the privacy settings you should adjust and the digital traces you need to fix. As you use the software, these percentages will change and hopefully improve.
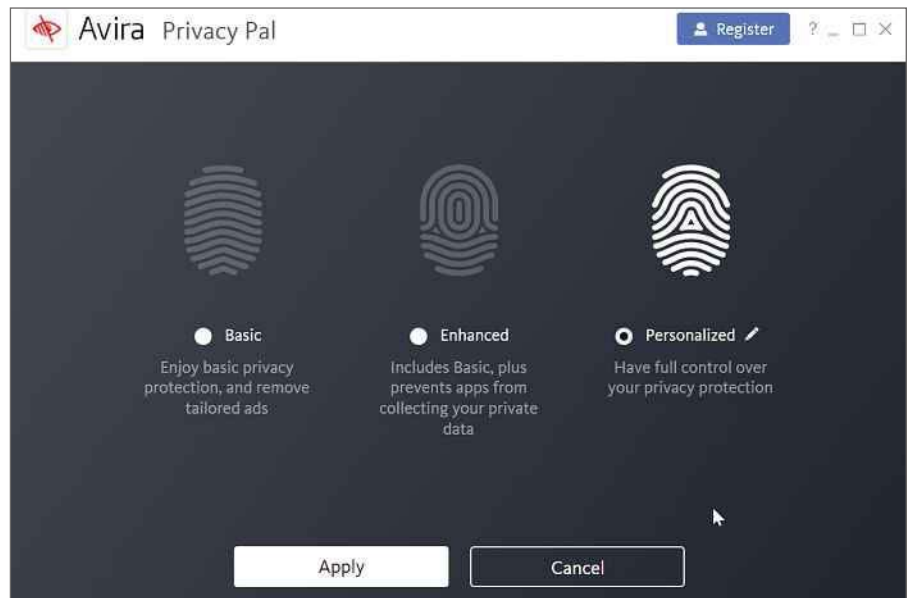
There are three privacy protection levels: Basic, Enhanced and – the default setting – Personalized. The latter offers full control over your privacy protection, but you can switch to either of the other two for a simpler approach.

Basic offers rudimentary privacy protection and removes tailored ads, while Enhanced also prevents programs from collecting your private data. The Personalized option lets you choose exactly which areas Privacy Pal should target, and you can switch between Simplified and Expert views, depending on how in-depth you want to get.

Privacy Pal lets you perform a privacy sweep of your system whenever you like, and choose which areas to target. Options include browser cache, browsing and download history, cookies, chat logs and application usage.

Note that during installation, Avira advertises its other security software, giving you the chance to install any programs that take your fancy, but it doesn't trick you into installing anything, and these options are easily bypassed.

⚙ MINI WORKSHOP | Protect your privacy using Avira Privacy Pal

1 On Privacy Pal's home screen, hover your mouse over the colourful wave to see your current protection level. **1** To change your privacy-protection mode, click the Personalised link, **2** then click Start to remove traces of your activity. **3** You can sign up for an Avira account, **4** but it's not a requirement.
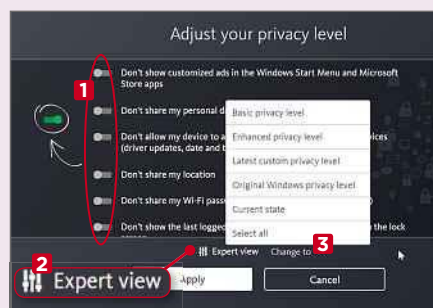
2 To customise Privacy Pal's settings, click Personalised on the home screen, then click the Edit button next to the Personalised fingerprint icon. From the screen that opens, you can use the toggles to adjust your privacy level. **1** You can switch to Expert view for more options **2** or change to a different level. **3**
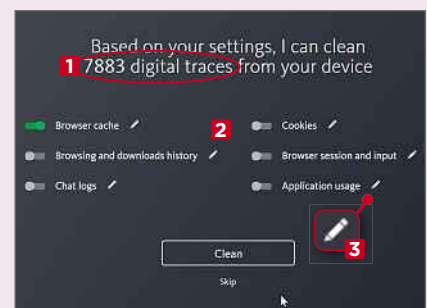
3 To remove digital traces from your PC, click the Start button on the home screen and wait while Privacy Pal scans your system. You'll be shown how many traces it can remove **1** and you can then select different areas to target. **2** Click the Edit button next to an item **3** to choose which browsers and programs to include.

This fortnight's top new software downloads to help you make the most of your PC, and they're all FREE
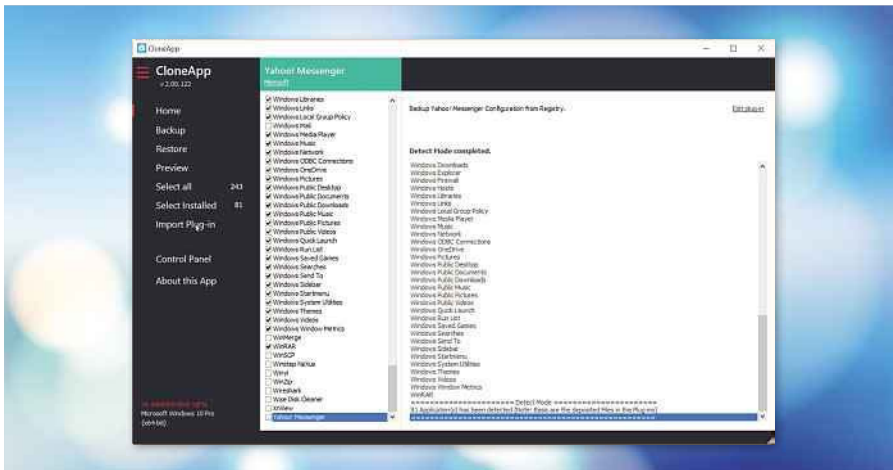
BACKUP TOOL
CloneApp 2
www.cloneapp.de
Min requirements: Windows 7/8+/10 **File size:** 225KB

CloneApp is a portable free tool that backs up tweaks and settings for your favourite software, making it easy to restore them on a new PC or a reformatted hard drive. It supports around 250 different Windows programs, and can automatically detect which ones you have installed to make it easier to back them up. It also lets you perform manual backups so you can include programs it doesn't support. The latest version has a new interface with support for themes and improved performance.
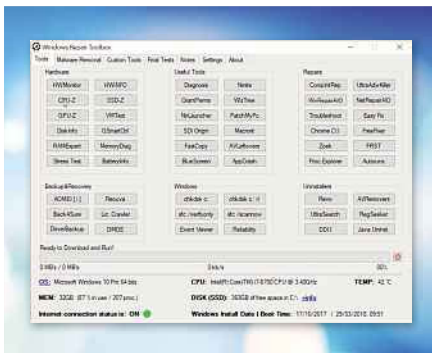
SYSTEM TOOL
Windows Repair Toolbox 3
windows-repair-toolbox.com
Min requirements: Windows 7/8+/10
File size: 3.5MB

Windows can go wrong in all kinds of ways, but there are plenty of free tools you can use to troubleshoot and (hopefully) solve any problems. Windows Repair Toolbox provides a front end for a large selection of such tools, sorted into categories including Hardware, Repairs and Backup & Recovery. Click the button for any tool to download, then run it. The new version updates the tools on offer.
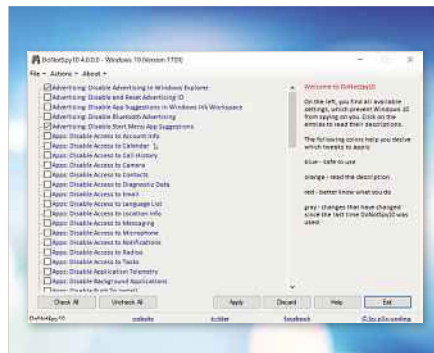
PRIVACY TOOL
DoNotSpy10 4
bit.ly/dnspy448
Min requirements: Windows 10
File size: 1.6MB

Windows 10 has a reputation for spying on its users. Microsoft provides lots of settings you can use to manage your privacy, but it's not always obvious where to find them. DoNotSpy10 lets you quickly turn off any features you feel impinge on your privacy. The new version adds support for the Spring Creators Update and applies several tweaks. Be sure to decline the junk during installation.

New Windows Apps

Ouga — Tumblr App
bit.ly/ouga448
Min requirements: Windows 10
File size: 19.62MB
This is a third-party Tumblr app that lets you post text, photos, quotes, links, music and videos to your Tumblr blog. You'll need to sign into your Tumblr account to use it.
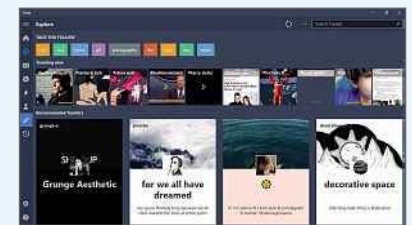
Spreadsheet Conversion Tool
bit.ly/spread448
Min requirements: Windows 10
File size: 27.21MB
This app lets you convert spreadsheets from one format to another, including to image files. It supports Excel XLS and XLSX, OpenOffice ODS and plain CSV files.

Simplenote
bit.ly/simplen448
Min requirements: Windows 10
File size: 200MB
Simplenote is available for a range of operating systems, and now as a Windows 10 app. It lets you keep notes, ideas and lists, and sync the data between different devices.

⬇ Best Free Software

SYSTEM TOOL
StopUpdates10
bit.ly/stop448
Min requirements: Windows 10
File size: 1.1MB

It's important to keep your PC up to date to protect it from attacks and vulnerabilities. Windows 10 updates itself automatically, so you don't have to do this manually, but its timing may not always be convenient. There are a number of settings that give you control over this, but if you want to completely pause updates and upgrades for a set period, then StopUpdates10 has you covered. Launch this free tool, click the big red Stop Windows Updates button and it will make some changes to the Registry that prevent future updates and upgrades.

You can restore the update functionality if you change your mind.
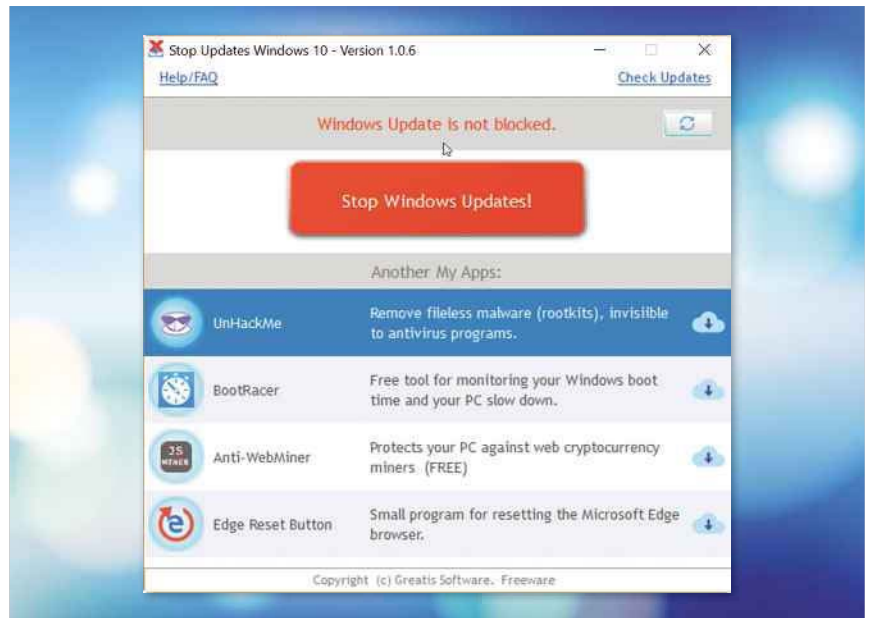
DVD RIPPER
Free DVD Ripper Speedy
bit.ly/dvdrip448
Min requirements: Windows 7/8+/10
File size: 35.8MB

Free DVD Ripper Speedy lets you create backups of your DVDs. Simply select a source – DVD Disc, ISO Image or DVD Folder – and the program will select the main movie. You can perform some basic edits – such as adding and removing subtitles, cropping, clipping and applying effects – and adjust the quality of the exported video.

The free version only saves the files as MPEGs. If you want a different format, such as MP4 or MKV, you'll need to upgrade to the paid-for edition for $29.95 (£21).

When you've made your changes, click the Run button to start the ripping process. It's pretty quick, and you can cancel at any time.

FILE MANAGER
Windows File Manager 10
bit.ly/winfile448
Min requirements: Windows 7/8+/10
File size: 729KB

Fancy a trip down memory lane? Microsoft has open-sourced its original dual-pane file manager, which first appeared in Windows 3.0 back in 1990. A Microsoft developer has updated it to run on Windows 10 systems, and added some modern keyboard shortcuts.

Despite these minor tweaks, File Manager remains pretty much unchanged from the version you may remember. The dated design and little yellow file-cabinet icon will no doubt have you feeling suitably nostalgic, while at the same time appreciating just how far things have come since then.

You don't need to install the program – just download and run the file.
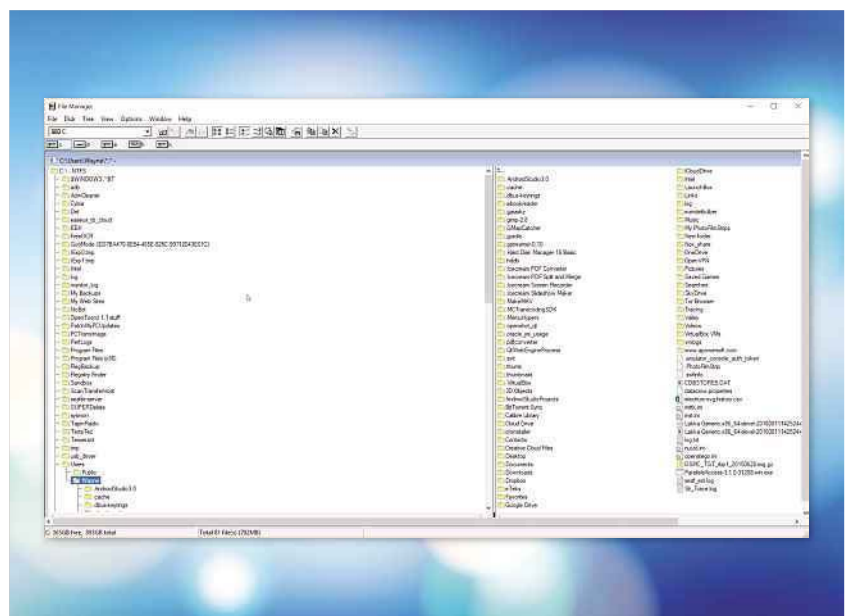
GAME

The Librarian

bit.ly/lib448

Min requirements: Windows 7/8+/10 or MacOS
File size: 49.1MB

Begun some years ago but only just finished, The Librarian is a short point-and-click adventure that stars – you guessed it – a librarian, who is faced with very some odd goings-on in her library. There's no dialogue, but the game features excellent retro pixelated art and some well-designed puzzles.

✗ Don't install...

Vliv

bit.ly/vliv448

Min requirements: Windows XP
File size: 24MB

This image viewer is specifically designed to open very large TIFF files, which may have been handy in 2004 (when the program was last updated), but is a pretty standard feature these days. It's certainly not worth paying $30 (£21) for, as the out-of-date website is still asking.
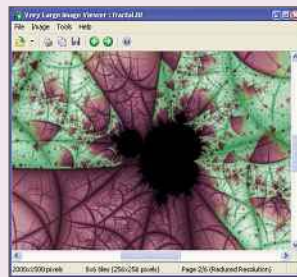
...Install this instead ✓

Free Vimager

bit.ly/freev448

Min requirements: Windows Vista/7/8+/10
File size: 1.8MB

FreeVimager's developer has packed as many useful features as possible into its tiny file size. This free, speedy image viewer and editor lets you easily resize and crop your images; adjust brightness, contrast, saturation, hue and gamma; fix red eye and other problems; and edit EXIF data to remove personal info. When you've finished perfecting your photos, you can use Free Vimager to export them to a PDF file, display them in a slideshow, burn them to disc and optimise them for sending by email. There are installer and portable editions available, too.

UPDATED | New tweaks and fixes for your favourite free programs

INSTALLER HELPER

Unchecky 1.2

unchecky.com

Min requirements:
Windows 7/8+/10
File size: 1.3MB

Unchecky helps you avoid accidentally installing the unwanted junk that's often bundled with free software. This new version adds support for Messenger for Desktop and improves support for a number of free programs, including the latest version of Firefox.

IMAGE EDITOR

ImBatch 5.9.1

www.highmotionsoftware.com

Min requirements:
Windows 7/8+/10
File size: 14.8MB

ImBatch lets you make multiple changes to whole batches of photos in one go by queuing up tasks. The latest release adds a Preserve Structure option to the program's Optimize For Web task to prevent any reduction in quality, and fixes a couple of bugs.

ANTI-MALWARE TOOL

Malwarebytes AdwCleaner 7.1

bit.ly/adwc448

Min requirements:
Windows 7/8+/10
File size: 6.9MB

AdwCleaner can remove toolbars, adware, hijackers and other potentially unwanted programs from your browsers. This release has a new user interface that displays better on high-DPI screens, and adds support for synchronised add-ons in Chrome.
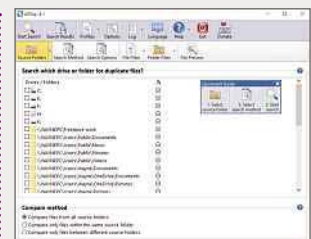
DUPLICATE FINDER

AllDup 4.1

bit.ly/alldup448

Min requirements:
Windows 7/8+/10
File size: 7.7MB

AllDup scans your system for duplicate files and lets you quickly and easily delete any unwanted copies. The updated version of the program can search for files with similar names, and you can now stop a search after a set number of duplicates have been found. ■

Best New Browser Tools

Lock down your online privacy settings

Back in Issue 432, we recommended a tool called PlusPrivacy (plusprivacy.com), which lets you manage your privacy settings for social networks, apps and extensions via a unified online dashboard. Now, in the wake of the Facebook-Cambridge Analytica scandal, the service has dropped the requirement for users to open an account and sign in, which means you can use it anonymously, with all data stored locally rather than shared with PlusPrivacy. The simplest way to use the extension is to select 'Single click privacy' to lock down your settings on all the social sites and apps that you're currently logged into. However, we'd advise taking a more methodical approach and going through each of the the options in the sidebar – these include Facebook, Twitter and LinkedIn, and Chrome add-ons, as well settings for blocking ads, trackers, malware domains and social-media buttons. PlusPrivacy also lets you create fake email identities to use when signing up for websites, but this feature does require you to provide your real email address.
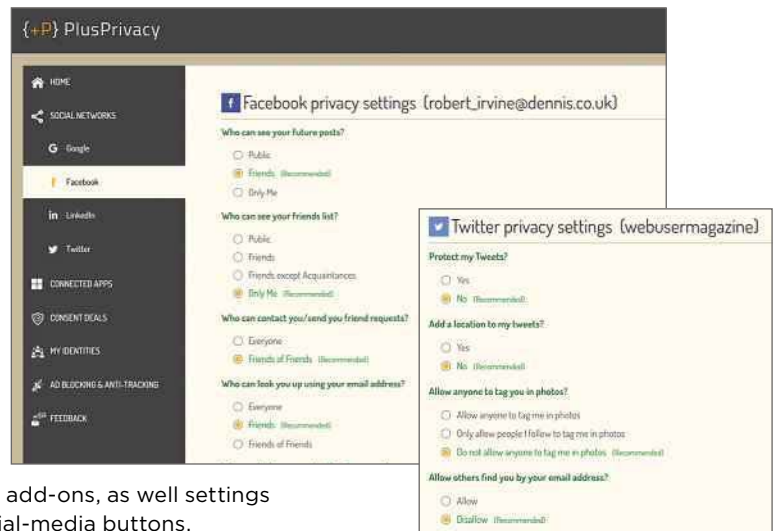
Protect yourself against phishing scams

Phishing sites, which try to steal your password or other confidential information by tricking you into believing you're on a legitimate website, can be very convincing and sometimes have almost identical web addresses to the sites they're spoofing. The scammers use Unicode or other non-standard characters to recreate alphabetical URLs, then wait for unsuspecting web users to click through to them. A new Chrome extension called PhishProtect (bit.ly/phish448) safeguards you against this devious practice by warning you when the site you're trying to visit contains unusual characters in its domain. The add-on quickly redirects you to a safe page, although you can choose to 'Continue anyway' if you're willing to take the risk. PhishProtect is currently in beta, so you may encounter the occasional bug.

Remove junk using Chrome Cleanup

Google has long offered a Software Removal Tool – later renamed Chrome Cleanup – that finds and removes suspicious programs that interfere with its browser's settings and performance. As of Chrome 65, this has been integrated with the browser's settings, so you can scan your system for junk without first having to download a separate tool. Instead, you can run it manually by going to Settings, Advanced and scrolling down to the new 'Reset and clean up' section. Select 'Clean up your computer' and click Find next to 'Find and remove harmful software' to perform a scan – you may want to disable the option to report details to Google.

Last month, Chrome Cleanup was the subject of some controversy when it was reported that the tool runs automatically in the background once a week, with no option to turn it off. Google dismissed concerns by saying that the scan only covers items that could hijack the browser and that the tool is "heavily sandboxed" to prevent abuse.

Display GIFs on your New Tab page

If you're tired of seeing the same old search box and websites every time you open a new tab, AnimatedTabs (bit.ly/animated448) can bring the page to life. It displays a different animated GIF each time you click the 'New tab' button, so you can watch low-quality clips of amusing cats, crazy stunts and movie scenes, complete with a caption, before you decide which web page to open. The random nature of the GIFs keeps things interesting, and there's a Work button that pauses playback and switches to calendar view when you're too busy for amusement.

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

FIREFOX

Stop Facebook tracking you around the web

Facebook has rightly come in for a lot of criticism following the Cambridge Analytica scandal, and although Mark Zuckerberg has promised to improve privacy, little has been said about the social network's creepy tendency to follow you around the web.

Fortunately, help is at hand from an official Mozilla add-on called Facebook Container (bit.ly/container448). This isolates your Facebook activity from everything else you do online, making it harder for Facebook to track your visits to other websites. When you install the extension in Firefox, it deletes your Facebook cookies and logs you out of the site. The next time you visit Facebook, it will load in a blue browser tab (the 'container') that lets you use the site as normal without compromising your privacy. If you click a non-Facebook link while in the container, the page will load outside the blue tab.

View YouTube video info without clicking

One of the best things about YouTube is that it allows videos to be embedded on other websites, so that people can play them instantly. However, not all sites support embedding, which means viewers have to click a nondescript YouTube link that could potentially lead them to dubious or disturbing content.

A new Firefox add-on called YouTube Tooltip & Notification (bit.ly/tooltip448) addresses this problem by letting you hover your mouse over a link to view information about the video. This includes its title, duration, upload date and channel, and can be displayed as either a tooltip or a browser notification. The extension is particularly useful on online discussion boards such as Reddit, where it's not clear where a link might take you.

Restart Firefox at the click of a button

Although Firefox offers an option in its Help menu to restart the browser with add-ons disabled, there's no easy way to restart it with all your extensions intact. Unless, that is, you install Restart Browser (bit.ly/restart448), which provides you with four different ways to relaunch.

By clicking the Restart Browser button on the toolbar, you can either refresh all open tabs and windows, relaunch only the current window, set a preferred page to open on restart or designate a specific length of time after which to close and reopen the browser. The latter method requires a separate add-on called Time Restart Reloaded (bit.ly/time448), which was created by the same developer.

OTHER BROWSERS

Brave browser to get Chrome tools

When we reviewed Brave (www.brave.com) in our Switch Your Browser Now cover feature in Issue 440, our main criticism concerned its lack of customisability compared to Chrome, Vivaldi and Firefox. So we're delighted to hear the team behind Brave is working on a new version of the browser that's based on Chromium, and "will have support for nearly all Chrome features and extensions". Additionally, because Brave's main focus is on privacy, these new tools won't include any code that shares your data with Google. The release of the revamped browser, which is officially Brave 1.0, is still some months away, but you can read more info in a blog post at bit.ly/brave448.

Capture and edit screenshots

Edge extensions are now being released at a much faster rate and the latest useful tool for Microsoft's browser is Nimbus Screen Capture (bit.ly/capture448). This lets you capture screenshots of your entire screen or just a selected area; annotate your grabs with text, arrows and shapes; easily resize and crop images; and blur sensitive information such as email addresses. You can either save your screenshots to your hard drive or instantly share them online.

App of the Fortnight

SHOPPING

Amazon Shopping

bit.ly/amazondroid448
bit.ly/amazonios448

🤖 (varies) 🍎 9

UPDATED

Before you write in – yes, we know that this issue's cover feature includes the recommendation to 'Boycott Amazon' (see page 46 for our reasons why) but we couldn't ignore the latest update to the retail giant's Shopping app, which introduces two significant changes for Amazon shoppers and sellers.

The first is that you can now shop from Amazon stores in other countries without having to convince Amazon.com (US), Amazon.ca (Canada), Amazon.au (Australia) or any other foreign Amazon site that you really do want to shop there and not at Amazon.co.uk. Instead, all you need to do is open the latest version of Amazon Shopping and twiddle a few settings (see Mini Workshop, right), and you can shop from abroad to your heart's content. You can limit the products listed in searches to those that offer UK delivery and even change the currency to Pounds Sterling, so you don't need to use a separate currency converter to work out how much your purchases are going to cost.

The other big change is the addition of Amazon Launchpad – a new area of the UK store that sells innovative products from startup companies. Currently, there are six different Launchpad categories: Body, Food & Drink, Electronics, Home, Toys and 'Made on Kickstarter'. Launchpad items currently being promoted include a smartphone case that adds an extra 4.3in e-ink display to your mobile's rear, for reading ebooks and receiving live notifications. If you have a product of your own that you want to market, you can register with Launchpad as a seller – go to bit.ly/launchpad448 for more information.
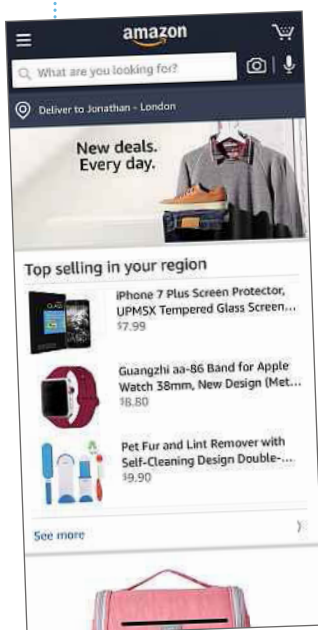
Our rating ★★★★★

MINI WORKSHOP

Shop internationally and buy from startups

1 If you want to buy and import goods from international Amazon stores, you'll need to make a few changes to the settings on your Amazon app. Open the app and sign in with your Amazon account, then tap the three-line menu button in the top-left corner. Tap the Settings option at the bottom of the menu and select 'Country & Language'. **1**

2 Tap Country. At the top of the list of countries, select the option for International Shopping, **1** then tap Done. Now, when you search for products, you'll see matching items eligible for UK shipping from other territories, including Amazon US. To change the currency to Pounds Sterling, tap the menu, Settings, 'Country & Language', then tap the Currency button. Select '£ - GBP – Pounds', then tap Done.

3 To shop through Amazon Launchpad, you need to change your country back to UK, so reverse the process you carried out in the previous two steps. Tap the three-line menu button again and select 'Programs and Features', then tap the Amazon Launchpad option. **1** The Android version of the app doesn't have this option yet, but you should find a link to Launchpad somewhere on the main screen.
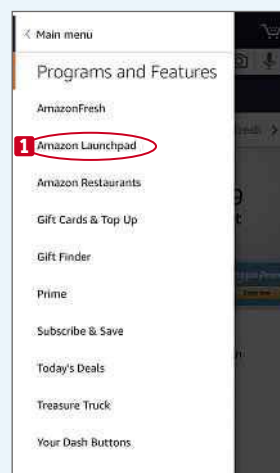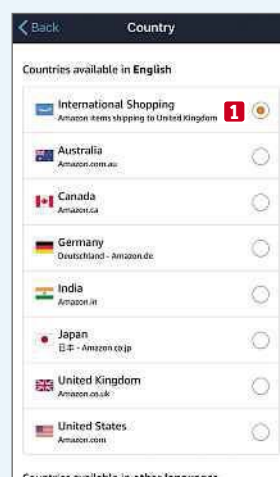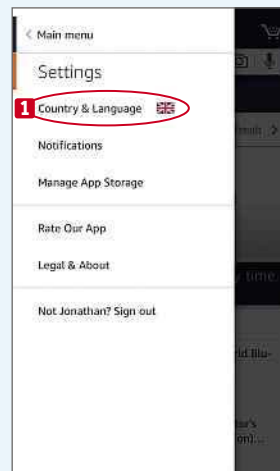
This fortnight's top free and paid-for apps for Android, iOS and Windows phones and tablets

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ORGANISER
NEW

Taskade
bit.ly/taskdroid448
bit.ly/taskios448

🤖 4.1 🍎 9

A neat idea, neatly done, Taskade is an easy way to create to-do lists that you and others can collaborate on. To use it, simply sign up for a free account, create a new group and forward the link provided to anyone you want to add to the group – family members, friends or colleagues, for example. Then tap the pen icon to create a new list that will be shared with everyone in your group. Currently, Taskade is free to use with no ads or in-app purchases – hopefully, it will remain that way.
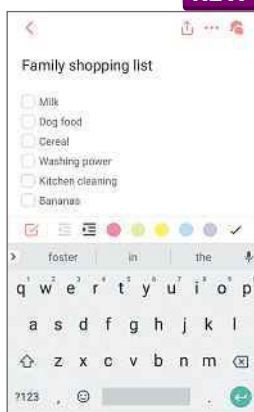
Our rating ★★★★☆

PHOTOS
NEW

Unsplash
bit.ly/unsplash448

🍎 11

Unsplash is a new app from the creators of the copyright-free photo site of the same name. Beautifully designed, Unsplash lets you search for or browse more than 450,000 high-res photos that you can download and use for school reports, blog posts or anything else you might need photos for. Images are provided for free under the Unsplash License, which allows for both personal and commercial use – there are no watermarks. Unsplash is currently only available on iOS with the bonus of support for drag-and-drop on iPad.
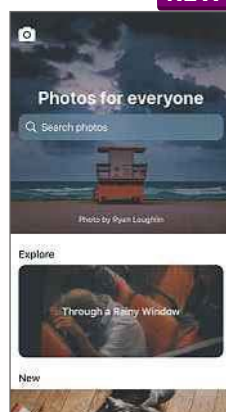
Our rating ★★★★☆

NOTIFICATIONS
NEW

Notifix
bit.ly/notifix448

🤖 5

Android's default notification manager can quickly become a jumbled mess and it's easy to lose something important in the lengthy swipe-down list of junk. Notifix is an Android notification manager with a difference. It uses machine-learning techniques to analyse the type of app sending the notification and the content of the alert itself to organise your notifications into useful categories, such as Primary, Social (for Facebook, Twitter and the like), News, Messages, Promotions and so on.

Our rating ★★★★☆

SECURITY
NEW

Exodus Privacy
bit.ly/exodusdroid448

🤖 4.1

Exodus Privacy is a non-profit organisation that analyses Android apps and detects behaviour that could endanger your privacy, such as ads, tracking and analytics. Until recently, you had to visit the organisation's website (bit.ly/exodus448) to view analysis of specific apps. But now you can use Exodus Privacy to view information on apps you've installed directly from your Android phone or tablet. Fire it up, then tap an app to view its current permissions, along with any active trackers. You can't actually disable trackers or submit apps for analysis yourself, but if you're privacy conscious, it's a useful tool to have installed.

Our rating ★★★★☆

KIDS
NEW

CBBC Buzz
bit.ly/cbbcdroid448
bit.ly/cbbcios448

🤖 5 🍎 9

Children spend more screen time on mobiles and tablets than watching TV, so it makes sense for CBBC to find new ways to engage its young audience, and the CBBC Buzz app does precisely that. It's a slick, swipe-friendly feed of bite-size content, including GIFs, memes, videos, games and interactive challenges, mostly created exclusively for the app itself. Fresh content appears twice daily – just before and just after school – and kids can choose which CBBC brands and topics they want to follow. There's a community element, too – users can react to items and, in some cases, view other users' responses.

Our rating ★★★★★

✚ Recommend free phone apps at www.facebook.com/webusermagazine

5 NEW APPS WORTH PAYING FOR

HOBBIES
Astronomy Events
bit.ly/astronomy448
Price: £3.39
🤖 4.4

If you enjoy stargazing, this app will guarantee you never miss another meteor shower again. Not only does it list forthcoming astronomical events, but it also sends push notifications to alert you.

HOBBIES
The Road Bike Manual
bit.ly/bikedroid448
bit.ly/bikeios448
Price: £2.99 (Android and iOS)
🤖 4.4 🍎 9.3

Cyclists can take this comprehensive bike-repair and maintenance guide wherever they ride. Useful tips, tutorials, videos and monthly updates make it essential for two-wheeled travellers everywhere.
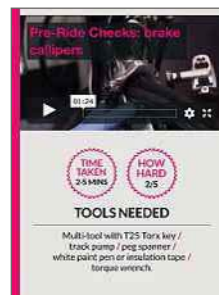
GAME
Oddmar
bit.ly/oddmar448
Price: £4.99 (iOS)
🍎 11

This gorgeous side-scrolling action platformer casts you as Oddmar the Viking, who's on a quest to prove himself across a varied selection of 24 beautifully designed environments and imaginative challenges.

SOCIAL MEDIA
Fluce for Twitter
bit.ly/fluce448
Price: 89p (Android)
🤖 5.1

This app effectively lets you put together your very own, custom-built Twitter client from the ground up, according to your preferences and requirements. It also offers custom timelines and GIF support.

HOBBIES
Birds GB
bit.ly/birds448
Price: 59p (Android)
🤖 4.4

A cheap, lightweight reference guide aimed at novice twitchers, Birds GB currently contains 250 of the most common birds in Great Britain. It's quick, easy to use and works offline.

Astronomy Events	The Road Bike Manual	Oddmar	Fluce for Twitter	Birds GB
[QR]	[QR]	[QR]	[QR]	[QR]

✗ Don't install...

Opera VPN
bit.ly/operadroid448
bit.ly/operaios448

Last month, Opera suddenly announced on its website (www.operavpn.com) that it was officially killing off its brilliant VPN for mobile devices on 30 April. Opera VPN only launched a couple of years ago and appeared to enjoy some success, so it's not clear why Opera has made the decision to discontinue the app, but users of both the free and paid-subscription version of the service will need to find an alternative.
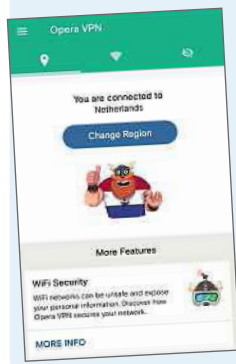
...Install this instead ✓

ProtonVPN Free
bit.ly/protondroid448
bit.ly/protonios448
🤖 4.4 🍎 9

Opera's official recommendation is to switch to SurfEasy Ultra VPN (bit.ly/surfdroid448 for Android or bit.ly/surfios448 for iOS), and since all existing Opera VPN Gold subscribers will be offered the option to redeem a free one-year subscription to SurfEasy Ultra VPN, this probably makes a lot of sense if you're already a paying Opera VPN customer. Users of the free service, however, may wish to explore alternative options. Other popular mobile VPNs include Hotspot Shield and TunnelBear. Our current favourite, though, is ProtonVPN Free, which doesn't cap your daily usage or drown you in adverts. Sign up for a free account at bit.ly/proton448. ∎
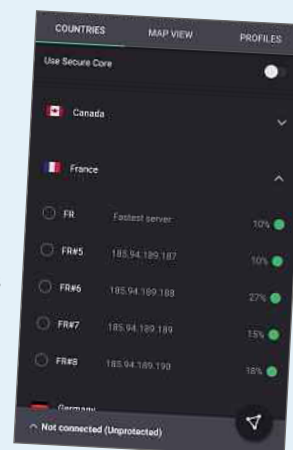
☕ Take a Screen Break

Give your eyes a rest from your browser with our fiendish fortnightly challenges. Can you guess our comedy-show emoji and work out our web year?

CAN YOU GUESS THE COMEDY SHOWS FROM THE EMOJI?

1. ⭐ ⭐

2. 👨‍👩‍👦 🧸

3. 🃏 🃏 🐎 🐎

4. 1️⃣ 🦶 ➡️ ⚰️

5. 🚌 ↔️ 🚌 ON!

6. 🍝 🚺

GUESS THE TECHNOLOGY YEAR

Can you work out which year the following tech news stories occurred in? No cheating!

1 Netflix brings its streaming service to the UK, although early subscribers are disappointed by the poor selection of films and TV shows.

2 The first-generation Raspberry Pi launches worldwide. More than 750,000 of the credit-card-sized mini PCs are sold in the first year.

3 Apple faced a backlash from users when its new Maps app for iOS 6 was found to provide no data at all for many major cities.

4 Microsoft releases its new, app-and-tile-based operating system, Windows 8. The UK's best-selling internet magazine isn't impressed.

5 Google introduces its first Android tablet, the Nexus 7, which goes on to sell more than 7 million units and is named 'Gadget of the Year'.

COMPETITIONS

WIN 1 OF 3
KitSound XDock 4+ alarm clock

KitSound's XDock 4+ iPhone-docking station has an adjustable base, letting you charge your device with its case still on. The auto-sync function sets the time and date, and you can set different alarms for different days (weekday or weekend, for example). To enter, email your address to webusercomp@dennis.co.uk with 'xdock' in the subject line. For more details, visit www.kitsound.co.uk and follow @KitSoundUK on Twitter.

WIN 1 OF 3
Handshake Mouse

The Handshake Mouse by BakkerElkhuizen is a unique mouse with a vertical grip. Its ergonomic handshake design eases repetitive pain because the wrist doesn't bend sideways as much, and the lower arm needs less inward rotation. To enter, email your address to webusercomp@dennis.co.uk with 'handshake' in the subject line. For more details, visit www.bakkerelkhuizen.co.uk and follow @BakkerElkhuizen on Twitter.

Killer robots

Could the rise of AI mean RIP for humans? **David Crookes** examines whether intelligent machines may eventually destroy us

Credit: Wikimedia Commons

Killer robots? Are they like 'killer apps'?

If only, but no: "killer" here is being used in the more traditional sense of robots that seek to slay us, rather than machines that are so desirable you'll want to rush out and buy one. The term actually describes fully autonomous weapons that will make decisions on who they should lethally target without any human intervention. They represent the dark side of artificial intelligence (AI).

Scary stuff. So how do they work?

Typically, killer robots take the guise of armed drones, tanks and automated machine guns fitted with sensors. They are able to scan video footage using advanced image-recognition algorithms to identify and select their targets, employing AI to make life-or-death

Is it a bird? Is it a plane? No, it's an armed drone and it's a bit alarming

decisions. Acting without the need to defer to a human controller, they're empowered to fire on targets. Since this hands the power and responsibility to machines, it is understandably causing widespread concern.

Why take away human control?

There is a huge push toward giving technology greater autonomy, as we've seen with the ongoing work with self-driving cars. These vehicles use algorithms to identify, track and avoid obstacles, with the hope that this leads to safer roads, more convenient travel and cheaper transportation of heavy goods (much to the alarm of lorry drivers).

In the same vein, killer robots will be cheap and effective, removing the need to train very large armies, and making combat safer (at least for the side that owns them). It's certainly no surprise to hear that autonomous weapons are being viewed as the "third revolution in warfare" after gunpowder and nuclear weapons, allowing wars to be fought on grand scales and at great speed.

Isn't it all a bit Terminator-esque?

Yes, to some degree, but it's no movie fantasy. Strides are already being taken to make killer robots a reality. Google is understood to be working with the US Department of Defence on Project Maven

(bit.ly/defence448), helping to develop AI algorithms that will autonomously extract information about objects spotted in videos taken by drones, although it insists "the technology flags images for human review, and is for non-offensive uses only". That hasn't prevented 3,100 Google employees from signing a letter asking Google to stop its involvement, however. "We believe that Google should not be in the business of war," the letter says (bit.ly/letter448).

So is America at the forefront?

Not necessarily. Other countries, from China and Israel to Russia and the UK, are also taking an interest in killer robots, although none are actively manufacturing and selling autonomous weapons right now. Indeed, the British Military of Defence has been test-flying the Taranis

Samsung doesn't just make exploding phones but autonomous weapons, too

unmanned drone made by BAE Systems (bit.ly/baesystems448). Designed to carry a payload of guided missiles and bombs, it has an autonomous flight mode, allowing it to self-navigate within set constraints.

More controversial, however, is the news that a South Korean university has partnered with weapons manufacturer Hanwha Systems, which makes cluster munitions that are banned in 120 countries. There are concerns that the deal to "provide a strong foundation for developing national defence technology" could lead to killer robots, and AI researchers from nearly 30 countries have pledge to boycott the university in response. Samsung's SGR-A1 gun already assists South Korean troops in the Korean Demilitarised Zone: it includes surveillance, tracking, firing and voice-recognition, and can be fired autonomously.

What are the campaigners saying?

According to the letter addressed to both the Korea Advanced Institute of Science and Technology (KAIST) and Hanwha Systems (bit.ly/kaist448): "It is regrettable that a prestigious institution like KAIST looks to accelerate the arms race to develop such weapons." But KAIST president Sung-Chul Shin says the university "does not have any intention to engage in development of lethal autonomous weapons systems and killer robots." It adds that it is "significantly aware of ethical concerns".

Surely the United Nations is worried?

It is. More than 20 countries have called for killer robots to be banned and the UN recently met in Geneva to discuss

Hopefully, killer robots have the heart to listen to campaigners' concerns

autonomous weapons. That's good news for the Campaign to Stop Killer Robots (www.stopkillerrobots.org), which has been pushing for a total ban since 2014, although the Convention on Conventional Weapons did not take any formal decisions. For the record, the countries looking to ban killer robots include Argentina, Brazil, Cuba, Egypt, Iraq, Mexico, Pakistan, Uganda and Zimbabwe.

So can we stop robots ruling the world?

That's the plan, but some high-profile names reckon we've got a job on our hands. Elon Musk, the multi-billionaire CEO of SpaceX, worries that authoritarian governments may produce "an immortal dictator from which we would never escape".

Musk believes that governments do not have a proper handle on AI technology and its growing influence and evolution. He is concerned that we will develop regulations when it's too late for them

Elon Musk may be worth $20bn but killer robots still keep him awake

to be effective and that we could conceivably become mere pets to super-intelligent machines. "Until people see robots going down the street killing people," he said last July, "they don't know how to react because it seems too ethereal". He has repeatedly said that AI is more dangerous than nuclear weapons.

The late, great Stephen Hawking agreed that AI could be the "worst event in the history of our civilisation". Both men called for urgent regulation in a bid to control AI's development.

But why are robots hell-bent on 'going rogue'?

Ah, good question. And the answer is: they probably aren't. Robert A Johnson, author of the recently published *Thinkonomics: Illustrated Critical Thinking Articles*, agrees that our brains will become inferior to artificial intelligence at its highest level and that robots will be able to learn and process data more quickly than us. But he argues against Musk's assumption that just because humans have farmed other species, gone to war and become obsessed with power means that robots will follow suit. Rather, he says robots will only become killers if we want them to.

"Robots are no more likely to want to rise up and dominate the Earth than they are to want to drink sugary drinks, inject heroin or watch reality TV," he wrote in *The Independent*. "That we see dominating Earth as the end goal of a perfectly rational individual says much about our own evolution, and very little about robots."

HOW BAD COULD KILLER ROBOTS *REALLY* BECOME?

Sometimes mere words are ineffective, which is why campaigners against killer robots have sought to show as well as tell of the potential dangers posed by autonomous machines.

With this aim, two key films have emerged in recent months: *Slaughterbots*, which runs for seven minutes and 47 seconds, can be viewed for free on YouTube (bit.ly/slaughter448). It was shown at last year's Convention on Conventional Weapons, and starts with the announcement of a fictional drone packed with a wide-field camera, tactical sensors, face recognition and a shaped explosive, then depicts it killing politicians and activists without human intervention.

The documentary *Do You Trust This Computer* (bit.ly/trust448) goes even further and looks at the pros and cons of AI. "We're rapidly headed towards

digital super intelligence that far exceeds any human, that's very obvious," says Elon Musk, who reckons there only is a "five to 10 per cent chance of success" if we decide to wage war against them.

BOYCOTT
Facebook Google Amazon

COVER FEATURE

Could you, and should you, stop using the trio of web giants accused of money grabbing, data stealing and tax avoidance? **Robert Irvine** explains how you can ditch the dictators that rule our online lives

On 12 March this year, to mark the web's 29th birthday, Sir Tim Berners-Lee published an open letter on his website in which he bemoaned the online supremacy of a handful of tech giants. "What was once a rich selection of blogs and websites has been compressed under the powerful weight of a few dominant platforms," he wrote, ascribing the success of these platforms to "the competitive advantage that their user data gives them" (bit.ly/berners448).

It's not difficult to guess which companies Sir Tim was referring to: Facebook and Google have built their multi-billion-dollar empires through the collection of their users' data, while Amazon knows more about your tastes and interests than you do.

None of this is a secret, of course, but the recent backlash against Facebook over the Cambridge Analytica scandal suggests that many of us have reached data-collection breaking point and find these companies ruthless, devious and avaricious. But what are the alternatives?

In this feature, we reveal how you can stop using Facebook, Google and Amazon – temporarily or permanently – and explain the benefits of switching to services that treat you and your privacy with greater respect.

BOYCOTT FACEBOOK

We don't need to tell you that the past few months haven't been great for Facebook. The Cambridge Analytica scandal revealed what most of us had long suspected but chose to ignore – that Facebook shares our personal data with third parties, who then use that data to target us with advertising, marketing and propaganda. This was followed by disclosure of further privacy breaches and calls for regulation of the social network.

When Facebook CEO Mark Zuckerberg appeared before US Congress, he admitted that the company had "made a lot of mistakes" and promised to try harder in future. But considering that he's made a $70bn fortune from peddling user data, while repeatedly claiming that same data is owned and controlled by individual users, it's unlikely the social network will completely rethink its business model. And besides, why should we trust Mr Zuckerberg's word when he clearly knew exactly how our personal information was being shared and processed? And what else is he hiding?

If you haven't already joined the #DeleteFacebook campaign that began in the wake of the Cambridge Analytica revelations (apparently 9% of Americans now have), we explain here how you can stop using Facebook without sacrificing your favourite online activities and recommend the best alternatives.

LOG INTO SITES WITHOUT FACEBOOK

One reason many Facebook users are reluctant to delete their accounts is that they used their Facebook logins to sign up with other services. Fortunately, there are workarounds that let you disconnect from Facebook without losing access to your content elsewhere. Here's what to do for three commonly linked services.
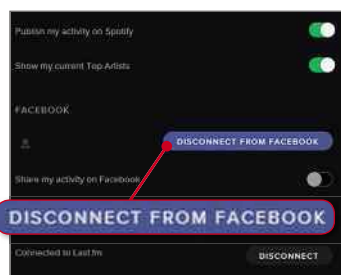
SPOTIFY
www.spotify.com

There was a time when Spotify forced you to use Facebook to sign up, and even when this ridiculous restriction was dropped, many of us still used the same login option for speed and convenience. Annoyingly, this means you can't disconnect your current Spotify account from Facebook. However, you can cancel it and switch to a new one, to regain access to your music-streaming library and playlists – provided you're a Premium subscriber. Spotify provides instructions for this on its Help page 'I want to use Spotify without Facebook' (bit.ly/spotifyfb448).

If you signed up for Spotify using your email address and connected it to Facebook later to enjoy the 'social features', then disconnecting is much easier. Open the Spotify desktop app (you can't do this on mobile), click the down arrow in the top-right corner and choose Settings. In the Social section, select 'Disconnect from Facebook'. That's it!

Disconnect Spotify from Facebook to keep your listening private

INSTAGRAM
www.instagram.com

Yes, we realise that Facebook owns Instagram, but the photo-and-video-sharing service also functions independently within its parent company and – as far as we know – hasn't compromised 87 million users' data or let Russians try to influence elections. If you want to stick with Instagram while ditching Facebook, you can disconnect them by opening the Instagram app and going to Settings, Linked Accounts. Select Facebook, then press Unlink Account and tap Unlink or Yes I'm Sure to confirm. This will stop your Instagram content appearing on Facebook, although of course you'll effectively still be a Facebook user.

You can unlink Facebook from your Instagram account or delete the latter, too

To delete your Instagram account as well, log into the Delete Your Account page in your desktop browser (bit.ly/insta448), choose a reason, such as 'privacy concerns', from the drop-down menu and select 'Permanently delete my account'. If you signed up with Instagram through Facebook, you'll (rather ironically) need to enter your Facebook password to leave.

AIRBNB
www.airbnb.com

Airbnb lets you use Facebook both to sign up with the home-rental service and to verify who you are, so potential hosts and guests know they can trust you. If you no longer trust Facebook and want to unlink it from your Airbnb account, you can sign in

Turn off Airbnb Social Connections to stop Facebook seeing what you're up to

using email instead and avoid using it for verification. Go to Profile, 'Trust and Verification' and disconnect Facebook there. If you've turned on Airbnb's Social Connections feature, which lets Facebook friends see your activity on the site, you can disable that by going to Profile, Privacy and deselecting 'Share my activity with my Facebook friends that are also on Airbnb'.

BEST ALTERNATIVES TO FACEBOOK

With more than 2.2 billion users worldwide, Facebook is so ingrained in our lives that you may find it hard to imagine giving it up completely. Even if you don't post very often, it's still a useful way to chat, share photos and find out what your friends are up to, but there are other similar sites and apps. Here are six less nosy options to try.

### RAFTR
www.raftr.com

Whereas your Facebook news feed is (or was) a jumble of posts of varying degrees of interest, Raftr lets you browse communities – called 'rafts' – about news, topics and activities you actually want to read about and discuss. In this sense, it's similar to Facebook's Groups feature, but with a cleaner, better organised interface. Sharing thoughts, photos and videos is very
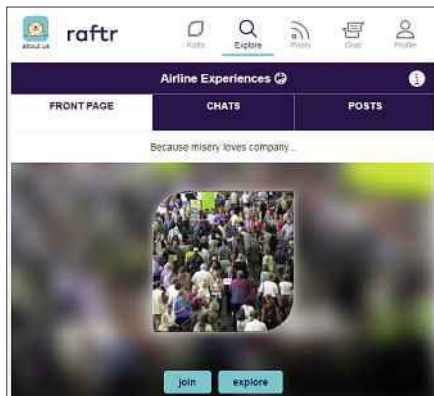
Raftr is a friendly social network connecting people with similar interests

straightforward, as is exploring and joining rafts that interest you.

Raftr is available on the web and as an iOS app, and you need to provide your phone number to sign up, so it can "verify your identity with a unique, texted code each time you log in", and prevent abuse and spam. It's certainly worth a look, although currently there's a bias towards US college students – just like early Facebook!

DIASPORA
diasporafoundation.org

Right from its homepage, Diaspora promises to be very different from Facebook. This non-profit social network lets you choose where in the world your data is stored, by selecting a 'pod' server when you sign up. It gives you total control over who can see the content you share, and there's no requirement to use your real identity, so you're free to use a pseudonym. Twitter-like features such as 'mentions', 'reshares' and 'loves' make Diaspora feel familiar, and you can explore the content
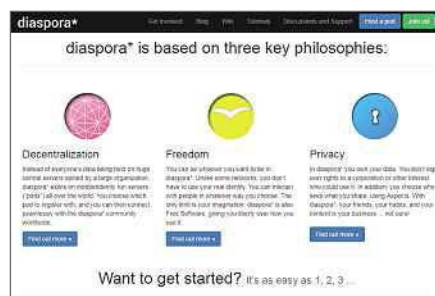
Diaspora respects your privacy and feels familiar but it's also underpopulated

by following topic-based hashtags.

Since 2010, Diaspora has attracted around a million users, but only has two UK-based pods, so you may find it pretty quiet. Perhaps the Facebook backlash will encourage more sign-ups.

VERO
www.vero.co

Available for Android and iOS, Vero was hyped earlier this year as the "new Facebook", offering many of the same features but with better privacy. Unlike Facebook, Vero doesn't use mysterious algorithms, which means your news feed is organised chronologically, isn't curated or manipulated in any way, and lets you choose exactly who can see the content you share. Best of all, Vero has no sponsored ads and promises not to sell your information to third parties. Because Vero doesn't use paid-for advertising, it plans to make money by charging an annual subscription fee, though the cost has yet to be confirmed. Currently, it's free for anyone to sign up, but this is partly to compensate for the number of bugs and outages the service has suffered.
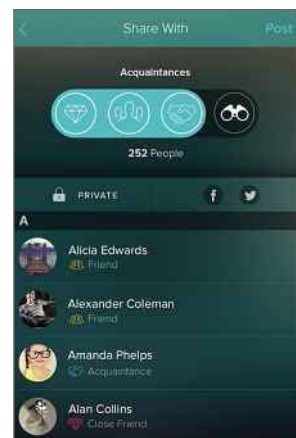
Ad-free app Vero lets you control who can see the content you share

NEXTDOOR
nextdoor.co.uk

Nextdoor turns Facebook's local-groups feature into "the private social network for your neighbourhood", connecting you online with people who live nearby. Users can discuss issues
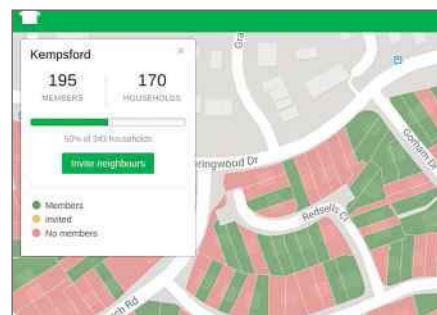
Nextdoor connects you with neighbours and marks members' homes on a map

TWITTER
www.twitter.com

Twitter is far superior to Facebook for breaking news (just don't believe everything you read), less cluttered with ads and annoyances, and allows you to interact with celebrities and companies on the same level. Conversation is fast, unfiltered and concise, and it's easy to share photos, videos and GIFs, as well as opinions, jokes and pithy replies. Unlike Facebook, you don't have to hand over lots of private data to use Twitter – not even your real name – and can opt out of personalised ads by going to Settings, 'Privacy and safety', Personalisation and choosing 'Disable all'.

Sadly, Twitter is no stranger to data breaches – in 2016, 32 million users' passwords were stolen – and its privacy policy is far from perfect, allowing for the "collection, transfer, storage, disclosure and use of your information". Remember too that, unlike Facebook, Twitter is a public arena where anyone can read what you say, so it's not ideal for sharing personal pictures, while the flurry of content can make it difficult to follow conversations. There's also the ongoing problem of 'trolls' posting abusive and pointless content, although Twitter recently improved its tools for blocking and reporting offensive users.


Twitter is great for interaction but it can be confusing and is more public than you may realise

affecting their community; advertise items for sale or free collection; request and offer services such as decorating, dog walking and house sitting; recommend plumbers, cleaners and other tradespeople; share details of lost and found items; or just have a moan.

Nextdoor's Facebook-style interface makes it easy to use, but you need to provide your phone number or address to sign up. This helps to deter troublemakers, but you may see it as an invasion of privacy, particularly as your home is then marked on the neighbourhood map (unless you hide it).

SIGNAL
signal.org
Facebook-owned WhatsApp uses end-to-end encryption, but the data-sharing scandal may make you less confident about the messaging app's privacy. In March, the Information Commissioner's Office ruled it illegal for WhatsApp to share data with Facebook, but this may change once the General Data Protection Regulation (GDPR) comes into force later this month.

If you love to chat, but you no longer feel comfortable using WhatsApp – let alone Facebook Messenger – you're better off using Signal. Available for Android, iOS, Windows, MacOS and Linux, this ultra-secure messaging service also uses end-to-end encryption, but dispenses with privacy-invading notions such as accounts, tracking and cloud backups. It lets you set messages to self-destruct after a specific length of time and offers encrypted voice and video calls

You need to provide your phone number to register with Signal and verify your account, but once you've received the confirmation code (or automated voice call), everything thereafter is done online. The only drawback is that your friends need to be on Signal for you to chat to them, but as it's quick, easy and free to sign up, this shouldn't be a problem.

Signal encrypts all your messages and calls

❌ DELETE, DEACTIVATE OR DOWNLOAD?

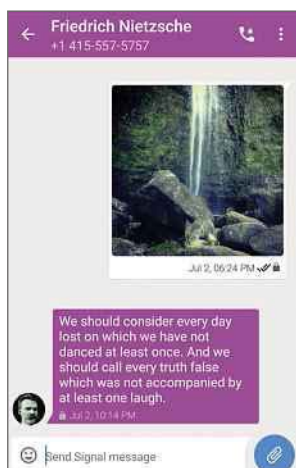Facebook has responded to the Cambridge Analytica fiasco with new privacy controls that it hopes will restore users' confidence. Here's a summary of what you can now do to review and protect your data.

● To check if your data was affected by the Cambridge Analytica breach, go to bit.ly/ca448. Here, Facebook tells you whether you or any of your friends logged into the controversial app This Is Your Digital Life, and inadvertently shared your data.

● A new feature called Access Your information displays all your Facebook data on a single page, organised into categories such as Friends, Posts, Likes Photos and Videos, so you can delete specific types of information. You can also delete things you've searched for, and even move your data to another service – though this feature wasn't unavailable at the time of writing.

Find out if your data was shared with Cambridge Analytica

● The Facebook mobile app has been redesigned to make it easier to find specific privacy settings. Previously, these settings were spread over nearly 20 different screens, but they're all now accessible in a single location.

● There's also a new Privacy Shortcuts menu that gives you control over your data in a few taps and provides clearer explanations of how privacy controls work, including two-factor authentication and opting out of targeted advertising.

● You can download all the data Facebook has gathered about you over the years – including posts, photos, videos, messages and profile information – as a single package. Just click the arrow in the top-right corner and choose Settings, then 'Download a copy of your Facebook data'. Select Download Archive and after 20 minutes or so, you'll receive a link to download the ZIP file.

● You can leave Facebook temporarily – rather than forever – by deactivating your account. On the General Account Settings page, click Edit next to 'Manage account' and choose 'Deactivate your account'. Alternatively, to delete your account permanently, go to bit.ly/fbdelete448. We would recommend downloading your data first because you won't be able to retrieve it afterwards.

Facebook has made it easier to review your privacy settings
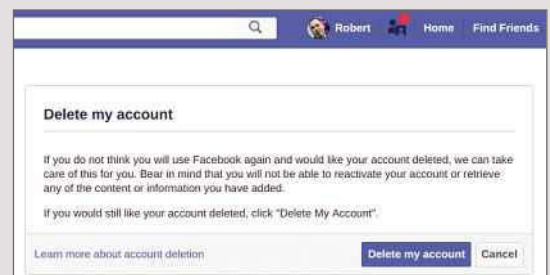
Delete your Facebook account and move on

BOYCOTT GOOGLE

Google must be delighted that Facebook has been hogging the headlines for the past two months, because the Cambridge Analytica bombshell has drawn attention away from Google's own greedy attitude towards our data. Here at *Web User*, however, we don't forget or forgive so easily, and figure that if you're going to boycott Facebook for its privacy-invading practices, you should give Google the heave-ho, too. After all, Google is even worse for collecting and sharing our data, and treating its users as 'the product'.

Indeed, many news sources believe that Google executives will be next to face a government grilling. "It's unclear how long Google will be able to stay out of Facebook's data-privacy shadow", said the *Washington Post*. Only last month, a coalition of more than 20 privacy groups filed a complaint alleging that Google-owned YouTube had violated laws that protect children's online privacy by harvesting young users' data to target them with adverts (bit.ly/youtube448). Google's defence was that kids shouldn't be using YouTube in the first place! This, from a company whose official motto is – or at least, was – "You can make money without doing evil".

Here, we recommend the best new alternatives to Google's most popular online tools and explain how and why you should abandon your Google accounts.

YOUTUBE
www.youtube.com

We're sure you're familiar with 'posh YouTube' Vimeo (vimeo.com), but when was the last time you visited Dailymotion (www.dailymotion.com)? A recent, radical revamp has made this service a stronger YouTube rival by trading its scrappy old design for a smarter, speedier viewing experience on both desktop and mobile. The video player is larger and better quality than YouTube's, and usefully plays content in a pop-out window so you can continue watching while searching. The downside is that many videos now come from Dailymotion 'partners' rather than users.

The dark, mysterious BitChute (www.bitchute.com) is closer to YouTube in design and content, but without its adverts, data harvesting, censorship and obsession with 'monetisation'. It's powered by BitTorrent, so users can share content directly through the site rather than having it processed by Google servers, although this also means another 'peer' must be 'seeding' a video for you to stream it.

Launched last year, BitChute is rapidly growing in popularity, and has yet to be contaminated by idiots.

BitChute is a new YouTube alternative that doesn't target you with ads

SEARCH
www.youtube.com

Google search's ubiquity and quality might make boycotting it seem both impossible and pointless, but there are good alternatives available – and we don't just mean Bing and DuckDuckGo. Qwant (www.qwant.com), for example, describes itself as the "only European search engine" that doesn't use cookies or trackers, or collect data about your searches. Whereas most privacy-focused search engines are pretty basic, Quant has an attractive homepage that features photos, videos, personalities and hashtags from 'trending' news stories, and offers a choice of searches including Web, Social, Images, Videos and Music. Its search results include ads, but these are unobtrusive, and its Boards feature lets you share your own content. Qwant mobile apps and

GMAIL
mail.google.com

Though Google no longer scans our Gmail messages to target us with ads, it now uses information from our other online activities and our physical locations, and still scans our emails for other reasons – such as to generate 'smart' replies. Outlook.com also scans messages "to help protect you and display, categorise and sort your mail appropriately", so it's not necessarily a more secure alternative – especially as Microsoft is obliged to hand your emails to the authorities when requested.

For truly secure free webmail, you need to look outside the Five Eyes countries to a service such as ProtonMail (protonmail.com), which was developed by the CERN research facility and is based in Switzerland, outside EU and US jurisdiction. Available in your browser and as Android and iOS apps, its end-to-end encryption stops your messages being intercepted, and it doesn't store IP-address logs that identify your computer. It even has a hidden Tor service (protonirockerxow.onion) to combat the censorship and surveillance of its users. The free version of ProtonMail limits you to 500MB of storage and 150 emails a day. If you want more, you can pay €5 (£4.32) a month for 5GB and 1,000 messages.

Alternatively, try German-based Tutanota (tutanota.com), which is completely free for personal use and automatically encrypts all your emails, subject lines, attachments and contacts. It gives you 1GB of storage, offers Android and iOS apps, and ultimately hopes to be a complete replacement for Gmail, with a calendar, notes and cloud storage encrypted by default.
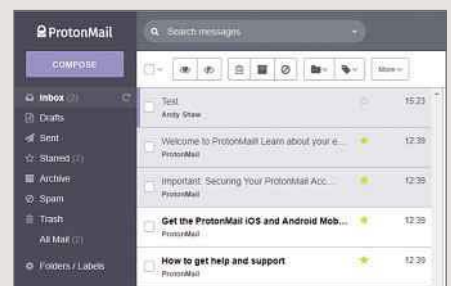
ProtonMail encrypts your email and, unlike Gmail, doesn't scan your messages

The term Tuta nota is Latin for 'secure message", apparently
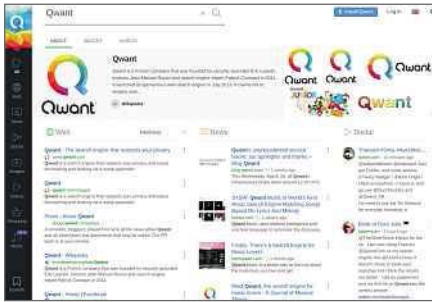
Qwant is an attractive search engine that doesn't hoard your personal data

browser extensions are also available.

Also worth a look is Million Short (millionshort.com), which lets you dig deeper than Google by removing between 100 and one million sites that appear at the top of results in other search engines. But if you want Google-quality results without handing over your data, then Startpage (www.startpage.com) remains hard to beat.

MAPS
mail.google.com

Google Maps records

Get traffic updates and fastest-route information from the excellent Maps.me

everywhere you go – see your Timeline at www.google.com/maps/timeline – and although you can turn location-tracking off, you may prefer a mapping service that isn't so nosy in the first place. For your phone, we recommend Maps.me (bit.ly/mapsme448), which provides up-to-date offline maps for every country in the world without sacrificing detail. It features millions of points of interest, including restaurants, petrol stations and cash machines; provides walking, driving and cycling directions; and offers traffic information for 38 countries including the UK, US and much of Europe.

On your desktop, the best option is OpenStreetMap (www.openstreetmap.org), which provides open-source data

❌ DELETE YOUR GOOGLE ACCOUNT

If you're fed up with Google guzzling your data and want to wipe the slate clean, you can delete your entire Google account. Do consider everything you'll lose before taking this drastic step, such as apps, bookmarks, photos, emails, contacts, calendars and more. You can review the surprising amount of data on your Google Dashboard (myaccount.google.com/dashboard) and

click the link to download a copy as a ZIP or TGZ file. To proceed with the deletion, go to myaccount.google.com/deleteaccount and follow the instructions.

Alternatively, you can keep your main Google account, but prune specific services. To delete your Gmail account, go to the 'Delete a Google service' page (myaccount.google.com/deleteservices) and click the dustbin icon next to Gmail. Bear in mind that you need a Gmail account to use other Google services, but deleting it won't remove Google Play purchases. To delete your YouTube channel (where all the videos you've uploaded appear), click your YouTube profile picture, select Settings, then Advanced and 'Delete channel'.

If you regret deleting your Google account, there's a chance you can get it back via the 'Account recovery' page (myaccount.google.com/recovery).
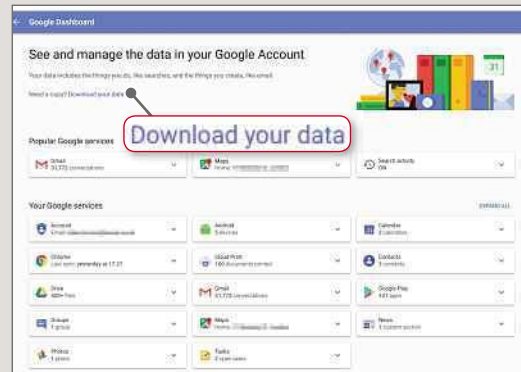
to many other mapping services, and emphasises that it "values the privacy of our users, members and others that visit". It's incredibly detailed, offers useful layers for cycling and public transport, and lets you add notes to maps if you spot any mistakes. For satellite imagery, Wikimapia (wikimapia.org) offers stunning views from above.

DOCS & DRIVE
mail.google.com
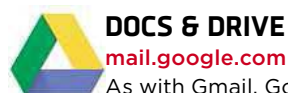
As with Gmail, Google scans content you create and share in Docs/Drive "to provide you personally relevant product features". There's also an alarming section in its privacy policy which says that by using the service, you give Google a worldwide licence to do what it wants with your content (bit.ly/privacy448). If you like the convenience of a combined online office and storage service, but without the privacy concerns, and you don't want to use Microsoft Office/OneDrive, the best free alternative is Zoho Docs (www.zoho.eu/

docs). This offers word processing, spreadsheet and presentation tools, gives you 5GB of free online storage, has Android and iOS apps, and supports most file types, including – unlike Google – zipped files, so you can instantly extract their contents. Also, Zoho's privacy policy is a lot clearer and less worrying than Google's (bit.ly/zoho448).

Another good option is Disroot (disroot.org), which combines an online word processor and spreadsheet with 4GB of free cloud storage, an encrypted email service and other useful tools.
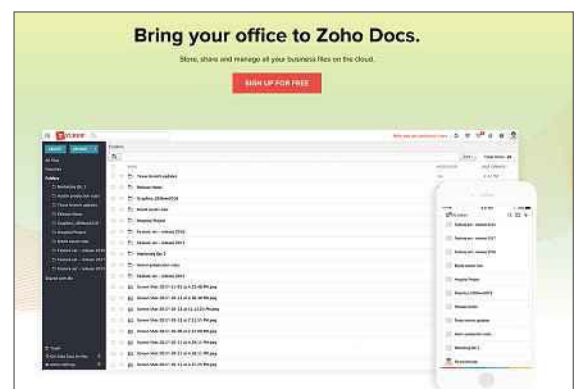
Zoho Docs combines versatile office tools with 5GB of free online storage

BOYCOTT AMAZON

Amazon doesn't suffer the same privacy issues as Facebook and Google – after all, it makes its money from your purchases rather than your data – and its Privacy Notice (bit .ly/amazon448) is mostly transparent about the types of information it collects about you and why. This includes detecting your location so it can provide relevant search results (and ads), and using pixel tags to determine whether you open its marketing emails.

Less commendably, Amazon says it will pass your personal information to the authorities when doing so is "appropriate" to comply with the law – an admission that has led privacy-campaigning group the Electronic

Amazon refuses to reveal what data Alexa collects through Echo speakers

Frontier Foundation to scold the company for "disappointing" privacy practices. Amazon has also failed to address concerns that its Echo s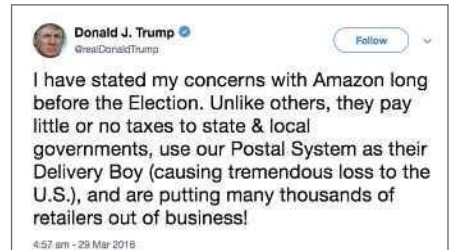mart speakers 'spy' on users, other than mentioning that unspecified data is collected "by our subsidiary, Alexa Internet".

However, the strongest reasons to boycott Amazon derive from its dubious business practices, which have made its founder and CEO, Jeff Bezos, the richest man in the world, with a net worth of $112bn (£79bn). Once Amazon started branching out into every retail area, many smaller businesses went bust because they couldn't compete with its low prices and huge range of stock – unless, of course, they were willing to play the game and sell their products through Amazon. As many ebook authors have discovered, Amazon's view of what constitutes a 'fair cut' of profits can cancel out the benefits of its enormous customer base.

Then, of course, there's the matter of tax. The most recent figures show that in 2016 Amazon paid just £15m of tax on sales of nearly £20bn across Europe, of which £7.3bn was in the UK. The company attributed the low figure to modest profits and investment in

US President Donald Trump has challenged Amazon over its tax policies

infrastructure, but many were shocked that it was still paying so little.

Last October, Amazon was ordered to repay €250m (£216m) by EU commissioners for exploiting "illegal tax advantages" in Luxembourg between 2006 and 2014. This scheme meant almost three-quarters of Amazon's profits went untaxed, allowing it to pay four times less tax than its rivals, until it changed its tax operations in June 2014. Its suspect practices aren't confined to Europe, either: in the US, President Trump has repeatedly attacked the company, tweeting that: "they pay little or no taxes to state & local government".

If you've had enough of Amazon's sneaky money-grabbing, tax-dodging tactics and monopolising business practices, here are the best alternatives to try.

ALIEXPRESS
www.aliexpress.com

If you've no objection to buying from China (which is, after all, where most of our products are made these days), AliExpress has bargains galore, spanning almost as many categories as Amazon. From clothing and computers to tools and toys, this online marketplace offers discounts on an incredible range of items, although it's not so good for books, DVDs and other entertainment.

There are a few things to watch out for, however, including dodgy goods,

Bag a bargain on millions of items at the Chinese Amazon rival AliExpress

electronics that don't meet UK safety standards and extra charges such as VAT and customs duty on products costing more than £15. Also, although delivery is often free, it can take up to 40 days (!) – so check to see if your order can be dispatched from a European country to speed things up, and make sure the seller has a high feedback score. Still, for low-cost household items, phone accessories, cheap clothes and other bits and pieces, AliExpress is hard to beat.

EBAY
www.ebay.co.uk

Just as Amazon has become more of a 'marketplace', with around half of its stock now sold through third-party merchants, eBay has moved away from its origins as an auction site to become more like Amazon, selling more new items than used. With its huge variety of listings, easy ordering process and high-street-beating prices, eBay is the obvious alternative to Amazon, although it's not without its

If you're going to ditch Amazon for good, eBay remains its closest alternative

own controversies. In 2016, the UK arm of eBay paid only £1.6m in corporation tax, against a pre-tax profit of £7.7m, even though its US parent company had total revenues of $1.32bn (£920m) from its UK operations. Also, eBay has been accused of failing to protect its sellers against fraudulent buyers and of charging unreasonable fees, though at least it promises that it doesn't "sell or rent your personal information to third parties… without your explicit consent".

Find lots of brilliant bargains in your area using free car-boot sale app Shpock

SHPOCK
shpock.com
If you're tired of buying and selling through corporate giants who are only interested in your money and personal data, then Shpock is an excellent, independent alternative. This car-boot sale app lets you sell items directly from your phone or tablet (you can also make offers through the website), with no listing or transaction fees – unlike Amazon – so you can make as much money as possible, and arrange collection instantly. Shpock is equally good for browsing and buying, and especially useful for household items, with listings arranged by proximity to your location, and photos and prices placed upfront. On the downside, Shpock's ads can prove distracting and its push notifications are annoying. Also, you don't get the buyer protection offered by Amazon.
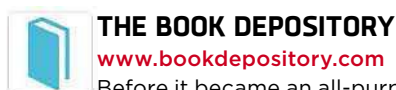
THE BOOK DEPOSITORY
www.bookdepository.com
Before it became an all-purpose retail behemoth, Amazon was a humble online bookstore, but searching for a book today involves avoiding a barrage of 'recommendations' for other items.

❌ DELETE YOUR AMAZON ACCOUNT

Whereas Facebook and Google both make it very straightforward to leave, Amazon is determined not to lose your custom, so it deliberately tucks the option away and – rather than just click a button and be done with it – you have to personally contact the company to close your account. On the Amazon website (you can't cancel through the mobile app), click the Help link below the search box, then 'Need More Help?' from the list of topics and choose Contact Us. On the next page, click 'Prime and more', then choose 'Update account information' from the 'Select an issue' menu and 'Close my account' from the subsequent menu. Finally, select how you want to close your account – by phone, chat or email (the last option was greyed out for us) – and wait for a customer-service assistant to contact you and try to change your mind.

What a hassle! We also noticed that Amazon's terms and conditions for closing your account (bit.ly/terms448) are out of date, still referring to LoveFilm, which shut down last October.

Amazon makes it as difficult as possible for you to close your account

The Book Depository has millions of titles and discounts of 50% or more

The Book Depository keeps the focus solely on your reading, offering more than 18 million titles, free delivery worldwide and the self-evident credo that "We really, really love books". It may not have Amazon's ability to undercut high-street bookstores by massive amounts, but there are plenty of discounts of 50% or more, while the site's clear privacy policy shows a reassuring respect for your personal data. ■

NEXT ISSUE   on sale Wednesday 16 May 2018

RECLAIM YOUR PRIVATE DATA

As the EU introduces its tough new data-privacy laws, we explain all you need to know about GDPR

GDPR

PLUS...
⊕ **BOOST PC PERFORMANCE**
Unlock Windows 10's secret Ultimate Power Plan

⊕ **RECORD YOUR DESKTOP**
Capture your screen using VLC's best hidden tool

⊕ **DIAGNOSE ANY PROBLEM**
Discover the cause of common web and PC errors

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Keep your programs safely up to date

Following the disappointing news that the brilliant free software updater Secunia PSI has been discontinued by its developers, **Jonathan Parkyn** compares the alternatives

SUMo | bit.ly/sumo448 | ★★★★★

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

What we liked:

Short for Software Update Monitor, SUMo has two key advantages over its rivals, the first of which is its simplicity.

Run SUMo and it scans your PC for installed programs and tools, then displays a list of what it's found, highlighting any programs that are in need of updating with an amber or red warning. It doesn't automatically download the update itself – you have to click a program, then Get Update to open the program's download page in your browser. From here, you can download and install the latest version yourself.

SUMo's other benefit is the huge number of programs it supports. Its developers don't explicitly state how many applications and programs the tool supports, but in our tests, SUMo was able to spot and provide updates for several programs that other tools of

this type failed to pick up on.

By default, SUMo is set to check for updates every time you start your PC, but you can customise this and other functions by clicking Options, then Settings. A handful of extra features, including the option to manually include or exclude specific folders in your scans (in case you've installed programs in non-standard locations, for example) and the ability to export your list of applications as a text file or spreadsheet (CSV) file, round out this excellent tool.

How it can be improved:

SUMo doesn't currently update device drivers. There's a Drivers Update button among its tools, but clicking it simply prompts you to install the separate DUMo tool by taking you to its web page (bit.ly/dumo448). It would be great to see a single free program that integrates the functions of both.

Another welcome function would be for SUMo to automate the update process in the free version. This is currently reserved for users of SUMo Pro, which costs around £26.

OUR VERDICT

SUMo doesn't fully automate the update process, but it's lightweight, easy to use and – most important of all – it supports the widest selection of applications and programs of all the updaters we tested.

WebUser GOLD AWARD

Patch My PC Updater | bit.ly/patch448 | ★★★★★
FEATURES ★★★★★ PERFORMANCE ★★★★★ EASE OF USE ★★★★☆

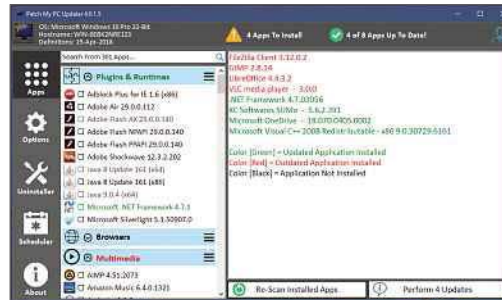**WebUser SILVER AWARD**

What we liked:
The main bonus of this excellent free tool is that it's portable, so it doesn't need to be installed – you just download and run it. Another major benefit is that it automates much of the update process, downloading and silently installing items with one click of the Perform Updates button.

The program offers a generous selection of useful extras, too, including the ability to batch-install the latest versions of many popular programs by ticking the relevant boxes in the left-hand pane. A built-in uninstaller, a scheduler and the option to create automatic restore points prior to updating are also handy.

How it can be improved:
Presentation isn't Patch My PC Updater's strong suit. The program's inelegant layout can be confusing because it's easy to assume that the programs listed in the left-hand pane of the main area are tools the updater has found on your PC.

Also, Patch My PC Updater isn't quite as thorough as SUMo. According to its developers, it supports more than 300 programs, but it missed a couple of the applications that our Gold Award winner was able to catch.

OUR VERDICT
It's better at automating the update process than SUMo and is bursting with genuinely useful extras, but Patch My PC Updater doesn't support as many programs as our top choice.

Kaspersky Software Updater | bit.ly/ksu448 | ★★★☆☆
FEATURES ★★☆☆☆ PERFORMANCE ★★★☆☆ EASE OF USE ★★★★★

WebUser BRONZE AWARD

What we liked:
A free tool from a dependable brand, Kaspersky Software Updater doesn't offer a great deal in the way of features – the ability to customise the update schedule is pretty much the only significant option available – but it's by far the easiest to use of all the programs in our test.

The software scans your PC for programs, then only lists the ones that need updating. You can 'Update all' in one batch or install the latest versions of individual applications by clicking the Update button next to each one.

The update process is, for the most part, automatic and silent. Once you've set the tool updating, you don't need to work though individual installation screens. However, in a couple of cases, we found the automatic update process failed with no obvious explanation.

How it can be improved:
While Kaspersky Software Updater is completely free, you'll be frequently prodded to buy the company's other products, such as its antivirus software. It also lags behind SUMo in the number of programs it detects and updates.

OUR VERDICT
Brilliantly simple, but lacking in features, Kaspersky Software Updater is great if you want to keep your programs up to date without having to think about it too much.

BEST OF THE REST

Ninite
ninite.com
A slightly different proposition to the other tools here, Ninite is a website that automates the process of installing some of the most popular freeware tools, including Gimp, LibreOffice, VLC, Malwarebytes and more. Just tick the boxes and download your custom installer. Not only does Ninite block toolbars and other unwanted foistware from being installed, but it can also keep your selected programs up to date. Just run the custom installer again – it'll automatically check for and install the latest versions.

FileHippo App Manager
bit.ly/hippo448
Technically still in beta, FileHippo App Manager is a program updater tool from the people behind the popular software download website (filehippo.com). You can choose to check for updates on a daily schedule or at startup. Click the 'Download & Run' button next to any tools that need updating. FileHippo App Manager is easy to use but it failed to find updates for several of our installed programs. It's also marred by prominent advertising.

Heimdal Free
bit.ly/heimdal448
Heimdal Free positions itself as a security tool, updating your software in order to eliminate vulnerabilities and prevent cyber-attacks. You can set it to silently monitor and auto-update supported programs, or opt to be notified when updates are available and manually apply them yourself. The traffic-filtering and malware-scanning components are only available if you pay for Heimdal Pro.

Lock down your router

Don't let your router be the weak link in your wireless network's security. **Robert Irvine** reveals how to tweak its settings for maximum protection

Change the default username and password

It's natural to read advice about changing passwords and think "blah blah – we all know that", but it's essential not to ignore this with regard to your router – it's even a matter of urgency. Every router comes with a generic username and account password – if it comes with a password at all – which can be as basic as 'admin' and 'password' (see, we've compromised yours right there!). This means that anyone in the vicinity of your router can log in and change the settings, potentially putting your entire network at risk.
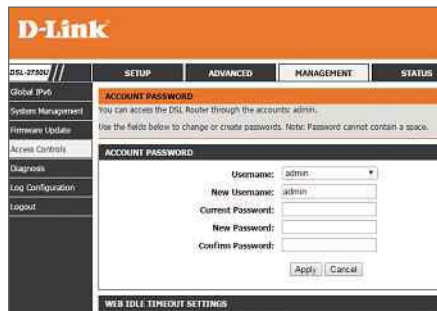
Stop anyone messing with your router settings by changing the default password

To change your default password, open your web browser and log into your router settings. The IP address is usually something like 192.168.0.1 – check the label on your router for details or search for your device on the Router IP Address database (www .routeripaddress.com). Look for the Wireless Settings section or similar, and change your Admin password (not your Wi-Fi password) there, as well as

your username, if possible. Remember to note down your new login details for future reference. If you forget them, you can restore your router to factory settings to regain access, using the Reset button or hole on the device.

Hide or rename your SSID

A Service Set Identifier (SSID) is the technical term for the broadcast name of your wireless network. When a Wi-Fi-enabled device searches for a network to connect to, it's this information it's looking for, which means that if you leave the SSID set to the default – often something like BTHomeHub-1234 – other people can identify your router type. This potentially gives hackers the information they need to target your network, particularly if that make of router has a known flaw.

Preventing your SSID from being broadcast increases your network's security by making it invisible. You can still connect to it, but you'll need to manually enter the correct SSID. In theory, by not broadcasting your details, neighbours, passers-by and

You can rename or hide your SSID to stop hackers identifying your router

cybercriminals won't be able to deduce your network and access it, or tell the make of your router. The drawback is that some of your own devices may not be able to connect to your network if its SSID isn't visible, so you may prefer to rename your SSID instead.
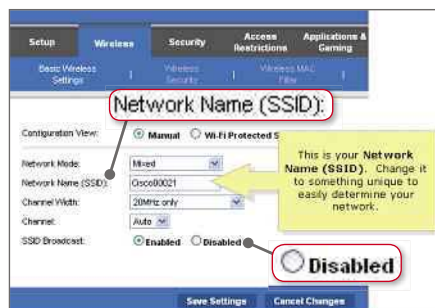
To hide your SSID, go to your router's settings in your browser and untick the option 'Enable SSID Broadcast' or similar. To rename your SSID, find the entry Wireless Network Name (SSID) or similar and type your chosen name. For obvious reasons, it's best not to use your own name, address or other identifying details, and although you can have fun by calling the SSID something like 'Tell My Wi-Fi Love Her' or 'Please stop your dog barking', it's best to avoid drawing attention to your network and use random characters instead.

Turn off WPS on your router

Like hydrogen airships and asbestos insulation, Wi-Fi Protected Setup (WPS) once seemed like a good idea, but is ultimately more dangerous than it is convenient. It's a wireless-network security standard that tries to make connections between your router and Wi-Fi devices quicker and easier, by letting you pair them at the touch of a button. WPS only works when certain types of encryption are turned on, which sounds secure enough, but considering that it allows anyone with physical access to your router to connect to your network *without a password*, it really isn't very secure at all.

Fortunately, it's easy to plug this security hole and render the WPS button on your router useless – and thus

Disable WPS to stop people accessing your network without permission

safe. Go into your router's settings, find the WPS option – this is sometimes in the Advanced section – and turn it off. Some routers, such as Virgin Media's Super Hub, also have a WPS PIN option that's a little more secure because it requires a code for connection, but you may want to disable this, too, especially because it doesn't require physical access. Naturally, you can re-enable WPS to let trusted friends and family members access your network.

Update your firmware manually

As with your operating system, browser and other software, hackers are constantly looking for security holes in routers that they can exploit to steal your data and infect you with malware. When router manufacturers learn about these exploits, such as the KRACK vulnerability that was discovered last year, they plug these holes by issuing updates to the router's firmware (routing software), but these aren't always installed automatically – at least, not straight away.

If the recent news stories about Russia targeting UK routers (see page 12) has made you worry about Wi-Fi security, you can ensure that your network is protected by updating your firmware manually. New firmware may also come with updated features for the router, so it's worth doing even if you're not paranoid about Putin.

If your router isn't updated automatically, upload and install the firmware yourself

Go into your router settings and find the page labelled Firmware, Router Upgrade or Update. The location varies by manufacturer, but you can usually find it in the Administration, Utilities or Maintenance section. Click the Check button to see if an update is available and, if it is, download and install the new firmware.

If no Check or Download buttons are provided, you can usually get the update yourself from the support section of the manufacturer's website, for example www.netgear.com/support for Netgear routers. Search for your device to see available updates, then download and extract the files, and return to the firmware page in your router settings. Here, you should be able to upload and install the firmware software – this may be in an unusual format such as STK.

Activate your router's built-in firewall

We're sure security-savvy *Web User* readers already have software-based firewalls running on their PCs, whether as standalone tools, part of a security suite or Windows' own tool. But did you know that your router has its own hardware-based firewall?

A hardware firewall sits between your

Ensure your router's firewall is switched on and control the flow of internet traffic

PC and the internet, whereas a software firewall sits between your computer and your network. If your PC is infected with malware, that malware could potentially disable your software firewall, but not your hardware firewall.

To check whether your router's firewall is activated, go into your router settings, look for a configuration page labelled Security or Firewall, and ensure that the firewall option is switched on and is using the default setting to block all unsolicited web traffic. You can also set up 'rules' and 'port forwarding' to control incoming and outgoing traffic through specific ports, but you don't need to worry about these unless you're using a special service such as a P2P network, gaming server or VPN.

CHOOSE THE STRONGEST ENCRYPTION

Your router will offer a choice of encryption standards, such as WPA Auto, WEP, WPA2-PSK [AES] and WPA-PSK [TKIP]. You've probably stuck with whatever the default setting was, but if there are stronger options available, you could end up with a less secure network that leaves you vulnerable to attack. TKIP is considered insecure and should definitely be avoided. Similarly, WEP is now easily bypassed by even novice hackers thanks to cracking

tools available on the web, so don't use that either. If your router offers WPA2-PSK (AES), select this because it's the most secure option; if WPA2 is unavailable, try WPA. Support for AES encryption has been mandatory in all devices manufactured after 2006, so everything you own (unless it's very old) should work fine. You'll need to enter a password, also known as a network key, for the encrypted Wi-Fi, and may need to reboot your router.
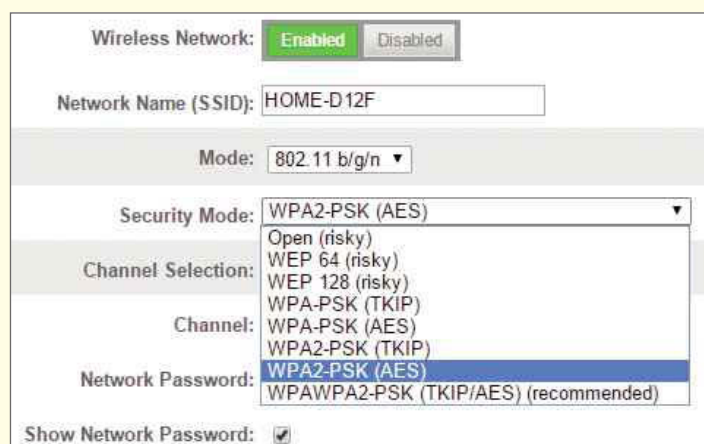
Set your router to use WPA2-PSK encryption if available – but never WEP

Convert any video to the format you need

Popular open-source video converter HandBrake has been updated. Here's what you need to know

**Handbrake: handbrake.fr** | ⏱ **20 mins** | 🪟 **7, 8, 10** 🍎 **MacOS 10.7**

There are loads of different video formats, some of which only play on certain devices. HandBrake is a free, open-source video tool for Windows, MacOS and Linux that can easily convert video files from one format to another, as well as rip DVDs and Blu-rays. It's just had a major update – the first since 2016 – and boasts an improved interface that's easier to use and displays better on high-resolution screens.

The tool gains some new conversion presets and filters, and improves 4K and x265 support. You can also now set a low drive-space warning, which prevents you from running out of room when converting large files.
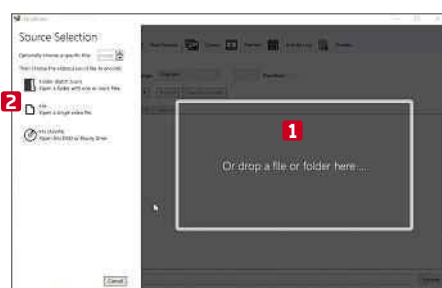

1 HandBrake's interface has had a makeover and is now more intuitive. You can add a single file or a folder of videos to convert by either dragging it to the drop zone **1** or by clicking the option you require under Source Selection. **2** The program will import the items.
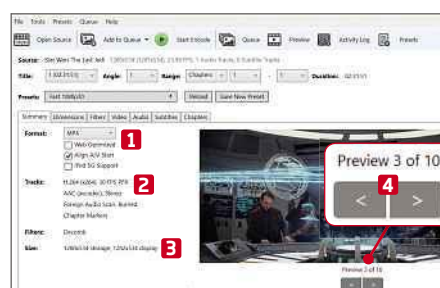

2 You can now adjust the conversion settings. The Summary screen shows the currently selected format, **1** the tracks (video, audio and more) that are included **2** and the video's dimensions. **3** You can check that everything looks right by scrolling forwards or backwards through 10 image snapshots. **4**
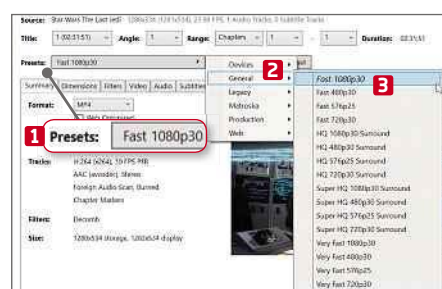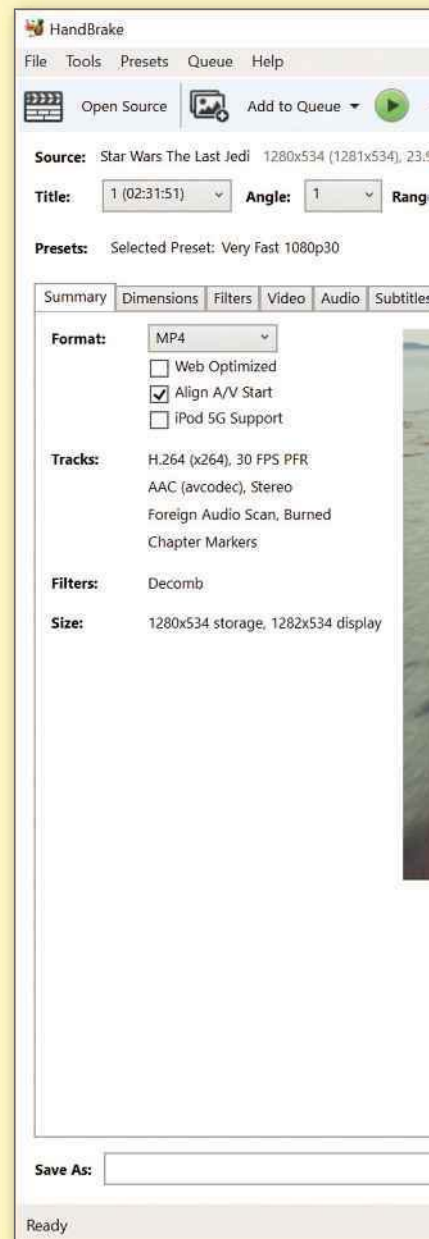

3 Select the conversion type you require by clicking the Presets box **1** and choosing one of the options. These are sorted into different categories – Devices, General, Legacy, Matroska (for the MKV format), Production and Web. **2** Click the category to pick the specific format you require. **3**
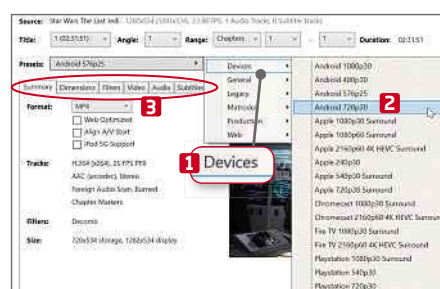
4 If you want to watch your video on a specific device, such as an Android phone, select it by going to Devices **1** and choosing the required option. **2** The displayed information for your file will change. Modify a preset by switching formats or customising elements via the row of tabs. **3**
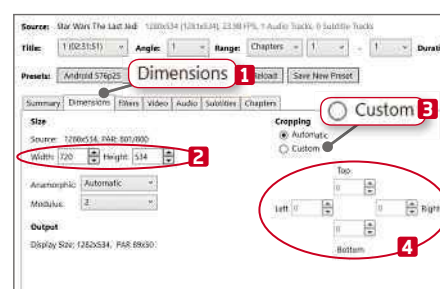
5 The Dimensions tab **1** lets you set the width and height of your converted files, **2** and also crop your video (to remove any unwanted black bars at the top or sides, for example). Click Custom, **3** then enter the amount to crop in the relevant boxes. **4** This works best if you enter even numbers.

Start Encode   Queue   Preview   Activity Log   Presets

08 FPS, 1 Audio Tracks, 0 Subtitle Tracks

Chapters   1   -   1   **Duration:** 02:31:51

PRESETS
Click the Presets button to view the full list of available presets on the right, where you can add, remove and configure them

**SUBTITLES**
You can add subtitles or Closed Captions to any of your movies. If you have subtitles in SRT format, you can import them

Presets

◢ General
  Very Fast 1080p30
  Very Fast 720p30
  Very Fast 576p25
  Very Fast 480p30
  Fast 1080p30
  Fast 720p30
  Fast 576p25
  Fast 480p30
  HQ 1080p30 Surround
  HQ 720p30 Surround
  HQ 576p25 Surround
  HQ 480p30 Surround
  Super HQ 1080p30 Surround
  Super HQ 720p30 Surround
  Super HQ 576p25 Surround
  Super HQ 480p30 Surround
▷ Web
◢ Devices
  Android 1080p30
  Android 720p30
  Android 576p25
  Android 480p30
  Apple 2160p60 4K HEVC Surround
  Apple 1080p60 Surround
  Apple 1080p30 Surround
  Apple 720p30 Surround
  Apple 540p30 Surround
  Apple 240p30
  Chromecast 2160p60 4K HEVC Surroun
  Chromecast 1080p30 Surround

Preview 10 of 10
<

PREVIEW
You can get an actual-size live preview of how your video will look without having to encode it first

WHEN DONE
Once the conversion process has completed, HandBrake can be set to shut down or suspend your PC, or just quit the program

⊕ Add   ⊖ Remove   ⚙ Options

When Done: Do nothing ▾
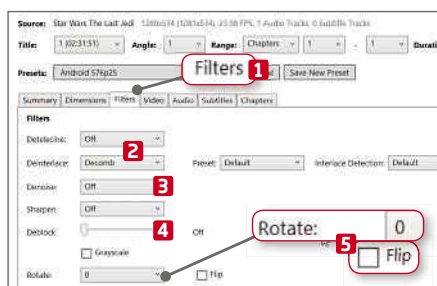
6 The Filters tab **1** contains effects for improving video quality. Detelecine and Deinterlace **2** fix problems sometimes found in older TV recordings; Denoise **3** removes graininess; and Deblock **4** smooths away artefacts. Apply these filters in moderation, though. You can also rotate and flip videos. **5**
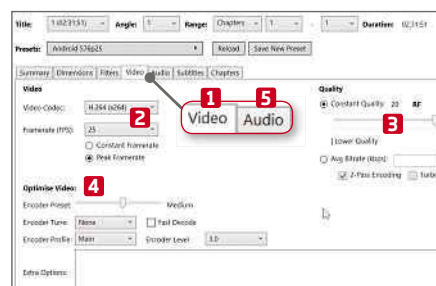
7 The Video tab **1** lets you pick a different codec and set a new frame rate. **2** You can also adjust the quality **3** and optimise the video. **4** The Audio tab **5** lets you add tracks, and change the codec and bitrate. You can manage the audio defaults here, too.

8 When you've made the required changes to the settings, enter a name for the new video, **1** then either add it to the queue **2** if you plan to convert multiple files, or click Start Encode **3** to begin the conversion process. You'll be able to stop or pause at any time.

Protect your PC with a super-powered version of Chrome

Avast Secure Browser: bit.ly/asbr448 | ⏱ **20 mins** | 🪟 **Windows 7, 8, 10**

Chrome is safe and powerful, and any security features not already included in the browser can easily be added, so you can choose from a range of security tools to make it just right for you.

However, if you can't be bothered with the fuss of researching which add-ons work best and keeping them up to date, Avast has built a new version of Chrome with its pick of security add-ons fully integrated. Previously called Avast SafeZone, this new version – Avast Secure Browser – streamlines the process of making Chrome as secure as possible, automatically installing and configuring key add-ons and providing the option to download further tools if you need them.
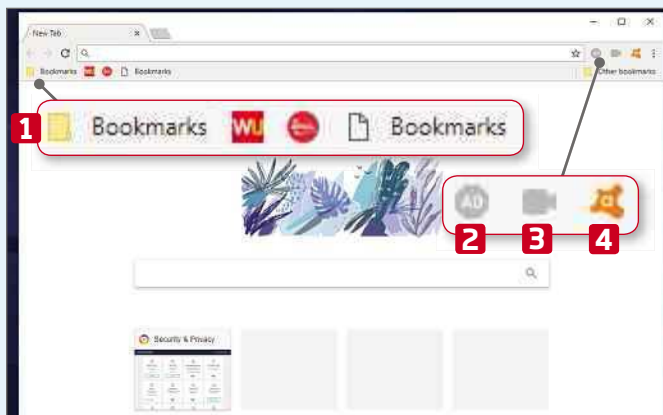
EXPERT TIP

Andy Shaw says

When you install the software, click the Options button to change the language from the default English (United States) to English (United Kingdom). From here, you can also make the browser the default; choose where the browser's shortcuts will go; and import bookmarks and cookies. When you first run the browser, you'll get a chance to change some of these options again, along with a further option to stop the browser from automatically launching on startup.

1 When you first open Avast Secure Browser, it looks just like Chrome and may even have imported your existing bookmarks. **1** There are three add-ons preinstalled: Adblock, **2** a video downloader **3** and Avast's Security & Privacy Center. **4**
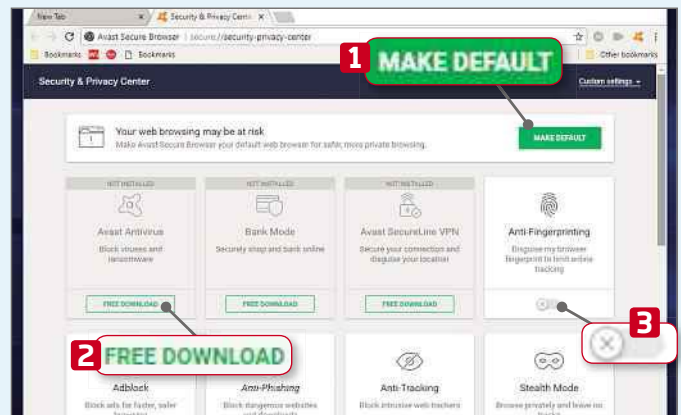

2 Open the Security & Privacy Center by clicking its icon. If you haven't yet set the browser as your default, a bar across the top of the page provides a button to do this. **1** Some of the settings require you to download further software, **2** while others need switching on **3** or configuring.
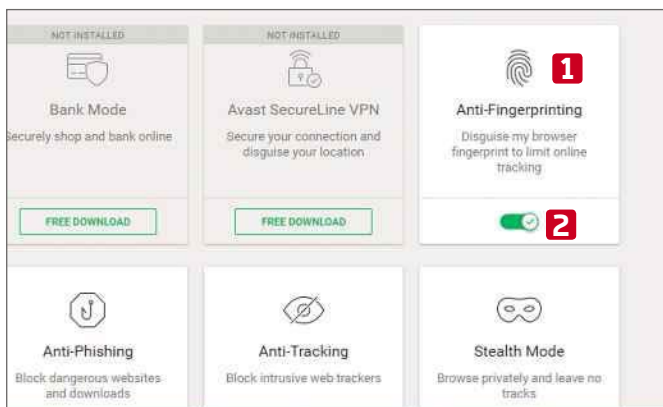
3 The only preinstalled tool that's switched off is Anti-Fingerprinting, **1** which stops websites from recognising your browser based on its 'fingerprint' of add-ons and installed tools. It's switched off by default because it can stop some websites from working but if you're willing to take that risk, toggle the switch to enable it. **2**
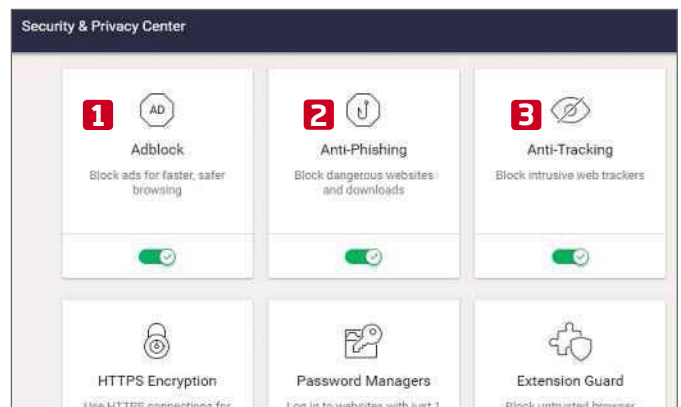
4 Adblock, **1** Anti-Phishing **2** and Anti-Tracking **3** work in the background to stop sites from bombarding you with adverts: Adblock stops visible ads; Anti-Phishing blocks websites known to be harmful; and Anti-Tracking uses the browser's Do Not Track tools to stop adverts following you around the web.
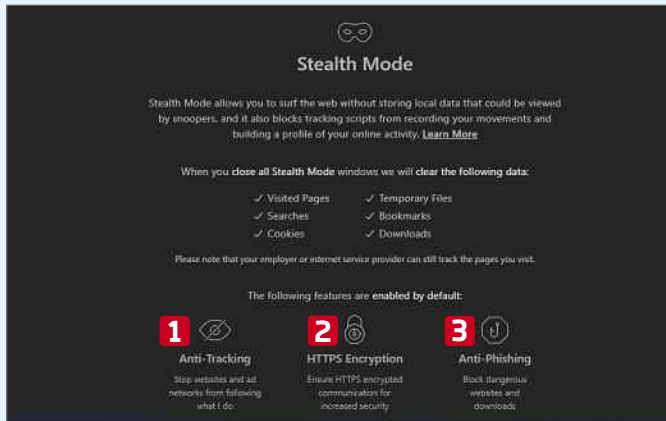
**5** Chrome's incognito mode keeps you anonymous by wiping your history and cookies at the end of your browsing session. Stealth Mode is Avast's version of incognito, and it goes a step further by also switching on anti-tracking, **1** HTTPS encryption **2** and anti-phishing tools, **3** even if you don't have them on in the regular browsing mode.
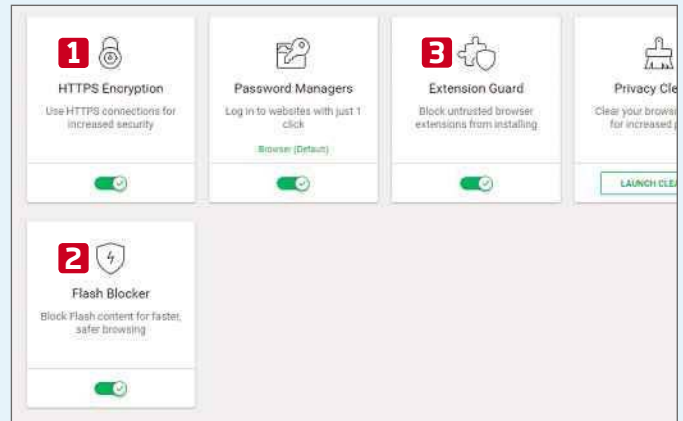

6 HTTPS Encryption **1** forces websites you visit to open HTTPS versions, if they have them; and Flash Blocker **2** prevents websites that still use Flash technology from displaying animations and video. Extension Guard **3** is a useful addition that stops you inadvertently installing add-ons that aren't safe.
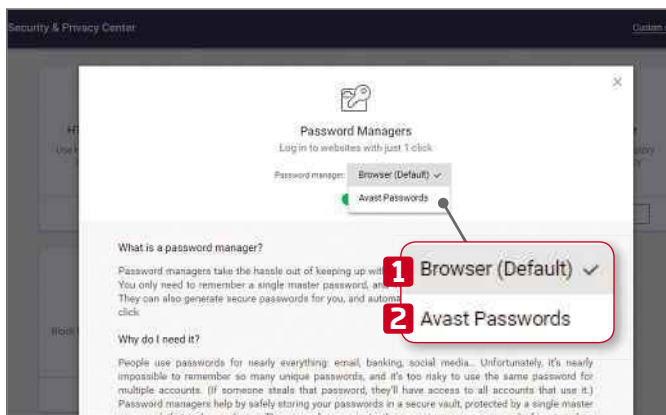
7 Password Managers is set to 'Browser (Default)', **1** which means Chrome will be looking after any passwords you've saved. If you use Avast Antivirus, you can use its password-management tool instead. Click the drop-down menu to select it. **2**
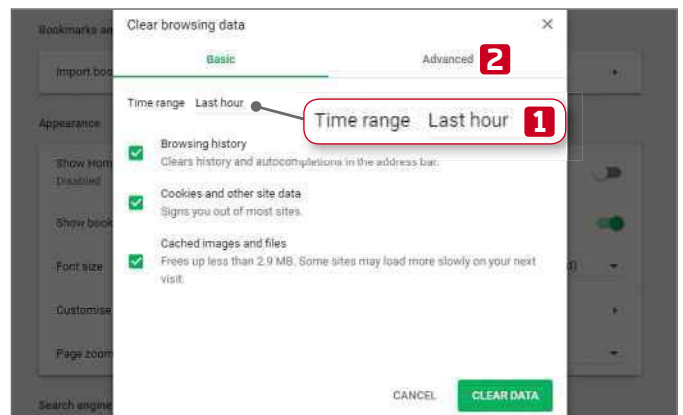
8 Privacy Cleaner opens Chrome's settings and takes you straight to its standard browser clean-up tool, which is set by default to wipe evidence of your last hour of browsing data. **1** Use the Advanced tab **2** if you want more control.
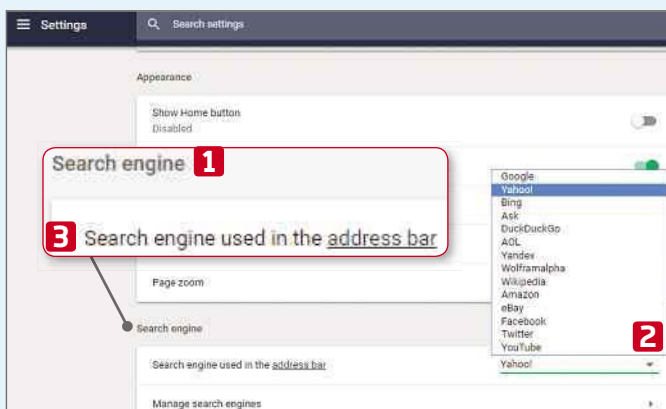
9 Avast switches the address-bar search engine from Google to Yahoo, but you can choose a different one from Settings. Click the menu button, choose Settings, then scroll down to the 'Search engine' section. **1** Choose an alternative from the drop-down menu **2** next to 'Search engine used in the address bar'. **3**

10 The browser also includes a video-downloading tool that works across a range of sites, including YouTube. If you find a video you'd like to keep a permanent copy of, click the toolbar icon, **1** then the Download button. **2** More information about the file is available from the drop-down arrow. **3**

+ Get more practical advice at forum.webuser.co.uk

Customise your monitor settings to suit your eyes

Changing your PC's display settings in Windows involves a lot of trial and error. ControlMyMonitor provides a much simpler way to tweak brightness, sharpness and colour tone with a scroll of your mouse, then save groups of settings as presets to use in different lighting conditions. Like most NirSoft programs, ControlMyMonitor is portable, so you can run it from a USB stick to manage the settings on any PC's screen.

**ControlMyMonitor: www.nirsoft.net** | 🕐 **10 mins** | 🏁 **Windows Vista, 7, 8, 10**
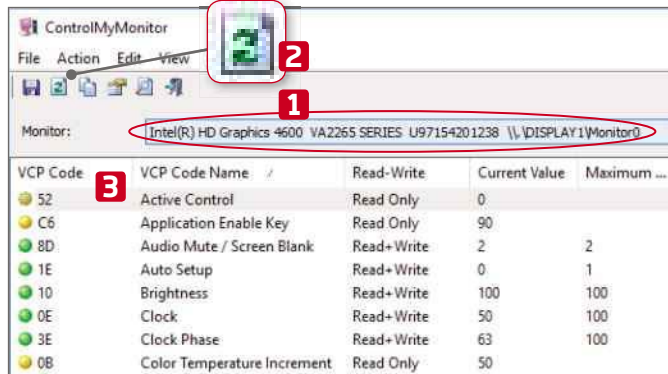
1 Download, unzip and run the portable program. Your default display appears in the 'Monitor:' box. **1** If you have a second monitor, it'll appear in a drop-down menu. Select the display you want to configure, then click Refresh **2** to see its current settings in the main window. **3**
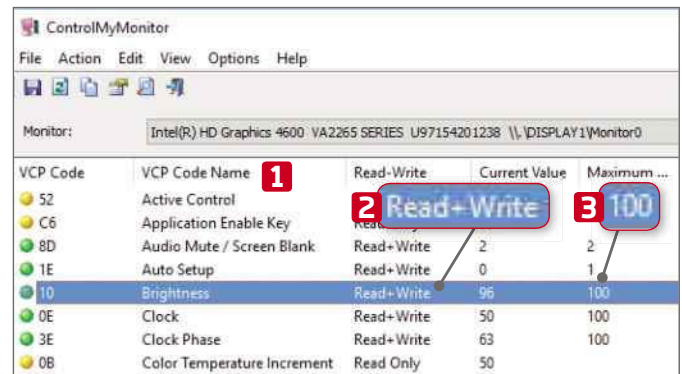

2 You'll recognise many of the options in the VCP ('virtual control panel') Code Name column **1** – such as Sharpness, Clock and Brightness. Only entries with a green dot, which are labelled 'Read+Write', **2** can be customised. The Maximum Value of most customisable settings is 100. **3**
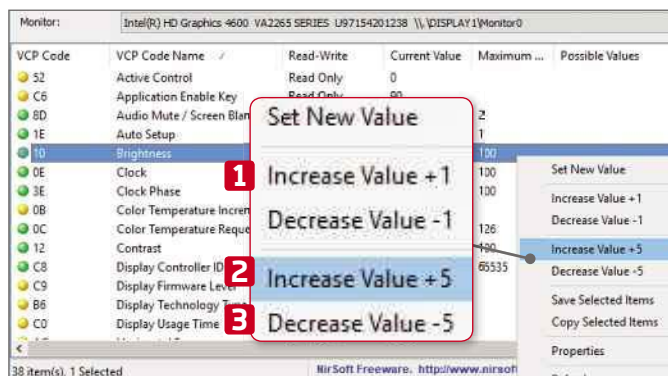
3 Choose a green-dot setting that you'd like to adjust; we'll use Brightness as an example. Right-click it, then click 'Increase Value +1' **1** (or press F8) to make your screen fractionally brighter, or 'Increase Value +5' (press F3) for a bigger jump. **2** Click the Decrease options to turn it down. **3**
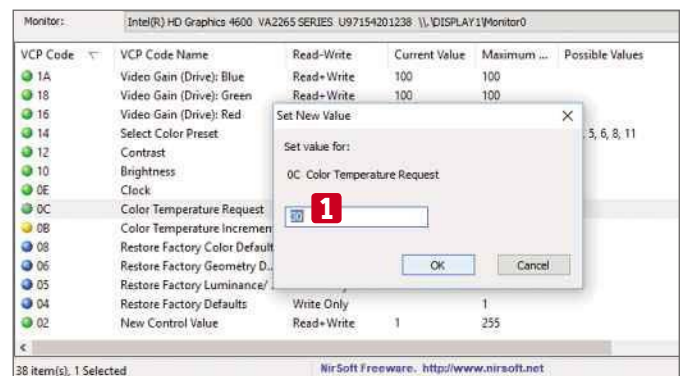
4 To skip increments, double-click a setting and enter a number in the Set New Value box. **1** Or to use your mouse wheel to increase and decrease the value, select the setting, press Ctrl and scroll. To omit the need to press Ctrl, click Options, Change Value With Mouse Wheel, then Always.
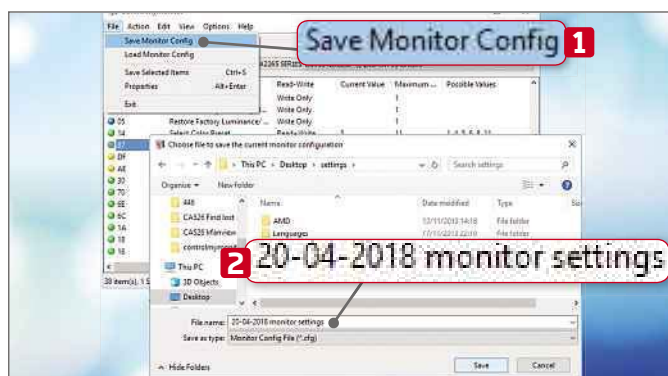
5 You can download your settings as a CFG (configuration) file, which is handy for saving a backup of your default configuration. Click File, Save Monitor Config, **1** choose a file name **2** and click Save. To roll back to these settings later, click File, Load Monitor Config and double-click the CFG file.
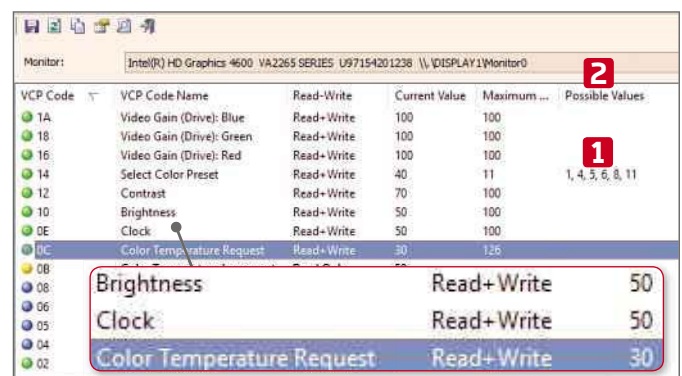
6 You can also use CFG files as display presets. You could save a configuration with a lower Color Temperature Request value (warm tone) **1** and Brightness, **2** then load it when working late at night to reduce eyestrain. A CFG file can also ensure consistent settings across two monitors.

Stop your Android apps installing junk

Most app developers use a range of plugins and add-ons for various purposes, from tracking how the app is used to serving adverts to its users. When you install an app on your Android device, you'll also be getting these extras. Addon Detector keeps an eye on these add-ons so you can see exactly what's being used and what permissions are requested, both in new and updated apps.

Addons Detector: bit.ly/aod448 | ⏱ **10 mins** | 🤖 **Android 2.3+**

---

1 Install the app from the Play Store and launch it. Start by scanning all your existing apps by tapping the Scan button. **1** The software will scan everything on your device, looking for add-ons. The bar at the bottom of the screen charts the scan's progress. **2**
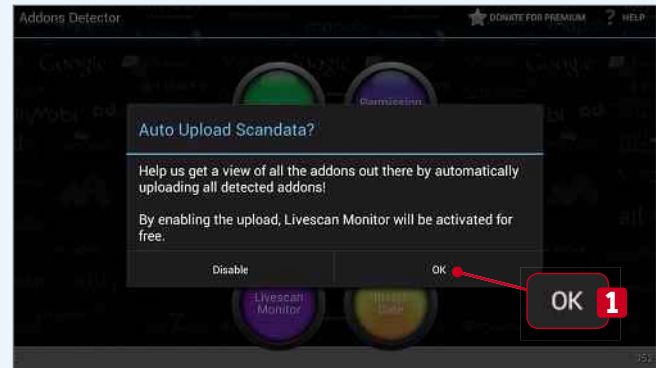
2 You'll be asked whether you want to automatically upload scan data. This shares anonymous information about your apps with Addons Detector but enables the Livescan Monitor for free. Click OK **1** if you agree. You'll still need to switch on the Livescan Monitor (see Step 6).
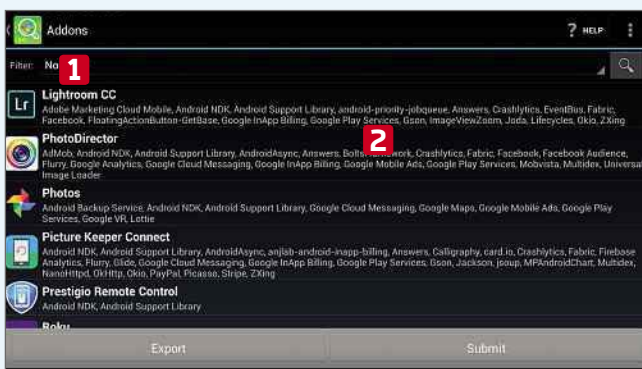
3 Scanning opens up all the other options on the main interface. Tap Addons to see a full list of all the apps on your device, **1** with all the add-ons associated with each one. **2** Tap an app for more detail, including app permissions.
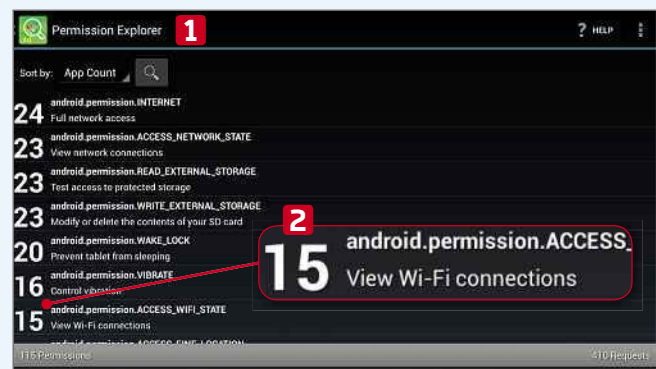
4 Permission Explorer **1** is a handy list that shows you how often each permission type is used by your apps, **2** so you can see which ones are common and which are more unusual. Tap a permission to see a full list of the apps that use it. Install Date shows when apps were installed.
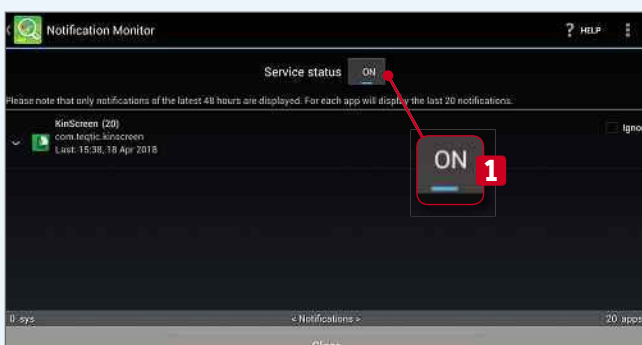
5 To set the software to detect the creation of shortcuts and notifications, tap Shortcut Monitor and Notification Monitor respectively, and switch them on. **1** The latter needs an accessibility tool in the settings toggled on, but you're taken to the correct page to perform this action.
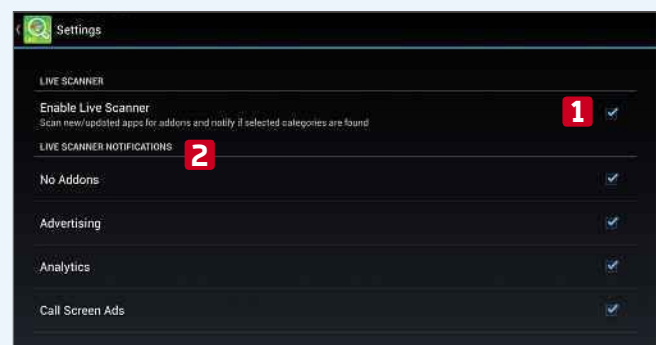
6 To switch on Livescan Monitor (it's disabled by default), tap it, then tap Settings, Enable Live Scanner. **1** It will automatically scan for all the items listed below **2** and notify you. You can untick any you're not worried about if they appear in updates or new apps.
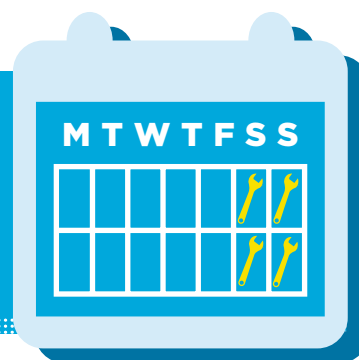
How to... Leave no trace on any PC using Tails

Wayne Williams demonstrates a privacy-focused operating system you can run on any PC, without making any changes to it

These days, it seems like we're being spied on from almost everywhere. If you're worried about your privacy, there are plenty of great free tools you can use to lock it down, and one of the best is Tails (**tails.boum.org**).

The Amnesiac Incognito Live System, to give it its full name, is a live, portable, private Linux-based operating system that you can carry on a USB memory stick and boot into directly from any computer. It can encrypt your files, emails and instant-messaging chats, and the secure browser uses the Tor network to keep your browsing anonymous. When you remove the Tails drive and reboot, all trace of your session is deleted and removed.

Tails
theamnesicincognitolivesystem

What you'll need

If you're running Windows, you need two USB memory sticks of at least 8GB each. The first is for installing an intermediary copy of Tails (which lacks certain security and usability features). You use this to install the secure OS on the second stick. If you don't have two memory sticks, you can use a blank DVD disc with a DVD writer for the intermediary copy.

You also need to download the latest version of Tails from bit.ly/tadl448. You can download it directly from the website in ISO format or use a BitTorrent client, if you have one. It's a 1.2GB file, so the download option you choose will depend on the speed of your internet. If you have a fast, reliable connection, the direct download is probably the best choice.

There's also a browser extension which you can use to verify the ISO. This will prevent problems with incomplete or broken downloads, and protects you if the files on the Tails site have been compromised by hackers. While verification is recommended, you can skip this stage if you wish.

You'll also need the Universal USB Installer from tails.boum.org/uui/Universal-USB-Installer.exe, which is used to write the Tails ISO file to your first USB stick. We guide you through the steps in our Mini Workshop, right.

Use the Tails Installer to create a secure version of the OS on another flash drive
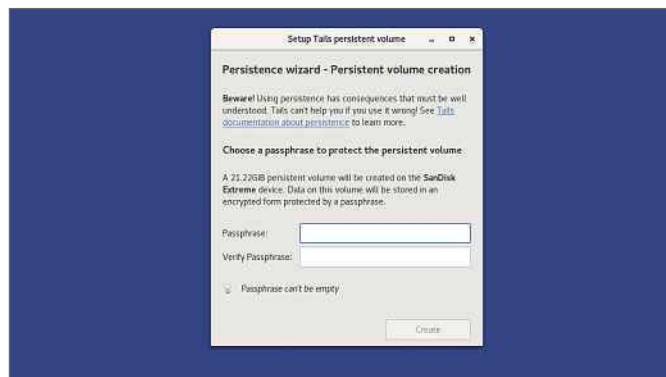
To create an encrypted persistent storage space, you'll first need to enter a secure password twice

Create the secure OS

Once you've installed Tails on the first memory stick (or DVD), you're ready to install a secure version on the second one. Plug the blank drive into a spare USB port, open Applications and select Tails, then Tails Installer. Make sure 'Clone the current Tails' is selected, then click the drop-down menu under 'Target USB stick' and select the new drive.

Click the Install button. If this button isn't available, it may mean you forgot to format the original drive in Fat32 using the Universal USB Installer. A warning message will flash up. Click Yes to confirm that you want to proceed, then wait while the secure version of Tails gets installed. This might take a while and may even appear to freeze occasionally, so try to be patient.

Once Tails has been installed, shut down your PC and disconnect the first USB stick. With the new drive still in place, restart your PC and boot into Tails from it. You can now start using it as you would like.

At this stage, you can create an 'encrypted persistent storage' space on the drive to store personal files, settings and encryption keys. This storage is protected using a passphrase and remains available to you every time you start Tails.

Create an encrypted persistent storage space

Creating your secure space is very straightforward. Go to Applications, Tails and select 'Configure persistent volume'. Enter a passphrase twice. The storage space isn't hidden, so anyone accessing your drive will see it. For this reason, it's important to choose a strong passphrase.

Once you've entered and verified this, click Create and wait while the space is created. You'll be shown a list of available options, such as Personal Data, GnuPG, SSH Client, Thunderbird, Browser Bookmarks and Printers. Select Personal Data (and any other features you might

Choose the features you require when setting up your persistent storage

MINI WORKSHOP | Install Tails on any PC
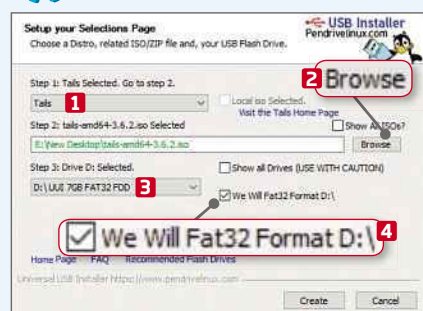
1 Run the Universal USB Installer. Click the Distribution drop-down box **1** and find and locate Tails (it's toward the bottom). Click the Browse button **2** and navigate to the Tails ISO you downloaded previously. Select it and click Open. Select the drive to install the intermediary copy to. **3** Tick 'We Will Fat32 Format'. **4**
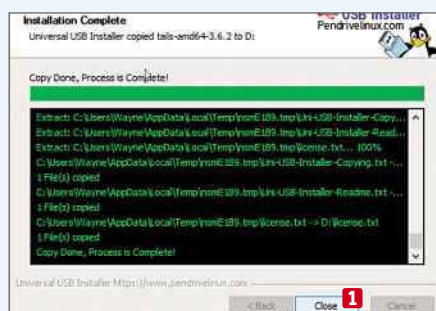
2 Click Create. A new window opens and displays a summary of the actions the program will take. Click Yes, and the drive will be wiped and the OS installed on it. It shouldn't take too long to complete. Click the Close button **1** and, leaving the USB drive plugged in, turn your computer off and back on again.

3 Provided your PC is set to boot from USB, the Boot Loader Menu appears and Tails starts automatically after a few seconds. You'll see a welcome screen (the 'Tails Greeter') where you can choose your language and keyboard layout. **1** When you've done all that, click Start Tails. **2**

Broadband Deals

	Provider	Package name	Monthly price	Contract length	Broadband speed	Allowance	First-year cost*
1	TalkTalk For Everyone	TalkTalk: Broadband	£27.00 (£18.95 for 12 months)	12 months	17Mbps max speed	∞ unlimited	**CHEAPEST** £227.40
2	sky	Sky: Broadband	£28.99 (£20.00 for 12 months)	12 months	17Mbps max speed	∞ unlimited	£240.00
3	EE	EE: Broadband	£28.50 (£21.50 for 18 months)	18 months	17Mbps max speed	∞ unlimited *	£258.00
4	Virgin media	Virgin: Broadband	£40.00 (£29.00 for 12 months)	12 months	50Mbps max 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 20 April 2018.

Ofcom

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

The Activities Overview, accessed through Applications, lets you browse open windows and access common apps

Tor Browser offers a choice of security settings. Use the slider to switch between Standard, Safer and Safest

require) and click Save. Shut down your PC, then boot back into Tails.

When the Tails Greeter appears, select your language and keyboard layout. In the Encrypted Persistent Storage section, enter your passphrase and click Unlock. This will activate the storage ready for use. Click Start Tails and you'll now be able to save personal files to this space, which you'll find under Places, Persistent.

What's in Tails?

Tails offers a good selection of tools, so you can do pretty much anything you need without ever leaving the privacy of the OS. Applications are sorted into categories including Favourites, Accessories, Graphics, Internet, Office, Programming, Science, Sound & Video,

System Tools and Utilities. Among the tools on offer are Tor Browser (a secure browser that routes what you do through the Tor network), Thunderbird email client, Pidgin Internet Messenger, KeePassX password manager, GIMP image editor, LibreOffice office suite and Audacity audio editor.

We'll show you how to get started with the OS in our Mini Workshop, below.

Use the Tor Browser

One of the main things you're likely to do with Tails is use the Tor Browser to browse the web securely. The browser comes with some useful built-in features, including a content blocker (uBlock Origin), HTTPS Everywhere (which routes you to the secure version of a website)

and NoScript (which prevents Java and JavaScript scripts from running). You can customise the behaviour of the different add-ons by clicking their buttons in the browser.

Your traffic is routed through the Tor network automatically but the green onion icon in the top-left corner lets you manage your anonymous browsing settings. The browser makes it appear as if you're located elsewhere and you can change this location at any time by launching a new identity. It will show you the circuit that you're taking to disguise your location.

You can also adjust the browser's security level. By default, this is Standard, but you can switch to Safer or Safest using a slider. ∎

MINI WORKSHOP | Get Started with Tails
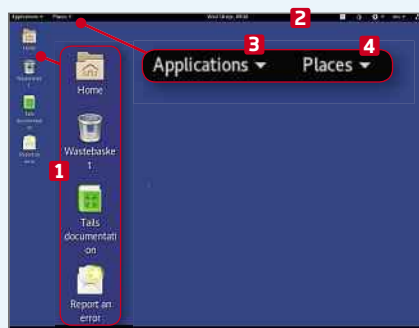
1 Tails looks a lot like Windows. The desktop has icons for Home (a file manager), Wastebasket, Tails documentation and error reporting. **1** From the top toolbar **2** (or 'panel', as it's called) you can explore and launch applications, **3** and go to specific places on your computer, **4** such as Desktop, Documents and Downloads.
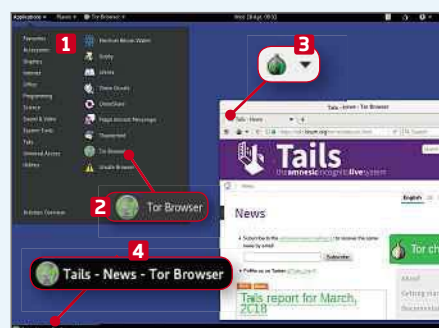
2 You can launch the programs you want directly from Applications. Just browse the selection on offer **1** and click one to run it. Tor Browser **2** is a secure browser based on Firefox. Click the arrow next to the onion icon **3** to access its security settings. All running programs are shown at the bottom. **4**

3 Tails also lets you have several workspaces that you can switch between. **1** You can customise the OS through Applications, System Tools, Settings, **2** and change the resolution under Displays. **3** When you're finished in Tails, you can quit by using the power button. **4** This will let you shutdown or reboot immediately.

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STEP 2 Chose your subscription term from the drop down menu on the popup that appears

STEP 3 Tap 'Subscribe'

available on
kindle fire

...on an Android device

STEP 1 Open the Google Play Store homepage and navigate to the Newsstand section using the tabs at the top

STEP 2 Search for *Custom PC* using the search icon in the top right of the screen

STEP 3 Click the 'Subscribe' button and pick your term

STEP 4 Enter your Google password to confirm

...via the Zinio app

STEP 1 Search for *Custom PC* via the search box in the Shop tab

STEP 2 Tap the 'Subscribe' button

STEP 3 Choose whether to create an optional Zinio account

STEP 4 Enter your Apple ID password to confirm

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Web User Masterclass
Improve Windows sound quality
Expert tips to enhance audio and solve sound issues

Restore old audio software

Some of the big Windows 10 updates, such as the various Creators Updates, can cause problems with your PC's sound quality, making the volume so low that it's almost inaudible. This is because Windows updates sometimes replace the sound drivers and other software that came with your computer with Microsoft's own versions, which may not be as good. Go to your PC manufacturer's website and search for drivers for your computer, then find the audio software and save it to your hard drive. If a Windows update adversely affects your computer's sound, reinstall your PC manufacturer's most recent audio software and drivers. It's worth keeping this software somewhere handy because you'll need it twice a year if Microsoft sticks with its current update schedule.

Download and install the most recent audio drivers for your computer

Check the volume

You'll want different devices and apps set at different audio volumes, because earphones can sound perfect with the volume set to 10, but speakers may require a setting of 70 or 80. Making sure the volume is set appropriately for the device or app being used may sound obvious, but it's more complicated than you think.

Open a few apps, right-click the speaker icon in the taskbar and select Open Volume Mixer. Your mixer controls may look different to our screenshot (right), which shows separate volume controls for YouTube in Chrome and Vimeo in Edge – it depends on which apps you are running.

These controls are not entirely independent and sliding up the main volume can affect the others. However,

Each app has its own volume control

it's possible for the main speaker volume to be turned up while an app's volume is turned down. Many apps with audio output have their own volume controls, so if things sound a bit quiet, make sure the volume is turned up for the app you're using.

Boost headphones

If you use headphones with your PC, there's a tool in Windows 10 that can improve the quality of the audio. Right-click the speaker icon in the notification area on the right side of the taskbar and select 'Spatial sound', then 'Windows Sonic for Headphones'. This switch can be set on or off, so start playing some music, plug in your headphones and see which setting works best for you.

Select the output

Your computer may be set up with several different output options and you should check that you have the correct one selected. For example, you may have built-in speakers on a laptop, external speakers on a desktop PC, and use earphones or Bluetooth speakers. Click the speaker icon in the notification area, then click the up arrow in the corner, if there is one. This displays a list of audio output devices and you can select the one you want.
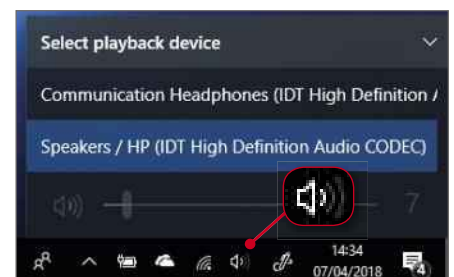
Click the speaker icon to check you have the correct audio output device selected

Customise the audio output

The audio output from your computer can be customised using the Sound control panel, where you can tweak elements such as speaker and

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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.

Use the Sound control panel to configure your audio devices

earphone properties. Open the Control Panel (start typing it in the search box and click it when it appears) and, in 'Small icons' view, click Sound. Double-click Speakers to open a new window.

The options available depend on your PC's hardware, but you may see tabs for General, Levels, Advanced and Spatial Sound. Select the Levels tab and click Balance. There may be sliders for left, right, centre and subwoofer volumes, or you may just see left and right speaker balance. It depends on the hardware installed on your computer.

Select the Advanced tab and choose a quality setting from the drop-down list. There are around 19 settings from 16-bit 32KHz (FM Radio Quality) to 32-bit 192KHz (Studio Quality). For reference, a CD contains audio at 16-bit 44.1KHz, which is good enough for most people. Too high a setting on a low-powered PC can cause problems, so reduce the quality if necessary.

The 'Spatial sound' tab has three settings: Off, 'Windows Sonic for Headphones' and 'Dolby Atmos for Headphones'. Try them all with your favourite music to see which one you like best. There's also an option to enable 7.1 virtual surround sound, if you have hardware that supports it.

Troubleshoot your sound

Windows 7, 8 and 10's troubleshooting tools are a quick and easy fix for many audio problems. Open the Control Panel, click Troubleshooting, then click the 'View all' link on the left. Run 'Hardware and Devices', Playing Audio, and Recording Audio. In each case, click the Advanced link and tick the box 'Apply repairs automatically'.
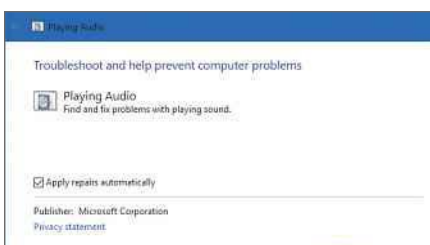
*Use Windows' Troubleshooting tools to fix audio problems*

Customise system sounds

Windows plays sounds for certain events, such as calendar reminders, connecting or disconnecting devices, a low-battery warning and so on. These can be silenced, or you can customise them to play a different sound. In Windows 10, press Windows+i to open the Settings app. Click Personalisation and select Themes on the left, then Sounds on the right. In Windows 7, right-click the desktop and select Personalize followed by Sounds.

A theme can contain a set of sounds – to see them listed, click the drop-down menu under Sound Scheme. Windows 7 has several themes and a long list of sound schemes to choose from. Windows 10 has only one by default, but more may be added when new themes are installed.
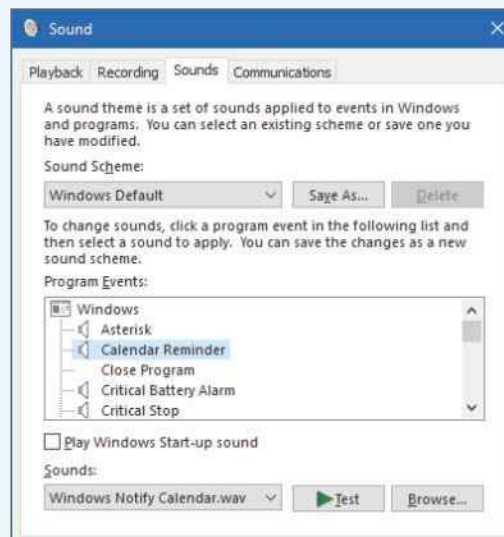
Change the sound associated with each of the system events

Whether you have one sound scheme or a dozen, select an event in the list, such as Calendar Reminder, and click the Test button below to hear it. Turn up the speaker volume if it isn't loud enough.

Click the button to the left of Test to assign a different sound to the event. There are dozens to choose from. Click Browse and select a WAV file as the sound for that event.

Playing a sound takes time and processing power, so if you're creating your own event sound, make sure it's short. Load your music or sounds into

an editor such as Audacity (www.audacityteam.org), cut a second or two from it and save it as a WAV file.

Go to bit.ly/theme448 in your browser to see a collection of Windows themes with custom sounds. Some are based on sounds in popular games such as Angry Birds and Age of Empires. Click the Download link, then click the file in the Downloads folder to install it. They all work on Windows 7, 8.1 and 10.

Update audio drivers

Your PC manufacturer's audio software may be the best choice for your PC (see first tip, opposite), but sometimes Microsoft's audio drivers work better. If your sound is poor quality or not working at all, then a driver update may be the solution.

Right-click Start and select Device Manager in Windows 10 or open it in Control Panel in Windows 7. Expand 'Audio inputs and outputs', then right-click each item in turn and select 'Update driver'. Select the option to automatically search for drivers. Repeat the process with the 'Sound, video and game controllers' section.

Delete audio drivers

Sometimes the best way to sort out audio problems is to remove the drivers completely. For instance, if the latest drivers are already installed, but are corrupted, an update will not replace them. Right-click each audio item in Device Manager and select 'Uninstall device'. Repeat this with the 'Sound, video and game controllers' section. When you restart Windows, the drivers will be installed automatically.
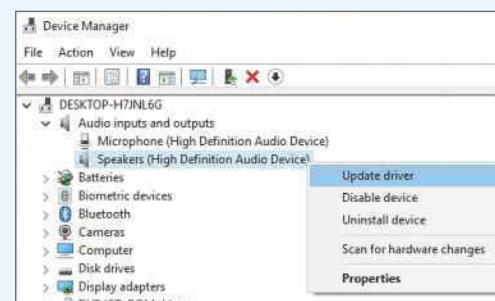
Use the Device Manager to see if Windows can find sound drivers for your hardware

Ask the Expert

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

GENERAL PC
Back up OneDrive

Q A friend of a friend managed to lose all their files in OneDrive when a sync problem forced them to reset everything. Can I back up my OneDrive storage to make sure the same thing doesn't happen to me?
David Gray, via email

A OneDrive's default setting is to store a copy of every file it finds in your PC's OneDrive folder, which is on your hard drive – usually at C:\Users\YourName\OneDrive. A regular backup of your PC's hard drive will include this folder, and there are plenty of free tools you can use to manage backups, such as EaseUS Todo Backup Free (bit.ly/

Use backup software to back up OneDrive files synced to your PC

etbf448) and AOMEI Backupper (www.backup-utility.com).
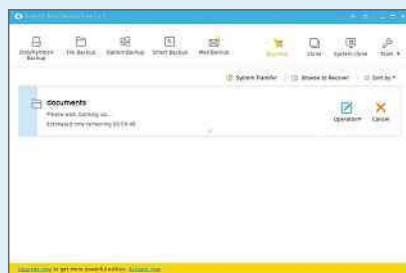
If you've set OneDrive to store files online only, they won't be backed up, but deleted files remain in OneDrive's recycle bin for 30 days. If you ever lose a file, go to onedrive.live.com in a browser and see if it's in the bin.

SECURITY
Stop Defender nagging

Q I have security software installed on my Windows 10 PC but I still get annoying Windows messages about security and enabling Windows Defender. How do I stop the nagging?
Ray Simons, via email

A Installing other security software should disable Windows Defender and stop this type of message appearing, but it doesn't always work. A few tweaks to Windows should make the messages go away. Open the Settings app (Windows+i) and click 'Update & Security', then select Windows Security on the left and click Open Windows Defender Security Centre on the right. Click

Disable notifications if you have security software installed

the gear icon at the bottom of the Defender window to see options for disabling various notifications. If you

have security software installed, you can disable them all. Click the 'Virus & threat protection settings' link and disable Defender's protection settings.

Next, press Windows+R to open the Run box, type `regedit` and press Enter to open the Registry Editor. In the left panel, go to:

HKEY_LOCAL_MACHINE\
SOFTWARE\Policies\Microsoft\
Windows Defender

Select Edit, New, 'DWORD (32-bit) Value'. Name it `DisableAntiSpyware`. Double-click it and set its value to 1. Close the Registry Editor and restart Windows.

If you ever want to undo this, delete the Registry key you've just created, return to Windows Defender Security Centre and switch everything back on.

GENERAL PC
Clear an access violation error

Q Soon after I start my PC, I see an error message that reads "Software update notification. Access violation at address F556E930. Read of address F556E930." I ran some security checks but none of them fixed the problem.
Albert Adams, via email

A Security checks won't find anything because it's not a malware problem – it's just a bug in a program that's trying to access an area of memory it shouldn't. It doesn't sound like a Windows error and, because it appears when you start your PC, it's probably a program that's set to start when Windows launches.

Right-click an empty part of the taskbar and select Task Manager. Select the Startup tab and see if any programs have 'software update' in their name. If they do, select them and click Disable.

Some people have found that the cause is a program called Easybits Magic Desktop, and the website (www.magicdesktop.com) says it's preinstalled on more than 90 million PCs. If you don't use this software, open Windows Settings (Windows+i) and click Apps. Find Easybits Magic Desktop and click it, then click the Uninstall button.

SECURITY
Import problematic photos

Q I usually import photos to my laptop using the memory-card slot, which takes SD cards from my digital camera. However, I've recently been getting a long, complicated error message that says "Unauthorised changes blocked", among other things, and I can't import images, even though I'm an admin user. Is there a fix for this?
Chris Munger, via email

A In recent versions of Windows, Microsoft introduced a tool called Controlled Folder Access. When enabled, this prevents unauthorised software from accessing certain folders, such as Documents, Pictures and so on.

It's a useful security feature that protects your files from modification by malware, but it can also prevent access by legitimate software. When you want to import photos, temporarily switch off Controlled Folder Access.

To do this, click the search box in the taskbar and start typing `windows defender`. When it appears, click Windows Defender Security Centre in the search results. Click 'Virus & threat

Controlled folder access protects against malware but can block harmless software

protection', then click 'Ransomware protection' or use the 'Controlled folder access' on/off switch. You'll see one or the other depending on which version of Windows 10 you have.
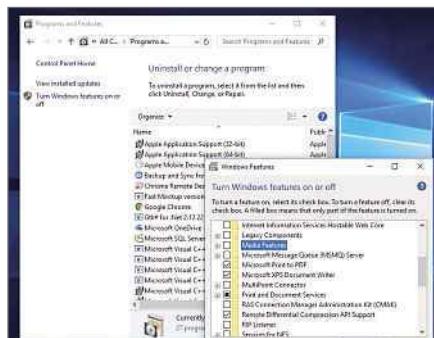
MEDIA
Reinstall broken Media Player

Q I'm having trouble playing files with Media Player on my Windows 7 PC. I'll eventually replace it with a Windows 10 PC, but how can I fix this for now?
Alec Brown, via email

A Windows Media Player can handle a range of audio and video file types but it can't play them all. Are the files you want to play supported? VLC (www.videolan.org) is a free media player that can handle a much wider range of files and it's worth trying to see whether it's a file problem or a Media Player fault.

There are a couple of ways to repair Media Player if it's causing problems. Open the Control Panel (by typing it into the search bar, then clicking it when it appears) and click Troubleshooting. Click 'View all' and run the following troubleshooters: Playing Audio, Windows Media Player DVD, Windows Media Player Library, and Windows Media Player Settings.

If you still have problems, go back to the main Control Panel screen and open 'Programs and Features'. Click 'Turn Windows features on or off', clear the tick against Media Features and click OK. Restart Windows. Go back to the

If Windows Media Player is playing up, use 'Programs and Features' to reinstall it

Windows Features settings and tick the box next to Media Features to reinstall Media Player. Restart Windows again.

BROWSERS
Remove Edge's bias for sports news

Q When I open my Edge browser, it shows a collection of news stories, including sports reports. I don't follow sports so can I customise the feed to remove them?
Hollie Doyle, via email

A Edge displays news stories it deems the most popular. You can tell it the types of story you prefer, which may reduce the number of sports stories, but you can't block them completely.

Open Edge and click the cog icon in the top-right corner. In the news topics near the bottom of the Customise page, select ones you want to see more of and deselect those you want to see less of. This still won't completely remove unwanted topics, though.

Another option is to set the startup page to a different news site. At bbc.co.uk/news for example, you have a choice of 10 sections and many subsections. Pick your favourite, such as business, tech or science, and copy the URL.

Go to Edge's menu, choose Settings, then under 'Open Microsoft Edge with', select 'A specific page or pages'. Paste the URL here and Edge will always start at that page.

GENERAL PC
Reset Windows Spotlight images

Q I love the images that appear on my Windows 10 laptop's lock screen, but it has been showing the same one for the past two months. It used to change at least every couple of days. How do I get it going again?
Mike Mullen, via email

A For those who haven't seen this, press Windows+i to open Settings and click Personalization, then 'Lock screen'. 'Windows spotlight' is an option in the drop-down menu under Background, and it displays a new lock-screen photo every day or two.

Clearing out the old files usually fixes the problem. Set the Background setting to Picture and select an image. Open Explorer, choose the View tab

PHOTOS
Fix Windows 10's Photos app

Q When browsing photos in Windows 10's Photos app, I use the Next and Previous arrows on either side of the window to move forwards and back. However, sometimes the arrows disappear and I'm stuck. Is there a fix?
M Penny, via email

A Some people have experienced this when viewing photos in a folder that contains a large number of images. One solution is to move your photos into several folders instead.

Another potential solution is to open an Explorer window that contains the photos, press Ctrl+A to select them all, then press Enter to open them in the Photos app.
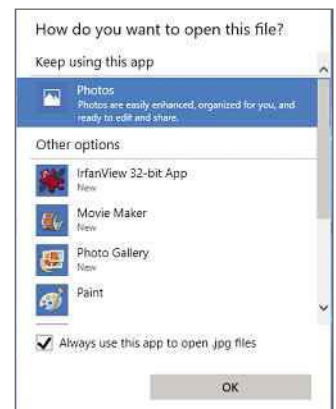
Set Explorer to open files in your chosen program

This assumes that Photos is the default app associated with JPEG images. If it isn't, right-click a photo and select 'Open with', 'Choose another app'. Select Photos and tick the box 'Always use this app to open .jpg files'.

Show stunning photos on the lock screen with Windows Spotlight

and tick 'Hidden items'. Go to:
C:\Users\YourName\AppData\Local\Packages\Microsoft.Windows.ContentDeliveryManager...\Settings
Delete all the files in the folder. Return to the Settings app and select Windows Spotlight in the Background menu. Restart Windows to finish.

This fortnight, Roland has spent too much time on the never-ending job of updating and backing up his websites

Your Top Tips

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

TOP TIP

EMAIL

Get a shorter ProtonMail address

I love the ProtonMail email service (protonmail.com) featured in Issue 444 (bit.ly/webuser444) but I find the address a bit unwieldy and I often end up having to spell it out to people. So I was deli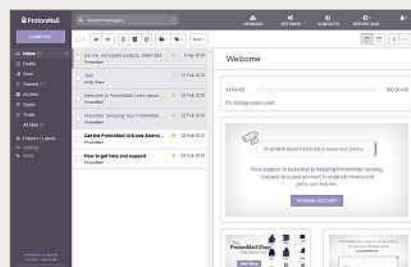ghted to hear that if you have a protonmail.com address, you can also have a pm.me address with the same prefix. In other words, you can change yourname@protonmail .com to yourname@pm.me to send an email to the same address.

Both email addresses are completely free, but the shorter 'pm.me' version is

If your 'protonmail.com' address is too long, try your 'pm.me' address instead

much easier to pass on to people.

Steve Jacobs, via email

HARDWARE
Keep an eye on your GPU

If your PC's fan is making a lot of noise, it's probably because the CPU is working hard and generating a lot of heat. To see what's causing it, press Ctrl+Shift+Esc to open Task Manager, click the Processes tab, then click the CPU column heading (you may have to click it twice) to sort the processes and show the hardest-working programs at the top.

If you can't see anything in the list using excessive CPU, it may be the GPU – Graphics Processing Unit – that's causing the additional heat. This may already be showing in the last column but if not, right-click the last heading and select GPU from the list.
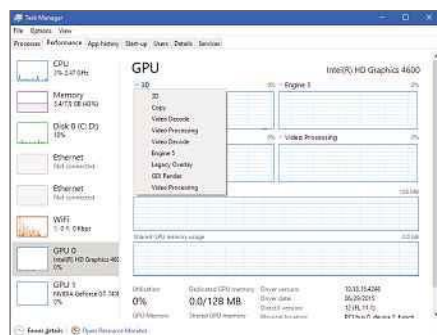
Check your PC's GPU activity and switch views in Task Manager

You can also see GPU activity on the Performance tab – click the GPU tile on the left, if you have one. Right-click a graph and select 'Change graph to', then choose either 'Single engine' or 'Multiple engines'. If I select 'Multiple engines' and click the title of the top two charts, I'm shown a choice of nine different displays – what you see on your PC may depend on your video card and whether it's being used.

Try calling up Task Manager when you're playing a game to see how your GPU copes under heavy stress.

Connor Williams, via email

BROWSERS
Switch off Firefox data harvesting

Even Firefox now gathers your data and makes it difficult to opt out. To stop this, open Firefox and click the menu button, then choose Options. Click Privacy & Security on the left and scroll down to 'Firefox Data Collection and Use'. Untick anything you're not happy with.

If you want to take this a step further, type `about:config` in the address bar, press Enter and click the 'I accept the risk' button if it appears. Type `telemetry` into the search box to see a long list of settings. You don't want to
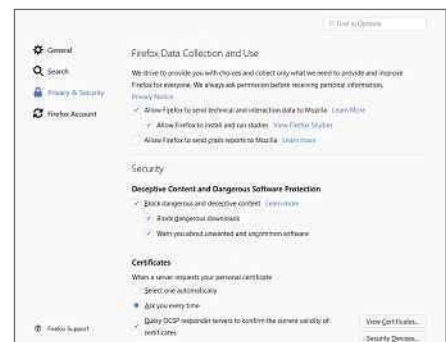
Firefox collects 'technical and interaction data' but you can choose to turn it off

disable everything here but The Windows Club recommends a list of things you should do with these settings at bit.ly/twc448.

Firefox's automatic updates may reverse the above changes but I wouldn't know because I have automatic updates switched off. If you want to do this, click the menu button and choose Options, then click General on the left (if it isn't already highlighted) and scroll down to the Firefox Updates section. Under 'Allow Firefox to', choose your preferences from what's provided.

NikoBold, Web User Forums

GENERAL PC
Try the old Windows File Explorer

Do you hanker after the good old days of Windows, before Windows XP came along and made everything prettier? If so, you can remind yourself of what it
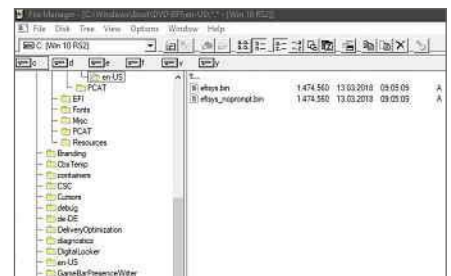
Microsoft has a new version of the old File Manager that you can use in Windows 10

was like by downloading a fully working, updated version of the old Windows File Manager, which has since been replaced by Explorer. You can download it from GitHub at bit.ly/file448. It's an official Microsoft project so it shouldn't cause any problems with your PC.

You'll probably end up wanting to go back to Explorer because it's more sophisticated, but this is a great reminder of what Windows used to be like.

Neil Jenkinson, via email

GENERAL PC
Check the name of your OneDrive folder

OneDrive used to be called SkyDrive and if you've been using OneDrive since then, your files won't be stored in C:\Users\Yourname\OneDrive, but in C:\Users\Yourname\SkyDrive. There's also a OneDrive folder that doesn't contain anything, so make sure you are backing up the correct folder.

Scott Griffiths, via email

SECURITY
Stop Kaspersky blocking Google Backup Sync

I started using Google Drive's new Backup and Sync tool, and all was fine for a week or so. Then it started displaying error messages and eventually stopped working completely.

It turned out that the problem was Kaspersky Antivirus. You have to add the Google Drive shell extension (.dll) to Kaspersky's trusted apps. You also have to uninstall and reinstall the Google tool, but Kaspersky stopped this from happening until I added Google Installer as a trusted app, too.
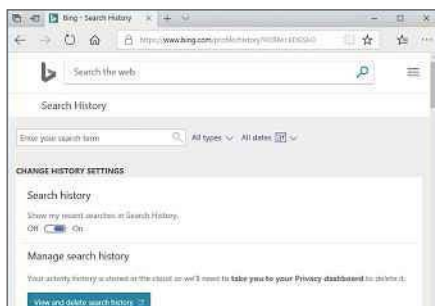
There's no indication of any forthcoming fix on the Kaspersky forum.

rufford155, Web User Forums

BROWSERS
Hide Edge searches

If you open Edge in Windows 10, you'll see a search box on the startup page. Under it is a list of your recent searches. If other people use your computer, you may not want this information on display. Click Manage History under the Web

Configure the history display on the Edge startup page from Bing's settings

Search button and turn off the 'Search history' switch on the next screen.

If you change your mind, it's not so obvious how to switch it back on again. You have to go to the Bing website (www.bing.com), sign in if necessary, click the menu button and then click 'Search history'. This shows the same configuration page as before and the switch can be reset.

Sean Jones, via email

WINDOWS
Clear temporary files

The Windows Temp folder doesn't get mentioned very often but, over time, it still accumulates junk in the form of temporary files. These files take up storage space and can have a detrimental impact on your PC's performance if your hard drive is small or nearly full. Clearing out old temporary files recovers the space.

Press Windows+R, type `%temp%` and press Enter. Explorer opens and shows the contents of the Temp folder in an Explorer window. Select the View tab and click Details. Click the 'Date modified' column to sort by date.

Assuming you switch your PC off at night, only files and folders with today's date are in

use and anything older can be deleted. To be extra safe, delete everything that's more than two days old and don't forget to empty the Recycle Bin to recover even more hard-drive space.

Evan Bannister, via email

EMAIL
Stop Gmail deciding what's Important

I use Gmail as my main email address but I started getting a bit annoyed with it because it kept marking emails as Important, seemingly at random. Because this is of no use to me, I've learned how to switch it off.

Open Gmail (mail.googlemail.com) in your browser, click the arrow next to the cog icon in the top-right corner and choose Settings. Click the Inbox tab and look for the 'Importance markers' section, then click 'No markers'.

Harry Brampton, via email

If you don't want Gmail to decide which messages are important, switch the option off in Settings

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BLUNDER OF THE FORTNIGHT

GENERAL PC
Convert currency in Calculator

For years, I've been using a website to convert currency, to work out how much money I need to take on holiday and how much I've spent when I get back. This involved searching for the correct web page and filling in online forms, but it turns out I needn't have bothered because Windows 10's calculator has a built-in currency converter.

To use it, open the Windows Calculator – start typing `calculator` in the taskbar's search box, then click the Calculator when it appears. Click the menu button and

Use the Windows 10 Calculator to work out currency conversions

scroll down to Converter, then choose Currency. To change one of the currencies, click the drop-down arrow and select one. The currencies are listed alphabetically by country, except for the euro, which is listed as Europe.

The calculator tells you when the rates were last updated (probably today, as long as your PC is online). Click the 'Update rates' link to get the most up-to-date information.

Gary Wright, via email

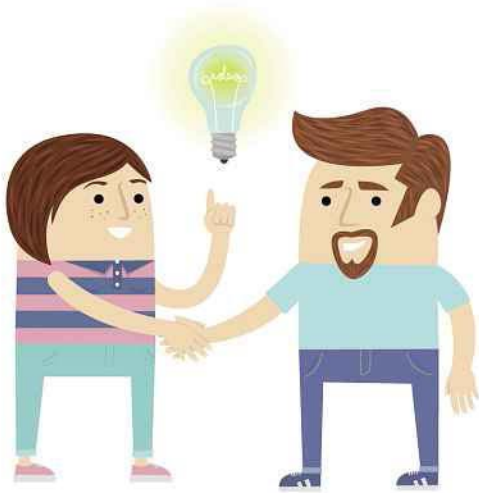**Have you managed to fix a PC-related disaster? If so, please send your story to webuser@dennis.co.uk**

Readers' Helpdesk

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

GENERAL PC
Spot a failing drive before it's too late

Q I tried to create a backup image of my main hard drive and got error 0x8078007D. The image creation went well until it neared the end of the process and switched to creating a shadow copy, which is when I got the error message. I ran a standard Windows check on the hard drive, which seemed to be fine, and have tried to create the image on two separate external hard drives.

Following advice, I've used the time-limited trial version of Hard Disk Sentinel (bit.ly/hds448). This reported back that the hard drive has 109 weak sectors with an overall health status of 52%, though its performance status is still reported as 100%. Its life expectancy is 347 days, while the two drives I'm using to make the copy have more than 1,000 days and are problem-free.

How should I proceed? Should I move Windows to another drive?
beefy, Web User Forums

A Uninstall HDSentinel but keep the installation file in your Downloads folder. It stops the trial-clock ticking and you can reinstall it and use it again in the future.

Because Windows is rejecting your hard drive and HDSentinel isn't happy with it either, it's time to get another hard drive to use as your main system drive.
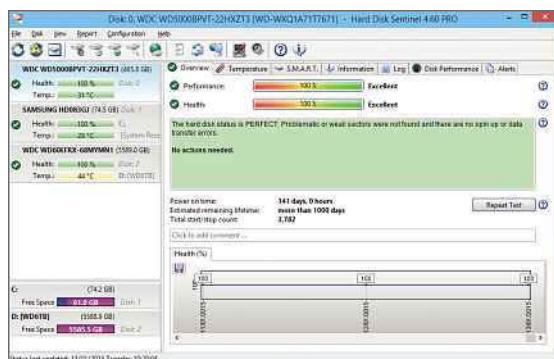
*The trial version of Hard Disk Sentinel is free and can perform a thorough check on a failing hard drive*

GENERAL PC
Remove a performance blockage from a PC

Q In the last week or so, my two-year-old HP notebook (which runs Windows 10 version 1709) has become extremely sluggish at startup, shutdown and everywhere in between. Having a look at IObit Advanced SystemCare performance monitor (bit.ly/iob448), it would appear that everything is clogged up. Even typing this is a laborious stop-start exercise.
donnyboy36, Web User Forums

A Right-click the taskbar and choose Task Manager. Look at the Processes and Performance tabs, which should show the programs
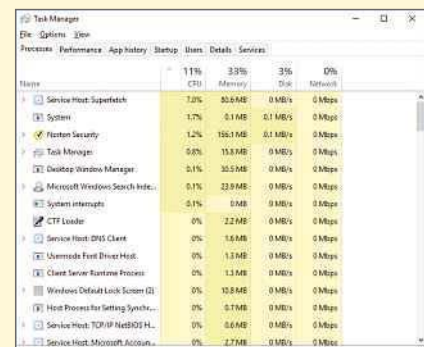
The Task Manager can show which programs are hogging your resources

using all the resources. From the screenshot you attached, it looks like IObit Malware Fighter might be using 97% of your PC's resources. Did you choose to install this or did it turn up when you installed another IObit program? If it's the latter, uninstalling it should solve the problem.
george29, Web User Forums

Once a hard drive develops problems, it can degrade quickly. I wouldn't take those 347 days as gospel – you should replace it as soon as possible.
Cantrel, Web User Forums

SECURITY
Remove unwanted antivirus software

Q My wife accidentally installed Avast Free Antivirus on her laptop. Because she didn't want it, she used Revo Uninstaller's (bit.ly/revo448) 'advanced' scan facility to remove it. However, Avast is still showing up as a Startup program, even though it doesn't appear in the main program list in Control Panel. It's also set in Services as 'automatic' and 'running'.

I can't disable or remove it from the services list, even though I've unticked it in the Startup tab of the Task Manager.
daddybear, Web User Forums

A Download Avast's own uninstallation tool, which is called Avastclear (bit.ly/avac448). You need to use it in Safe Mode. Your previous attempts to uninstall will probably have removed the software's main EXE file and successfully triggered the option to render it invisible, but the overall Avast remove tool should still be able to remove what's left.

If it still doesn't get rid of the software, try starting over by downloading and reinstalling the latest version of Avast Free Antivirus, then using the Avast uninstall tool (in Safe Mode) to completely uninstall it again. This should get rid of any old files while it removes the new ones.
Jak, Web User Forums

Security software is deliberately hard to remove – check the developer's site for tools

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Star Email

Back Issues disc winner

Streaming with confusion over geoblocking

As a regular reader, I have seen very little in *Web User* about the attempts within the EU to ban geoblocking. About a year ago, we were told this was likely, then this was watered down and we were told that we could access our home Netflix (and similar) accounts and their contents throughout the EU, provided that this was limited to holiday or business trips (VPN not needed). This regulation was said to have been accepted and due to come into effect in April 2018. At some point, the big guns of sport successfully got that exempted, as was other copyrighted material.

Where are we now? Googling brings up many hits dated last year and it is difficult to know which ones include valid information. When I last took an Amazon Fire TV Stick abroad to Cyprus, it allowed me to access my UK account and view the Amazon-sourced programs. However, most feature films would not play.

The MEP Julia Reda, who is actively involved in this matter, has some relevant info on her website at bit.ly/reda448.

Brian Ray, via email

Web User says: As we reported in last issue's Webometer, new EU rules introduced in April do now allow you to access your home library for streaming services while abroad. However, you are correct that this does not mean an end to geoblocking, as reported by some news outlets. As Julia Reda points out: "This law does not allow you to pay for a subscription to a video-on-demand service not offered in your home country in the first place", which means we can't stream content in the UK from other countries without using a VPN, and vice versa. There remains a battle to be fought before digital borders are properly removed.

Advertising pushes up phone prices

With reference to Barry Collins' column in Issue 445 about mobile phone companies and their 'regurgitated' products, may I suggest a follow-up article revealing how the escalating purchase price of phones and the huge amount of media advertising have run parallel in recent times.

Only a few years ago, Google's Nexus phones were reasonably priced at just below the £300 mark, but they had very little advertising and were nowhere to be found in any of the mobile phone stores. Now, in order to gain market share, Google has followed the same route as Apple and Samsung by promoting its latest products and charging big bucks to cover the costly joint advertising deals with the mobile phone companies. Based on the retail price of other less well-known products, one doesn't need to be a mathematician to see why the market is distorted. Therefore, once again, the consumer is being ripped off while the regulator turns a blind eye.

R Thomas, via email

Hanging on the telephone

Barry is not the only one who has suffered poor mobile signals (Page 404, Issue 446). My wife and I are on EE and we had to hang out of the window to make calls! However, after nagging EE for months, they eventually sent us a signal box to connect to our Wi-Fi, which totally solved the problem.

We own an Amazon Echo but have yet to try making calls on it: mainly because it is always trying to sell us things we don't need, such as Amazon Music.

Tony Shapps, via email

Quiz Answers: Issue 447

1. Lulu
2. Dawn French
3. Rod Stewart
4. Michael Ball
5. David Schwimmer
6. Prince of Wales

WINNER! Well done to Cande Walden who wins a Web User Back Issues Disc

TECH YEAR 2006

Online prices depend on elasticity

Your correspondent in Issue 445 is wrong about claims history being the basis of insurance price. That's the way insurance used to work, of course, but nowadays the price is based more on your 'price elasticity' or how much you are prepared to pay. This is basically the same theory that changes the price of a cup of coffee depending on how near the shop is to a station platform.

Variations in price based on operating system, email address and other factors have been common for some years on all manner of websites. Dell began quoting higher prices for users using Macs some years ago on the basis that they must be happy to pay more than a thing is worth. That spread and is now common practice on supermarket websites.

Online shopping used to be cheapest on a PC with a down-at-heel email address such as AOL or Mail.com, but experiments happen all the time so it's worth shopping around for a second quote.

David C, via email

Facebook 'scandal' is fuss over nothing

Why is everybody so shocked and surprised about the 'scandalous' news that Facebook has been passing our data to other companies? Surely, we've all known this for years, which is why many people don't bother with Facebook in the first place? Of those that do use it, the savvier ones will have already locked down their privacy settings so that their data can't be easily seen by and shared with other people and companies. And the less savvy will either not understand the privacy risks of using Facebook or not care about those risks and use it anyway.

There are so many scary things going on in the world at the moment, what with Russia, Syria and the uncertain future of Ant and Dec – why the big hoo-ha about a company that's known for sharing its users' data being exposed for sharing its users' data? All this fuss over nothing makes no sense to me, and if I have to read much more about it I will be imposing a media blackout on myself!

Chris Gough, via email

What you say...

WOULD YOU CONTINUE TO USE GOOGLE OR FACEBOOK IF YOU HAD TO PAY FOR THEM (bit.ly/goofb448)?

Finding an alternative to Google wouldn't be too bad, but an alternative to Facebook would. Either way, I wouldn't pay for them.
Geoffrey Boow

I'd love to say "No way", but I'd probably end up paying!
Cheyvonne Bower

If this is what the future will be, then more people will shut down their accounts – like the thousands leaving Facebook now. People are using alternatives with privacy filters.
Gomez Harverson

To be honest, if they are just using my data to send me targeted advertising, then I don't really mind as we are always going to get adverts, and I'd rather see adverts for things I like.
Paul Emsley

There are plenty of decentralised open-source alternatives. If Facebook introduces a paid-for service, I reckon it will be the final nail in the coffin.
Shaun Oberto

A THIRD OF BRITS SAY EMOJI ARE RUINING THE ENGLISH LANGUAGE (bit.ly/emoji448). DO YOU AGREE?

They're fine, but not a hundred of them in somebody's name.
Chutchy @MrChutchy

Emoji have their place – they should never be used in professional formal communications, but they do actually enhance our online communications.
Warren Bennet

I don't agree. A picture paints a thousand words.
Eff Clarke

Nah. I use them once in a while. It's just how things progress over time. Similar to how the English language has picked up foreign words.
Carl Pennor

AMAZON PRIME NOW HAS 100 MILLION SUBSCRIBERS. WHAT'S THE BEST THING ABOUT IT?

Leaving the next-day ordering until the last moment to see if it gets here in time.
Adrian Millington

Let's be honest – the only reason many people have Amazon Prime is so they can watch *The Grand Tour*.
Ian Maddock

I don't think you can beat the inclusive next-day delivery or the Prime TV service.
David P-Smith @david_p_s

You get a lot of other things apart from free delivery: unlimited photo storage, free movies, TV content.
Steve Askew

HAVE YOU EVER BOUGHT TECH FROM CHINA?

I always do. Saved almost €100 on my phone and got an unlocked model, too. I use Alibaba (www.alibaba.com) a lot – never paid for any postage on anything, and have been happy with most purchases.
Darren Branagh

I'd be very cautious, as there are fake superstores in China that sell branded items, but they're all fake.
Brian Brown

I've ordered loads of stuff from Wish (www.wish.com) and most of it is okay. You get the odd thing that doesn't work but hey, it's cheap enough.
Gerrit Max

⚠ Page 404

Barry Collins asks why money is wasted on mobile spectrum when he can't make a call

5G billions? They're literally buying thin air

I spoke to my dad in hospital this morning. Well, I say spoke. I heard about every third word he uttered – neither of us sure whether it was the iffy mobile reception inside the hospital or the iffy indoor reception on my mobile network that was to blame.

At least there's more chance of dad getting better than our mobile networks. The UK's four big mobile operators have just handed £1.4bn to the Treasury for the rights to operate 5G networks, so there's little or no chance of them spending heavily to fill the massive gaps in their 3G and 4G coverage. There's a new technology to sell on expensive new tariffs: who cares if the old stuff still doesn't work?

You might think telecoms regulator Ofcom should. Indeed, when the 4G auction took place in 2013 – sticking another £2.3bn in the chancellor's top pocket – Ofcom assured us that the spectrum was sold with coverage guarantees, ensuring few people would miss out. The reality turned out to be very different.

Only one network – O2 – was forced to deliver a high level of indoor coverage. The batch of spectrum O2 bought came with a caveat that the network must "provide a minimum level of indoor data coverage to 98% of all UK premises by 31 December 2017". In March, Ofcom confirmed that O2 had ticked that box but when you look at the detail, it's enough to make you weep.

The conditions of O2's licence were that it was to deliver a network "capable of providing, with 90% confidence, a mobile telecommunications service with a sustained downlink speed of not less than 2Mbps when that network is lightly loaded". Note the two get-out clauses: "90% confidence" and "lightly loaded".

What does lightly loaded mean? Ofcom defines this as "a single user demanding service within the serving cell," where "the surrounding cells of the network are loaded to a light level". So as long as you're the only idiot in the village trying to get a mobile signal, you've got a 90% chance of getting a pathetic 2Mbps. Ofcon [sic] strikes again.

Since 2000, the government has collected the thick end of £30bn from selling mobile spectrum. And while I'm well aware that this money may have helped my dad get the treatment he needs on the NHS and could be funding many other worthy causes, it still seems a staggering waste. It's not as if the government goes to any expense to secure spectrum, after all. It's literally selling thin air.

So, instead of forcing these companies to hand over a few billion quid every few years, why doesn't the government do something bold and forward-thinking? Like forcing them to achieve 100% coverage on their 4G networks, both indoors and out, at a decent peak-time speed, before they get the right to sell 5G? You wanna bet Vodafone, O2, EE and Three wouldn't find the money to fill in their networks if they knew they were at genuine risk of being held back?

Still, I'm not holding my breath. I'll just keep my fingers crossed that the next time I ring dad, the line's clear enough for him to hear we all love him and want him out of there as quickly as possible.

> ❝ As long as you're the only idiot in the village trying to get a mobile signal, you've got a 90% chance of getting a pathetic 2Mbps ❞

Illustration: Andrew Torrens

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

WebUser

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