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WebUser

Issue 460

17 - 30 October 2018

/ Best software / New apps / Laptop Envy?

Make Your Own NETFLIX

Stream your DVDs to watch anywhere with KODI

p58

ACCESS ANYTHING ANONYMOUSLY USING TOR

How to... STAY SAFE!

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£2.20

PLUS

A FLU JAB FOR YOUR WEB BROWSER

Act now to block new threats
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WHY YOU MUST 'TAG' YOUR FILES

And HOW you should do it
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WINDOWS 10 NEW UPDATE
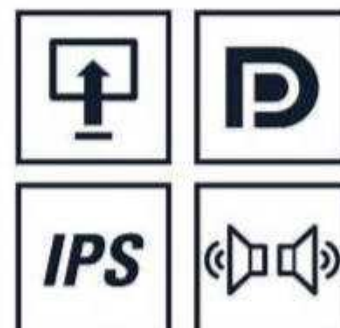
Free up PC space to install it successfully p54

Tour the web privately with Tor

The surprising thing about browsing the so-called 'dark web' using Tor is how dull much of it is. With its dodgy marketplaces, obvious scams, ugly design and dead links, it's like visiting the internet in 1992 – and, sometimes, just as slow. But no matter how tedious, unpleasant and (admittedly) illegal parts of 'onionland' can be, Tor is an excellent way to ensure your anonymity online, and it's easy to use the browser without breaking the law.

In this issue's cover feature, we peel back the layers of the onion to reveal how Tor lets you access *any* website without anyone knowing who or where you are, or what you're viewing. We explain how to make Tor as private and secure as possible, whether you're searching, messaging or downloading, and show you how to redirect all your internet traffic through the network.

Also, if you're feeling adventurous, we pick the best safe and legal sites that you can only explore through Tor, from uncensored news to clandestine chess.

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

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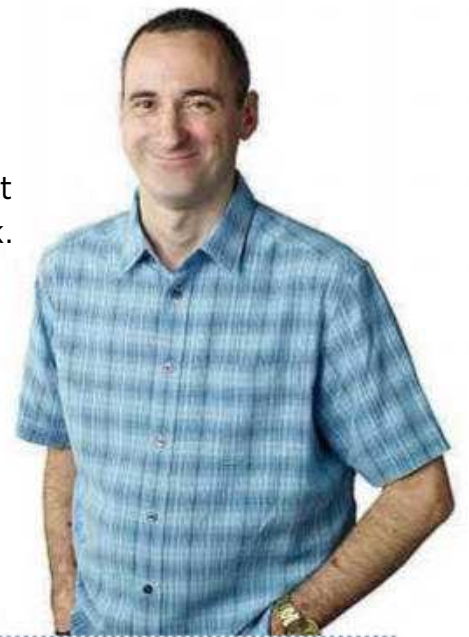
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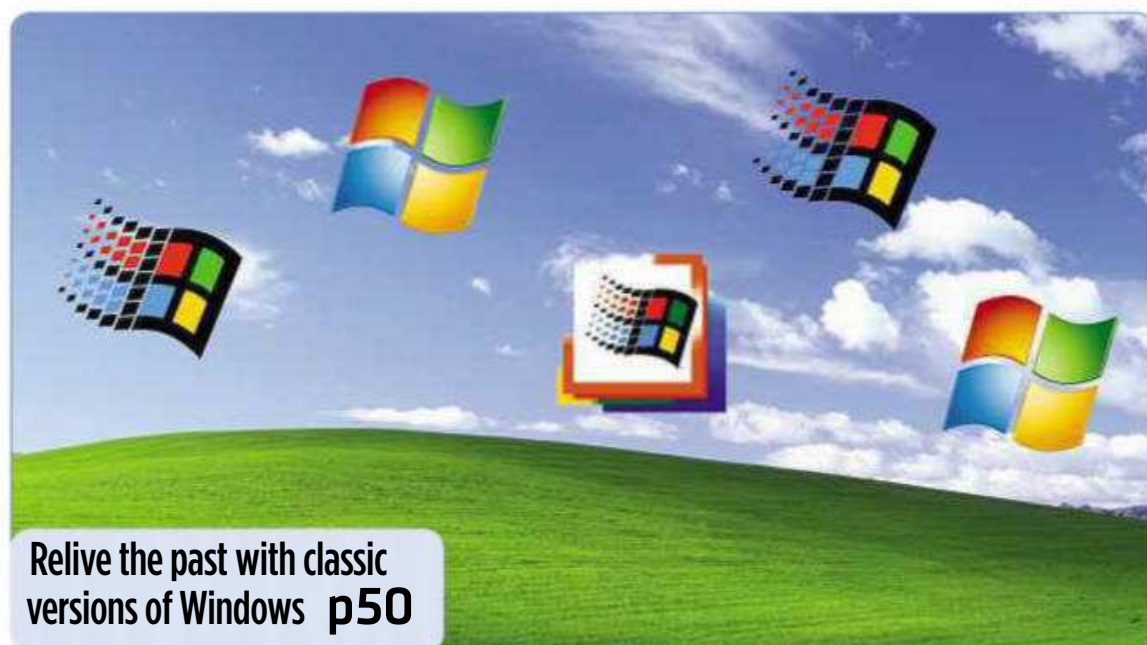
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Enjoy the anonymity and safety of the dark web, with none of the risks

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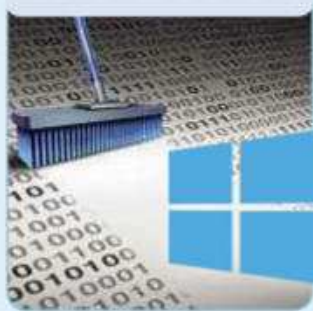
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Kodi + DVD collection = your own video-streaming channel **p58**

What's New Online

Search faster in Google Images

Google is rolling out some welcome tweaks to its image-search facility. You'll now see related terms across the top of the screen when you look for an image in your desktop browser – a feature it has borrowed from mobile.

Another improvement is better contextualisation of photos, with captions that show the title of the web page where the image is hosted.

Videos are also set to be featured in the search results, using computer vision to show content related to both the main topic and various associated sub-topics.

Meanwhile, Google has overhauled its image algorithm to take into consideration the authority of host websites and the availability of fresher photos.

Stories are being introduced, too. These currently appear if you search for specific celebrities or athletes, offering information pulled from Search and News (although we've only seen this on www.google.com).
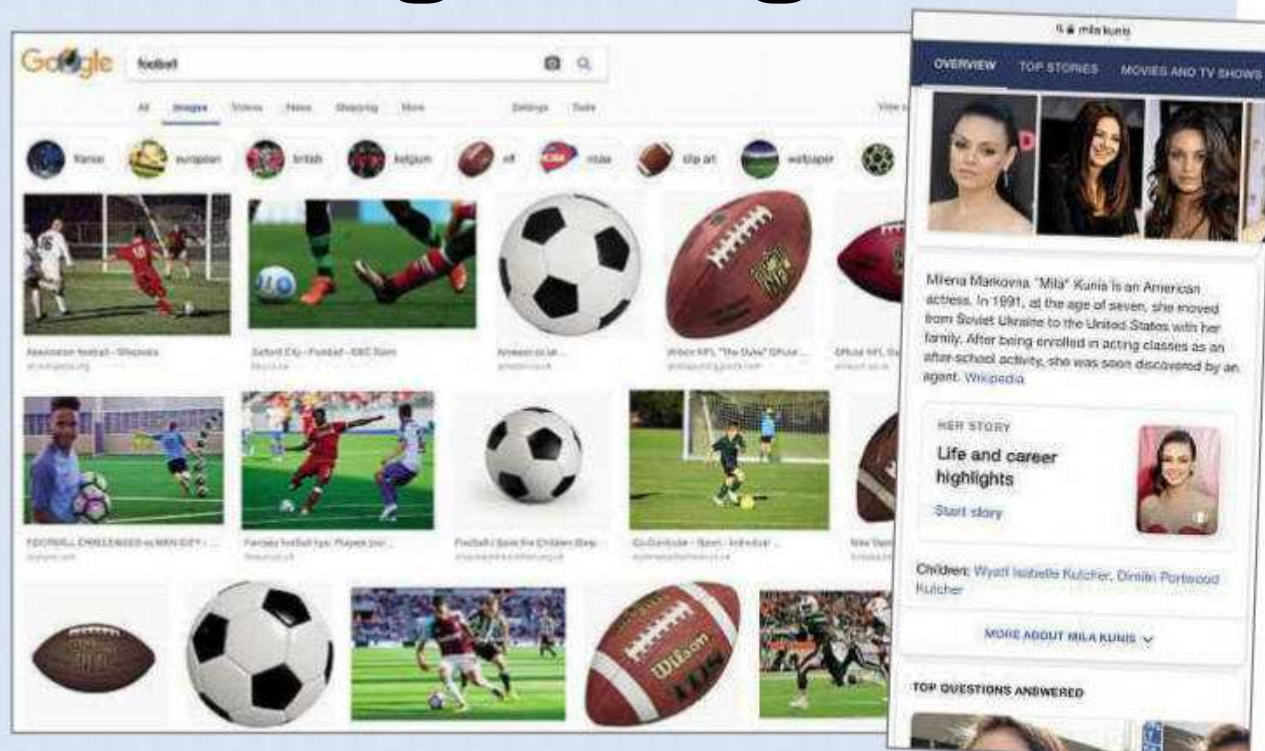
But with Google Lens integration promised soon, along with a new Discover tab in the Search app that recommends content based on your interests, finding stuff is certainly getting easier and faster. Look out for Activity cards, too, highlighting sites you've already visited that are relevant to the current search. **images.google.co.uk**

Check if your passwords have been stolen

monitor.firefox.com
Security breaches are becoming increasingly frequent as was recently shown when Facebook suffered a hack affecting 50 million users. For the past four years, it has been possible to check whether or not your personal data has been compromised by entering your email address at Have I Been Pwned (haveibeenpwned.com).

Firefox has now repackaged the site's database with its own branding – just enter your email address, tap Scan and you'll be shown which of your accounts have been breached, potentially resulting in your passwords and other details being stolen.

Firefox Monitor promises not to store or share your email address, and you can sign up to receive alerts whenever your information is involved in a fresh data breach. It's a service we urge everyone to consider.

Help people with dementia using music

musicmemories.bbcrewind.co.uk
Music is said to trigger powerful memories in people who are living with dementia, which can prove helpful for both sufferer and carer. With that in mind, the BBC has produced an admirable new tool that seeks to tap into the health benefits of music by offering snippets of more than 1,800 tracks, among them big hits from the past 100 years, along with theme tunes from radio and television, and classical compositions.

The site makes playing music as easy as possible, organising tracks into three categories – classical, popular and theme tunes – and allowing simple selection of decade, composer or programme. It takes a couple of clicks to start a tune playing, then counts down to the end and gives you the option to save the song to your favourites for future reference.

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

Get Instagram notifications in your browser

www.instagram.com

When you use Instagram in your desktop browser, you can now receive notifications of any new followers, likes and comments – just as you do in the mobile app. You'll see the option to activate the notifications when you log in. All we need now is direct-message support and video uploading for a better web experience.

Use YouTube's Miniplayer

www.youtube.com

Want to keep browsing YouTube while you're playing a video? Then cast your eyes towards the new Miniplayer icon in the right-hand corner of the video window. Located next to the settings cog, the feature shrinks the player to the lower-right area of your browser while taking you back to the previous page. It stays there until you navigate to another site or start playing a different video. Meanwhile, you can use the Miniplayer's Play/Pause button as well as the Replay and Next-video functions. Right-clicking brings up options such as Copy and Loop.

Play Google's hidden text adventure

www.google.co.uk

Text-adventure games have been around since 1975 and 43 years later, Google is treading a familiar path, hiding a fun little text-only jaunt within the code of its search engine which lets you explore the Google campus in the hunt for the letters that make up the company's name. To play, search for "text adventure" in Google. Right-click the results page, click Inspect and select the Console tab. After typing Yes, you'll be able to play, by entering "north", "south", "east" and "west" to move around, and issuing commands such as "grab" and "use" to interact with objects.

NEW VOICE COMMANDS

Buy from Argos
Say "Hey Google, ask Argos" and a new bot will ask what you want to buy. It can order items and tell you where your nearest store is.

Create podcast links
You can now listen to podcasts on iOS using the new Siri Shortcuts feature in iOS 12. You can generate time-stamped links for any podcast you're listening to.

Get streaming recommendations
Fancy watching something sweet on Netflix or Amazon Prime? Until the end of October, you can utter "open Red Recommends" and ask the red M&M to steer you towards the best shows and movies.

Record Skype calls

www.skype.com

Skype has added cloud-based call recording on most platforms except Windows 10 (for now). Activate the feature by clicking More Options and selecting Start Recording. The recordings are then posted to your chat for 30 days.

Search for subtitles in Plex

www.plex.tv

If you're a Plex Pass Preview user, you can now browse a list of suggested subtitles for your TV shows and films. Simply click the subtitle selector on the pre-play screen of any content, select More and make your choice.

Tour the Houses of Parliament

bit.ly/parliament460

Nose around the Palace of Westminster using this new 360-degree tour. A voiceover explains the ins and outs of the UK's seat of power, and there are Street View-style looks at landmarks.

Switch between BBC World radio stations

bit.ly/radiomap460

With broadcasts across the globe in 30 languages, the BBC World Service is enjoyed by millions. By navigating around this map, which was created by the Beeb's Taster team, you can hear them all as you navigate from one country to the next, and gain a sense of the service's reach. You can also view the local time.

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

New Windows 10 update halted after it wipes PC files

What happened?

Microsoft has suspended the latest update to Windows 10 after reports of serious bugs, including complaints that it was deleting files from users' PCs.

Since launching Windows 10 in 2015, Microsoft has released 'Feature' updates twice a year – in spring and in autumn – containing new tools and features. These are much bigger than the monthly security updates released on 'Patch Tuesday'.

The October 2018 update (version 1809) adds several new tools, including a 'cloud clipboard'. But within days of installing it, users complained that it had wiped or moved files, such as photos and documents. It appears the problem had already been spotted by testers in the Windows Insiders Programme, who get previews of new versions of the operating system. The company says it has "paused the roll-out of the update while we continue to investigate reports from some customers".

And that's not the only bug in the update – other users have reported compatibility problems with some Intel Display Audio device drivers. Affected computers show a pop-up window listing "What needs your attention" (see bit.ly/intelerror460, pictured below). Microsoft has advised users to click the Back button and to stick with their existing version of Windows until the drivers are updated.

How will it affect you?

If you haven't yet updated, your files are safe because Microsoft has temporarily paused downloads and installations.
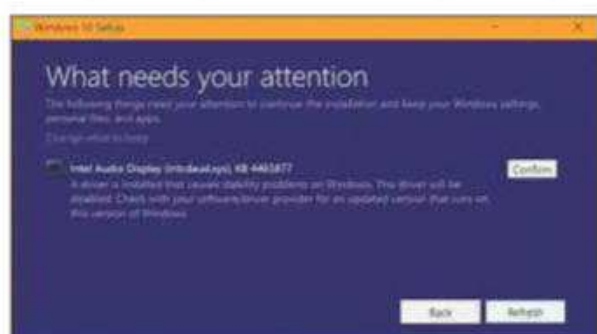
If you've downloaded the update but are yet to install it, Microsoft advises against it, so you should wait for an updated version.

If you have installed the update and are missing files, don't panic: Microsoft is offering support. First, it advises you to "minimise use of the affected device" and contact its support services via the Windows 'Get help' app (which can be found in every section within Settings); online at https://support.microsoft .com/en-us/contactus; or by phone at 0344 800 2400.

Hopefully, your files will have just been moved, rather than deleted. If so, Dona Sarkar, head of the Windows Insider Programme, said that Microsoft has "the tools to get you back to a good state". Plus, reports online suggest you can recover files using a program such as Recuva (www.ccleaner.com/recuva).

As ever, it's wise to back up your files before you run an update. That's not to suggest that users who lost files are to blame for their predicament, but updates can cause many problems – often hard to predict – and a backup is a precaution worth taking.

What do we think?

With 700 million devices running Windows 10, some problems are inevitable. There are numerous permutations of devices, files, configurations and settings, any one of which could trip up an installation. Even a small percentage of users having troubles is enough to spark headlines.

That said, most users are prepared for the odd teething problem and interface glitch, but deleting files is on a whole other level. In fact, it's the most severe problem we've seen for years. It will surely make more users delay installing future updates for several weeks, until problems can be discovered and – hopefully – fixed. And if updates continue to cause such havoc, some users will steer clear of them altogether. How many people are already thinking about abandoning Windows for another operating system?

Microsoft hasn't said when a fixed version of the update will be available to download, but it's perhaps good for the company to take its time and make sure there are no more bugs.

We're certainly happy to wait.

If you see this screen, click Back and wait for Intel's drivers to be updated
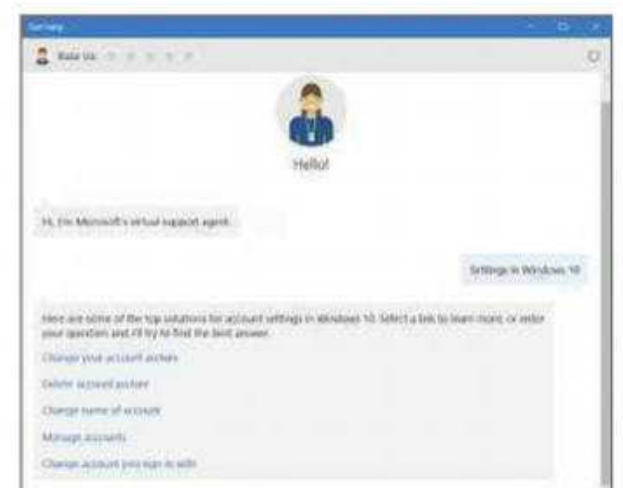
Use Windows 10's 'Get help' app to get update support and chat with an advisor

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

Wi-Fi jargon renamed as speeds get faster

What happened?

The next version of Wi-Fi is here – and it's easier to understand. The standards body behind Wi-Fi specifications, the Wi-Fi Alliance, has replaced its confusing naming scheme with something simpler. The current version, 802.11ac, was due to be replaced by 802.11ax, but will now be called Wi-Fi 6. Routers using it are due for release next year.

Wi-Fi 6 should be revolutionary for three reasons. First, it's much faster – 1.1Gbps on the 2.4GHz band and 4.8Gbps on 5GHz. It achieves this by packing more data into Wi-Fi radio waves.

Second, connections in areas with lots of devices (at home and outside) will be more reliable because the main Wi-Fi is split into sub-channels.

And third, it will boost phone, tablet and laptop battery speeds by using a new technology called 'Target Wake Time' to tell your device's Wi-Fi when to go to sleep (at times when it's not needed) and when to wake up.

How will it affect you?

Rather than trying to remember which 802.11 letter combination is the latest and greatest, you'll only have to look for the 'Wi-Fi 6' logo (pictured below) in a product's specifications.

Because the Wi-Fi standard is backwards compatible, any Wi-Fi 6 device, such as a router, will continue to work with devices using earlier versions, including Wi-Fi 5, formerly known as 802.11ac, and 802.11n, which is now called Wi-Fi 4.

To get the full benefit, your router and the devices connected to it – such as smartphones and laptops – will need to support Wi-Fi 6 (none do yet). So while the new technology will officially arrive in 2019, it may take another two or three years for most people to benefit.

What do we think?

We applaud any move that reduces jargon. Though the Wi-Fi Alliance can't force companies to adopt the new naming system, it says all the companies in the Alliance, including Asus, Netgear and TP-Link, were involved in changing the name, so we're confident it will be widely used.

A bigger hurdle may be getting phone and laptop manufacturers to recognise it, but we can't see any reason why they'd resist.

Facebook to bring ads to WhatsApp
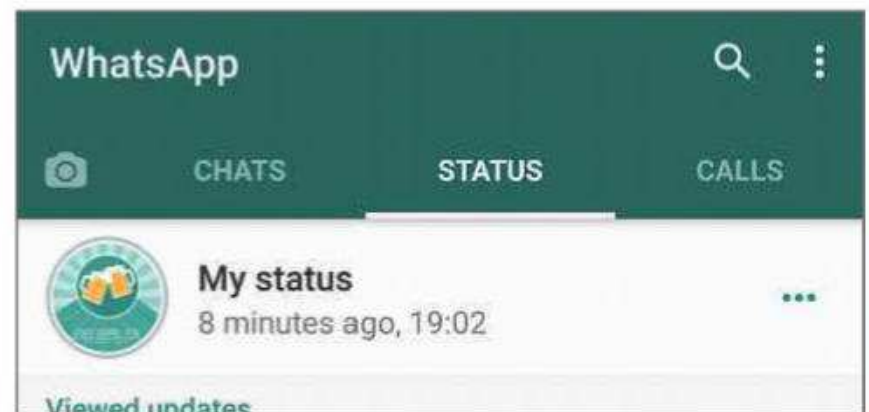
What happened?

Four years ago, Facebook shocked the tech world by buying WhatsApp for $22bn (£16.9bn) – and now it looks set to capitalise on that acquisition by introducing adverts in the messaging app.

Before the buyout, WhatsApp charged a nominal annual fee of $1. Its co-founder Brian Acton said he eventually hoped to make the app profitable by turning it into a payments and messaging tool that businesses could use to contact customers – you could, for example, order pizza, pay for it and get updates on delivery time.

But instead, he revealed that Facebook wants to start showing ads in WhatsApp Status, a section of the app introduced last year where users can upload videos or photos to share with their contacts, similar to Snapchat or the Stories tool in Instagram and Facebook. The content disappears after 24 hours.

Acton said he left Facebook at the end of last year because he disagreed with this plan. WhatsApp has since confirmed it will run a trial of adverts.

How will it affect you?

The WhatsApp Status section is the only part of the app that Facebook has access to. It can't see your messages because they are encrypted. Therefore, avoiding the adverts will be easy – just don't use the Status tool.

There don't appear to be any further plans for advertising, nor to reintroduce a charge for the service, though Facebook executives have emphasised that the messaging app needs to make money one way or another.

What do we think?

Acton's moral stand against the new owners of his app is all well and good, but it's a shame he didn't think of the implications of selling out to Facebook four years ago. Any indignation he feels is no doubt soothed by the billions he was paid.

Facebook makes its money through advertising, so this was always going to happen. The next stage of its strategy may be to increase the ads so they become a real nuisance, then launch a paid-for version to remove them.

Berners-Lee gives back control to web users

What happened?

Sir Tim Berners-Lee has been working with MIT engineers to create a fully decentralised web platform that lets individuals, not companies, control their data. The 'Daddy of the internet' has frequently commented on the web's direction of travel, criticising the drift away from its original, anarcho-libertarian ideals of a free and interconnected playground for all.

Since its creation in 1989, the web has gradually morphed into a Panopticon dominated by a handful of powerful corporations who harvest data and monetise its users, and that's what's driven Berners-Lee to build the open-source Solid.

In a Medium post (bit.ly/bern460), the web trailblazer said: "Solid changes the current model where users have to hand over personal data to digital giants in exchange for perceived value... It gives every user a choice about where data is stored, which specific people and groups can access select elements, and which apps you use."

Earlier this year, Sir Tim claimed that regulation may be the only way to prevent a "weaponised" web. His new, decentralised project implies that he's relaxed his call for state intervention in favour of redefining the web for the individual, almost 30 years after he invented it.
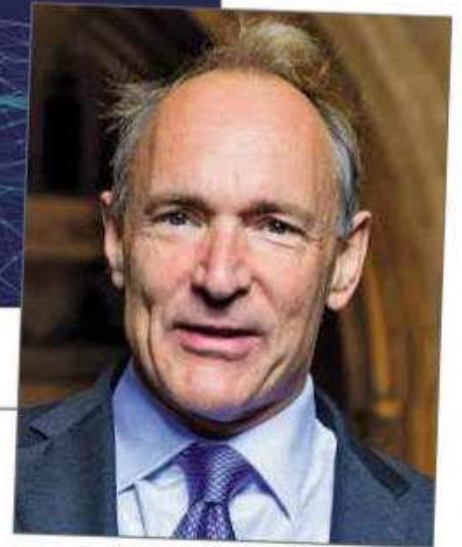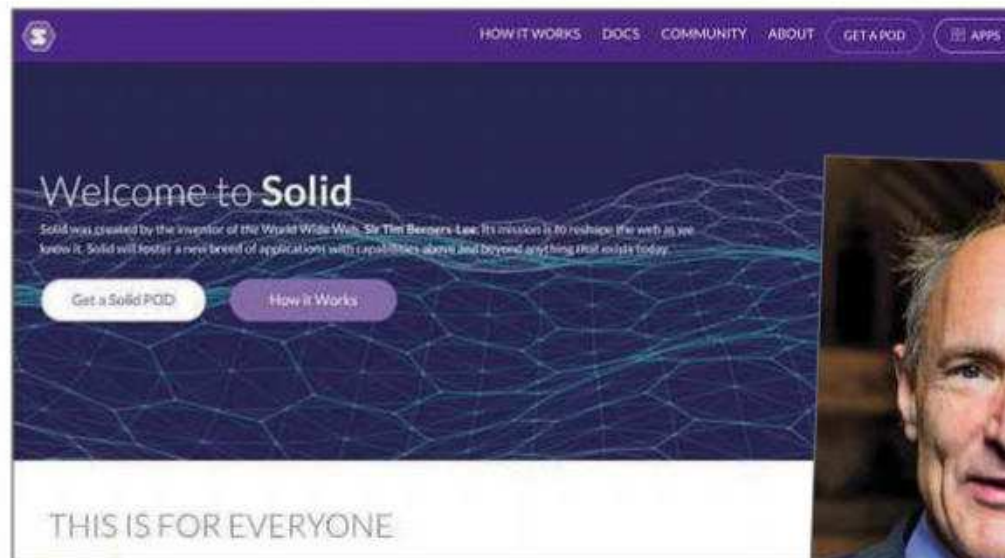
How will it affect you?

From profiles and photos to calendars and comments – if Berners-Lee gets his way, you'll be stashing every slice of data in your Solid POD (Personal Online Data store). Embracing the 'your data' ethos, you're free to move your info around and decide who can 'read' or 'write' that data. So, rather than giving Facebook or Google access to (and use of) your snapshots, pop them in your POD and share them. Solid even makes it easier to sign up or sign into apps and sites without major online companies seeing that information.

For app developers, Solid helps you create "cool apps without harvesting massive amounts of data first".

You can sign up to start storing data in your own Solid POD at solid.inrupt.com.

What do we think?

There's an admirable moral philosophy underpinning Solid – and we couldn't agree more with Sir Tim that the balance of the internet must be tilted in favour of users, not businesses. However, two problems may hold back the platform. Despite being 15 years in the making, it still has a way to go before people view it as anything more significant than a niche option. And, in its current form, it's probably a little too barebones for a mainstream audience raised on sophisticated and intuitive user interfaces.

We'll be taking a closer look at the decentralised web in next issue's FAQ.

👁 FIRST LOOK

Nest Thermostat E
bit.ly/thermo460

The Nest Thermostat E is a long-overdue redesign of the tech company's trailblazing smart-home thermostat. Priced at £199, this is a smaller, stripped back device that promises to make heating your home easier, cheaper and smarter. Americans have enjoyed the benefits of the new E-is-for-Easy thermostat for a while, and its arrival in Europe comes just in time for the chilly blasts of winter.

The Thermostat E's lightly frosted face and warm, orange, clock-like display is attractive yet unobtrusive. Sensors for temperature, humidity, movement and lighting sit snug inside a petite 3 x 4in polycarbonate shell, constantly monitoring the surroundings, and it's compatible with just about every kind of central heating system. It's also smart – not just automation smart, but properly smart.

The Nest Thermostat E's built-in capabilities allow it to learn your routine and preferences, and tweak its settings to reflect them. So, for instance, if you arrive home earlier than the time your heating is set to come on, the Nest Thermostat E recognises your arrival and adjusts the temperature accordingly.

Despite Nest's claims that the E stands for 'Easy', there are a couple of baffling design choices: the built-in stand lets you pop it down anywhere, yet there's no option to mount it on the wall; it's billed as a device for any room, but is powered by the mains, rather than batteries, which may limit where you can position it.

Such niggling details aside, installing the Nest Thermostat E is remarkably convenient. There's no need to call in a professional – unlike previous incarnations, you can now hook up your smart thermostat yourself by connecting your existing thermostat or boiler to the supplied, battery-powered Heat Link E. Control of the device is handled either by manually using its touchscreen and outer wheel to scroll and select settings, or on the go via the updated Nest app or using your Google Home or Amazon Echo speaker.

WHAT'S THE RUMOUR

Is Sony launching a Spotify rival?

The head of Sony Music, Rob Stringer, told the BBC that the company may develop a music-streaming service that offers "more control over distribution" (bit.ly/stringer460), prompting speculation that it may take on Spotify.

A rival streaming platform filled with Sony's exclusive content would be a clear retaliation against Spotify signing and developing its own stable of independent musicians. Discussing Spotify's ambitions, Stringer said: "Could they do that? Probably. Would we have a way of dealing with that? Probably. We have hundreds of thousands of tracks going back 100 years, so we have quite a lot of leverage."

This, then, is a twin threat that seems deliberately timed. Even if Sony doesn't follow through on the rumoured streaming service, the company could still withdraw a back catalogue that includes Queen, Daft Punk, Foo Fighters and many other popular artists.

According to Stringer, Sony isn't prepared to pull its archives from Spotify yet, "because we have an arrangement that's working for both of us at the moment. But in five years, who knows?".

If Sony strikes out with its own streaming app or withholds its music from rivals, it may dent the likes of Spotify and Apple Music, but it's consumers who will really lose out.

LIKELIHOOD RATING
✓✓✓✓✓

It seems that every media company has a subscription service, so we wouldn't be shocked if Sony threw its hat in the ring. And this isn't uncharted territory: Sony already runs PlayStation Music with – who else? – Spotify.

But online piracy is on the rise, as fragmented audiences contend with multiple, expensive subscription packages. Yet another standalone streaming service may push users towards illegal downloads, and given the industry's inglorious history with online piracy, music-biz execs will be wary of encouraging a return to the bad old days of Napster.

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

K Sport Headphones
bit.ly/ksport460 | From £15

K Sport's wireless headphones push you to your fitness limit using their built-in personal trainer to guide you through workouts. Open the mobile app to select one of the hundreds of training regimes, then connect your sweat-proof earbuds to hear instructions from a professional coach. Results can be tracked and shared, if you're feeling competitive, and when you're not feeling the burn, you can listen to music via Bluetooth or make calls – all controlled through a single button. Pledges start at £15 for a single pair of headphones, accessories and six months of unlimited training.

WEBOMETER

WE LIKE...

⬆ Internet Archive fixes Wikipedia's broken links

Wikipedia and Internet Archive have teamed up to eradicate 'link rot' on the crowd-sourced encyclopaedia. Three million links have been fixed so far by volunteers using the Wayback Machine, which displays cached versions of web pages

⬆ California bans weak passwords

California is making basic, default passwords illegal in a bid to stop hackers exploiting weak passwords to launch cyber-attacks. By 2020, any device made or sold in the US state must deploy 'reasonable' security features, such as generating unique codes when booting up new devices.

WE DON'T LIKE...

⬇ Microsoft killing 'Classic' Skype

Microsoft will stop supporting the much-loved 'Classic' Skype (version 7) on 1 November (PCs) and 15 November (phones and tablets), as it moves all users to a revamped eighth edition of the program.

⬇ 259 selfie deaths

A global study from the US National Library of Medicine (bit.ly/selfie460) revealed that 259 people died taking selfies between 2011 and 2017. To protect selfie-snappers from risking their lives, the report suggests 'no selfie zones' in dangerous locations.

Stay Safe Online

News about the latest threats and advice from security experts

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

50 million Facebook users hit by breach

Facebook could be hit with a series of multi-billion dollar fines under the General Data Protection Regulation (GDPR) after a massive data breach saw attackers compromise the accounts of nearly 50 million users.

For more than a year, hackers were able to exploit a vulnerability in Facebook's 'view as' feature that lets its users see what their profiles look like to others. They then stole access tokens, a form of digital key that keeps users logged in without re-entering their passwords, which in turn allowed them to access and potentially hijack entire accounts.

"This is a really serious security issue. And we're taking it really seriously," said Facebook CEO Mark Zuckerberg. "I'm glad that we found this and that we were able to fix the vulnerability and secure the accounts."

The vulnerability emerged in July 2017 when Facebook implemented new video-upload functionality. It is unclear yet how many UK or European users were affected by the breach, but Facebook logged 90 million users out of their accounts as a precautionary measure.
bit.ly/facebook460

Bupa worker tried to sell patient data on dark web

Bupa has been fined £175,000 by the Information Commissioner's Office (ICO) after an employee attempted to sell the records of 547,000 Bupa patients on the dark web early last year, including dates of birth, email addresses and nationalities.

The ICO said Bupa failed to protect the data by not monitoring how its customer-relationship management system was used, thus allowing an employee to steal valuable information and forward the records to a personal email address. This data was then uploaded by the employee to the dark web with the intention of selling it on.

Upon investigating how the breach occurred, Bupa discovered that there was a flaw in its activity-monitoring system, which meant that it wasn't alerted to unusual activity, such as bulk data download.

The ICO said it has fined Bupa under the Data Protection Act 1998 and not the more recent General Data Protection Regulation, because the incident occurred before the new legislation came into force.
bit.ly/bupa460

Security Helpdesk | Your questions answered by security specialists

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

Q **Is biometric data less likely to be hacked than passwords?**
Gerry Berry, Twitter

A Biometric technologies allow us to use physical characteristics for authentication – such as fingerprint, iris and facial recognition. The increased use of these biometric identifiers – for example, in travel hubs such as airports – brings greater efficiency but new security risks.

Biometric data, either stored by a single service provider or across an industry, is a valuable target for cybercriminals. Any security breach resulting in the leak of this data is likely to have extremely serious consequences: you can change a compromised password, but not a compromised fingerprint or other biometric. Unlike a username or password, biometric data is with us for life, so it's important that we are informed about the way such data is held and used, and under what circumstances it is passed on to other agencies.

Q **What's the best way to make smart-home devices safe?**
Nigel Blackmore, via email

A People need to find a compromise between achieving security and enjoying the convenience of smart gadgets. As new functions are added to smart-home devices, we need to be aware of the consequent security issues. Most of these devices communicate via a home Wi-Fi network, so owners need to ensure that their network is fully secure, otherwise it could potentially become compromised.

We take it for granted that everyday non-smart objects in our homes are manufactured to certain standards and are safe to use, but there's no equivalent for digital devices. Until all device manufacturers adopt security-by-design, we need to get into the habit of changing default passwords, enabling updates and disabling unnecessary features.

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

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ProLite **B2791QSU-B1** + DS1001C

2x ProLite **XUB2792QSU-B1** + DS3002C

2x ProLite **XUB2495WSU-B1** + DS1002C

Best New Websites

CULTURE `RELAUNCH`

Winter Gardens Blackpool

wintergardensblackpool.co.uk

The new site for the Winter Gardens restores some of the old glamour to the seaside's entertainment complex. Relevant info runs through the site like 'Blackpool' through a stick of rock, with venues, performances and bookings just a click away. The Heritage timeline illuminates the hall's 140-year history while Stories pulls back the curtain on current projects, and What's On showcases the latest line-ups to the end of next year. Hit the Event Finder button to choose and book your seats in style.

Our rating ★★★★★

IN THE SPOTLIGHT
The Winter Gardens houses 10 halls for hire, which should give even boring business conferences a touch of class

GOING BACKSTAGE
Stars of stage and screen get chatty in Stories, while stagehands show off their latest creations

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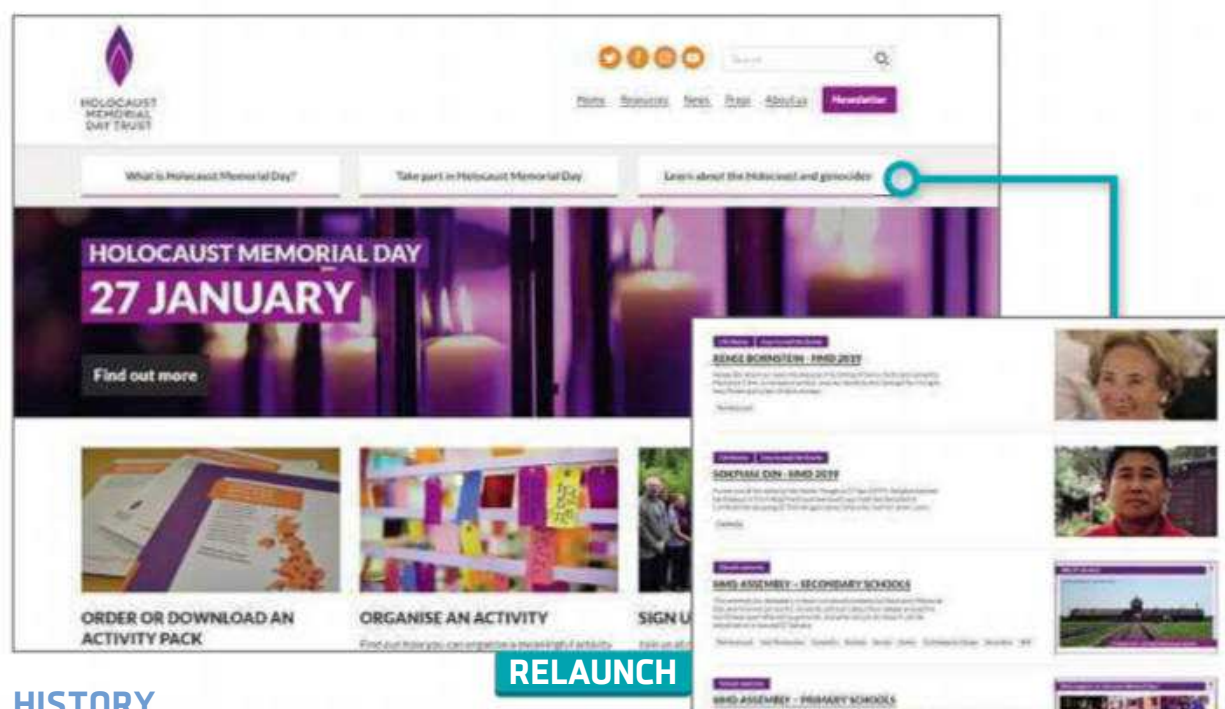
HISTORY

Holocaust Memorial Day Trust

hmd.org.uk

Commemorating the Holocaust, victims of Nazi persecution and multiple modern-day genocides, the Holocaust Memorial Day website is a respectful tribute to all those who tragically lost their lives to malign ideologies. The site is sombre without slipping into the maudlin, making serious endeavours to learn from the past rather than to merely mourn it – lest we forget. Written in the sort of easy-going English that makes it an ideal educational tool, every article, life story and learning resource offers an insightful glimpse into the horrors of the Holocaust. You can also find ways to take part in the next Holocaust Memorial Day on 27 January 2019.

Our rating ★★★★★

PARENTING `RELAUNCH`

TheDadsNet

thedadsnet.com

TheDadsNet is, as its name suggests, Mumsnet for fathers. It's loaded with advice and tips, guiding dads through just about every possible parenting concern. Posts range from the silly ('10 facts about Playmobil') to the serious ('The silence of stillbirth'), each helpfully tagged with categories such as Health and Relationships, and you can filter posts by your child's age. There's a fairly active forum for discussing paternal thoughts, and a hub for creating or joining groups. Single dads will also appreciate the embedded child-maintenance calculator.

Our rating ★★★★☆

Reviews by Steve Clark

We review this fortnight's best new and relaunched websites and rate them for content, design and features
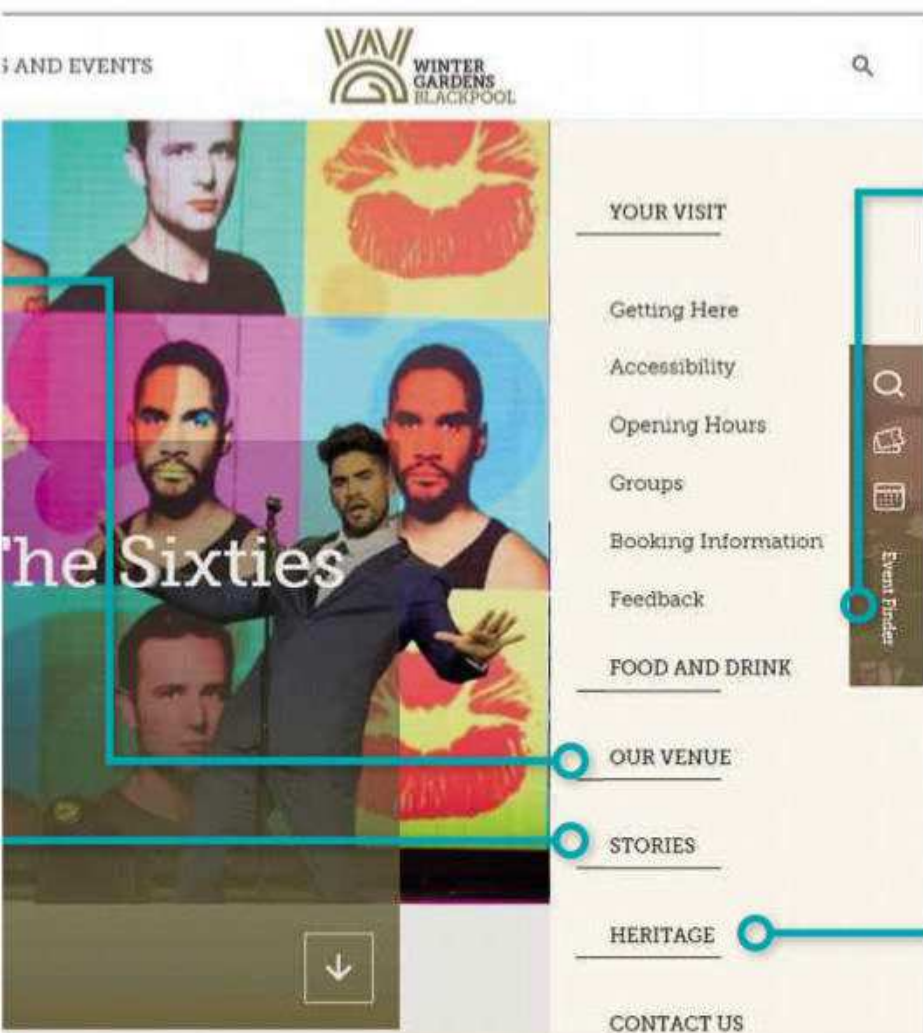
ENTERTAIN YOURSELF
No matter where you are on the site, click the Event Finder to check what's on and when

EN CORE!
From its opening in 1878, the illustrious Winter Gardens has a rich heritage and this informative timeline is a joy to explore

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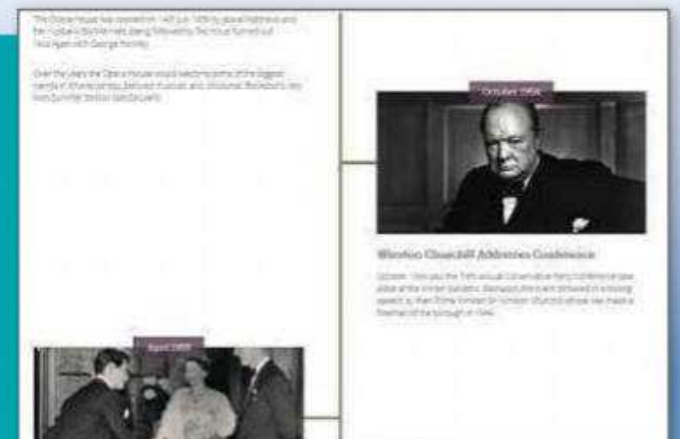
FASHION NEW
Pin and Tonic
pinandtonic.co.uk

Artist Chloe Tier has a talent for creating out-of-this-world badges and accessories. Dragons, Pokémon and canine astronauts converge on this surreal shopping site, but the on-point pin badges and smart website name are let down by a basic Shopify theme at odds with its clever, colourful designs. Buying from the site is easy, if unspectacular, and you'll find links to P&T's social-media and crowdfunding platforms, while enamel-enamoured visitors can sign up to the Pin & Tonic Club – a monthly subscription service that nets you unique pins for about £10 a pop.

Our rating ★★★☆☆
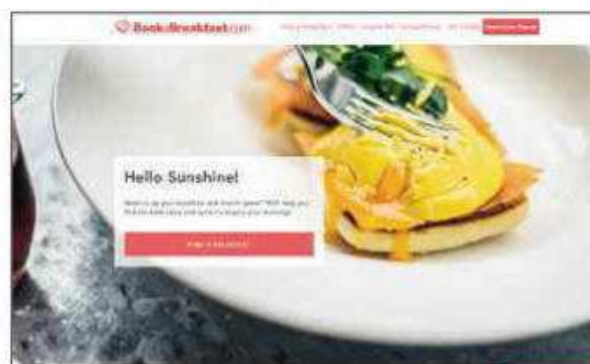
FOOD NEW
Book a Breakfast
bookabreakfast.com

Book A Breakfast wants to make sure you never skip the most important meal of the day by promoting the breakfasts and brunches of establishments across the UK. Search for or select a suggested eatery, and the site serves up restaurant info including all dietary requirements catered for, while the painless online booking experience means there's no excuse for missing a meal. Be sure to visit the Inspire Me tab, one of the best news-and-blog pages we've stumbled across, and gorge on a feast of food-related tips and topics for your lifestyle. It's the breakfast of champions.

Our rating ★★★★☆

CHARITY RELAUNCH
Sue Ryder
sueryder.org

Sue Ryder, the charity dedicated to "supporting people through the most difficult times of their lives", has had a rebrand that includes a refreshed logo and slogan, and a new website focused on the charity's services. Sue Ryder famously said "Do what you can for the person in front of you" and this clearly presented site certainly does that for its visitors. Highlights include the Sue Ryder online shop and the ability to arrange collection of your donations. Resources and support are limited compared to other charities we've covered, but there's a clear overview of the organisation.

Our rating ★★★★☆

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

TRAVEL

NEW

Faremap
faremap.ml

Taking a trip around Britain by rail can be a frustrating and expensive experience, but Faremap makes navigating UK railways cheaper and easier. Web design has never been so sparse – just toggle the ticket types and search for your departure and destination stations to find the best deals. Available tickets are presented alongside a map colour-coded by cost. Not every ticket is worth it – in one test, travelling from Oxford to Lancaster, we could have saved £21.40, but only by jumping on nine separate trains. Although we'd like to see more public transport added, Faremap can still save you a few pennies.

Our rating ★★★★☆

BUSINESS

RELAUNCH

Franchise UK
franchise-uk.co.uk

Ever dream of being your own boss? Franchise UK is a directory spanning 32 different industries, including retail, catering and sport. The redesigned site's tidy categories simplify the search for your ideal business. You can then explore an individual company's requirements and minimum investment. The email pop-up to contact franchises feels old-fashioned, but it gets the job done. The free franchise guide loudly touted on the homepage seems a good idea – but it's also a sly way to skim your email address. Far better is the blog, which is teeming with useful information for those starting their journey.

Our rating ★★★★☆
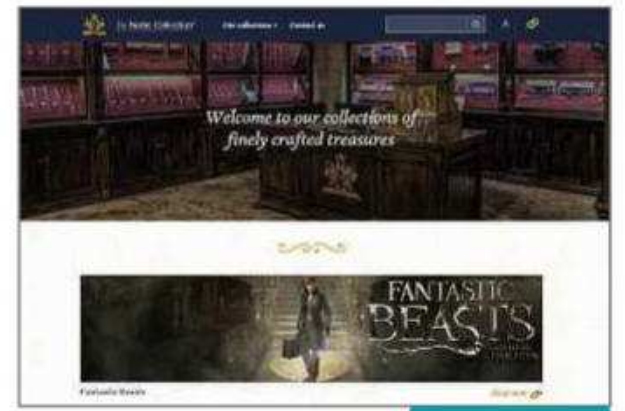
ENTERTAINMENT

RELAUNCH

The Noble Collection
noblecollection.co.uk

Home to an armoury of "finely crafted treasures" from sci-fi and fantasy films, The Noble Collection stocks fan favourites from Superman statuettes to Harry Potter wands. But don't mistake this for a mere comic-book shop – the coat-of-arms logo and the site's elegant redesign sends a clear signal about prices, which easily top £100 for the most authentic gear. While 'treasures' may be pushing the definition, there's no denying that the replicas are indeed 'finely crafted'. The site is divided into Gifts, Collectables, Plushes and Wands – and, really, that's all it needs, letting wickedly detailed products speak for themselves.

Our rating ★★★★☆

SPACE

NEW
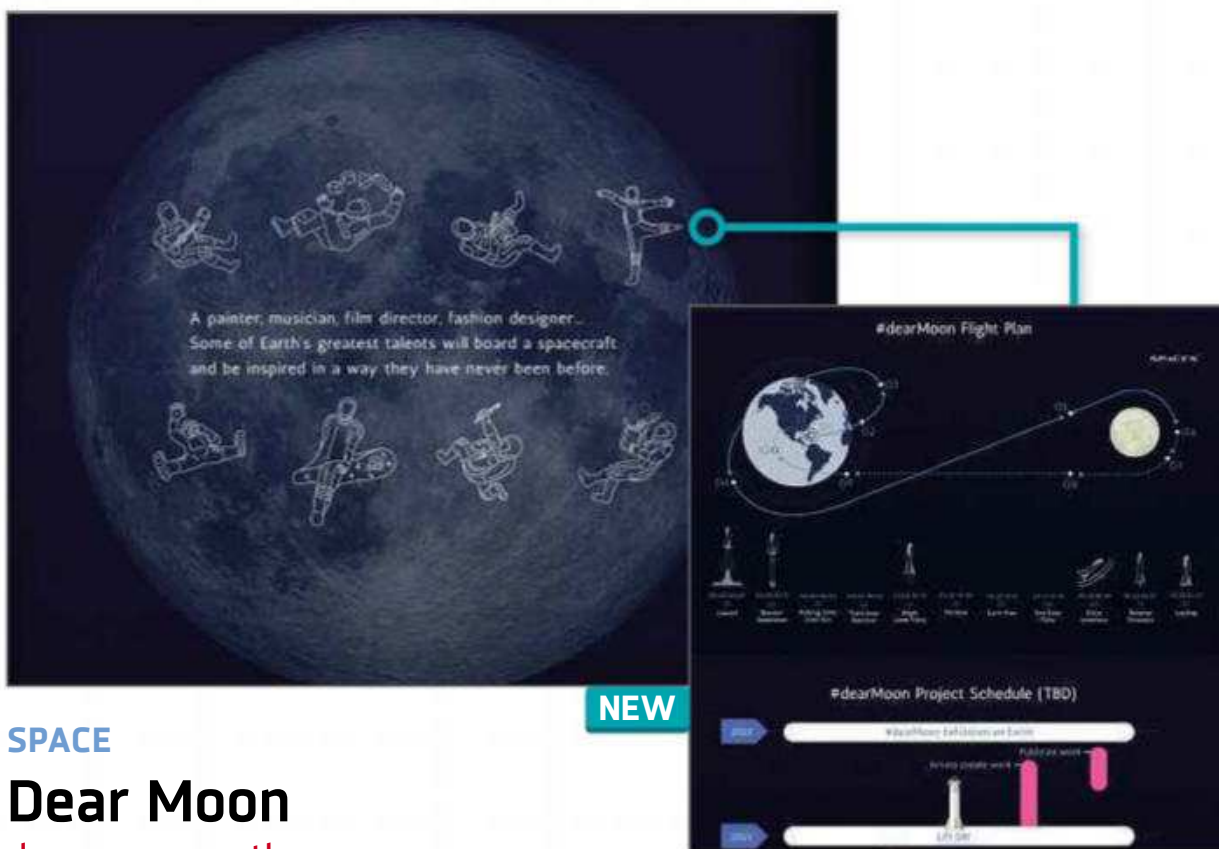
Dear Moon
dearmoon.earth

The rocket company SpaceX recently announced that it was looking to send a Japanese billionaire and eight artists to the moon on a week-long voyage in 2023. Entrepreneur Yasaku Maezawa has paid many tens of millions for the privilege, and he's making the most of it by exploring his motivation and charting his progress via this new website. Here, you can watch videos and read explanatory text covering the ins and outs of the trip, the rocket on which the space tourists will travel and info about the man himself. You can also view the flight path, see the schedule and discover where on social media you can find updates on this history-making journey.

Our rating ★★★★☆

COULD DO BETTER
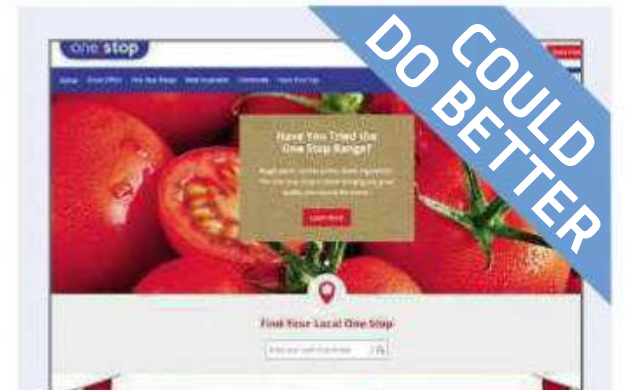
RELAUNCH

FOOD

One Stop
onestop.co.uk

One Stop's new website is already past its sell-by date. You're welcome to try your hand at the mouth-watering recipes, but since ingredients aren't linked (they're just images at the bottom of the screen), there's little reason to visit the mini mart over any other cooking site. Searching for products brings up the result: 'can't find what you're looking for', and it's cursed with a fatal flaw that renders it useless unless you're looking for franchise information: you can't order or reserve food online – so already your 'one stop' becomes at least two.

Our rating ★★☆☆☆

Build a Better Site

Specialist tips, top tools and practical help

Top Tips of the Fortnight

Build your website in Lines

The handy code editor Lines (bit.ly/line460) has just been updated. Now in version 2.0, Lines is pitched between Notepad and a full programmer's development environment, so it's a great fit for hand-coding websites. It has a tabbed interface, so you can have multiple documents open at once; you can arrange tabs split-screen to see several simultaneously; and it colour-codes elements such as HTML, CSS and JavaScript so it's easier to see what you're doing.

Common tools in Analytics

Google's Analytics is a fantastic free resource for finding out how your website is doing, but the wealth of information it provides can be confusing. For this reason, Google has added a way to ensure that its most frequently used tools are right where you need them. Now, at the top of every menu, where you can choose a metric or dimension to compare the performance of your pages, you'll find a Commonly Used section. This gathers the most popular selection of tools, so you don't have to go hunting further down the list for them.

Deal of the Fortnight

UK2 (www.uk2.net) is offering the first year of a '.uk' or '.co.uk' domain for just 1p, if you sign up for a second year at £11.39.

Web-building Helpdesk

Q I'd like to play music in the background while people visit my site. How do I do this?
Richard Heart, via email

A Generally, people don't like it when browser tabs start piping out music and, in any case, it will slow your site down. But if you really feel it's necessary, the best way might be to use the `<audio>` tag, which was introduced in HTML5. Upload the music file to your website using your FTP software, then add the following to your HTML file: `<audio src="the file name" controls></audio>`

The `controls` section of the command displays a simple media player, so your visitors can decide whether they want to listen to the music or not.

Andy Shaw, Technical & Reviews Editor, Web User

MINI WORKSHOP | Set up a Photos blog on WordPress.com
Photos theme: bit.ly/phot460 | 10 mins | WordPress.com website

WordPress has released a new free theme for WordPress.com that's specifically designed to show off your photos. Aptly called Photos, it's a slimmed-down version of WordPress's paid-for Photo Blog theme, with some of the extra features removed but all the style left in

1 From the WordPress Dashboard, click the Themes button next to Customize, search for photos and click the Photos theme. Click the 'Activate this design FREE' button, then click 'Customize site'. Your pages will be organised on the front page in a stylish three-column grid. 1
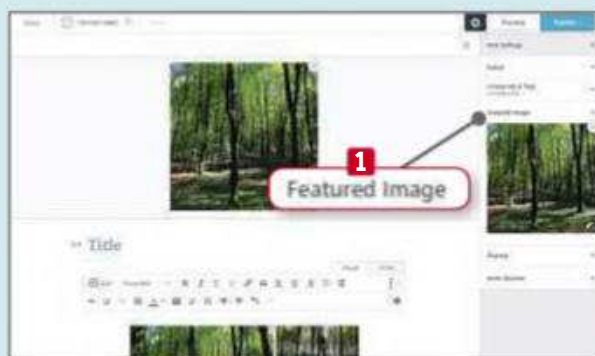
2 You can control which image from a post appears as the thumbnail on the front page by selecting it as the Featured Image. 1 If you don't set this, the theme automatically uses the first image you add to a post. Featured Images should be at least 1,920 x 1,080 pixels.

3 Featured Images aren't displayed on a blog post by default, because there's a risk they might appear twice. However, you can force your featured image to display wider than other images at the top of a post by returning to the Dashboard, clicking Customize on the menu, then Content Options. 1

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

Pick of the fortnight

NETFLIX
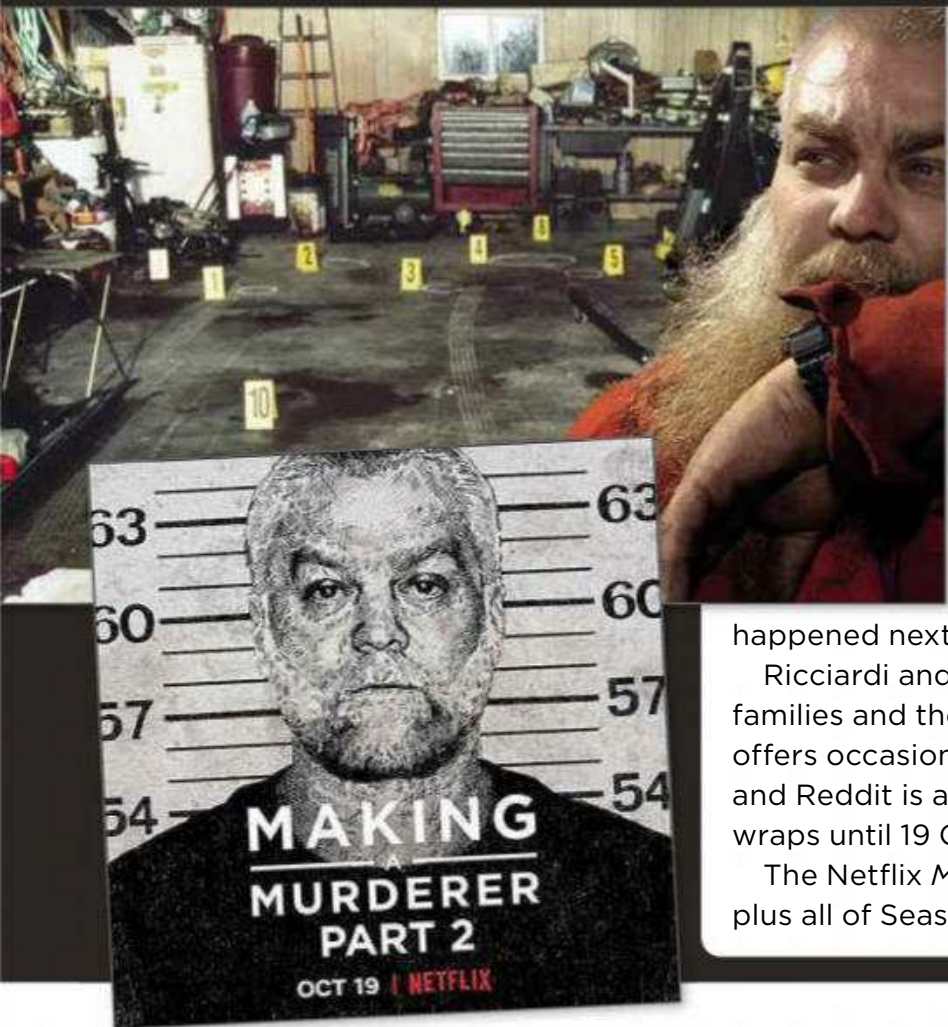
Watch 10 new episodes of *Making A Murderer*

From 19 October

Three years ago, *Making A Murderer* became the first true-crime binge phenomenon, with nearly 20 million viewers watching the entire first season within its first month online. That's a lot of people spending Christmas 2015 following Steven Avery and Brendan Dassey going down for a murder they didn't commit.

Or did they?

Season 2 picks up where Season 1 left off, with filmmakers Laura Ricciardi and Moira Demos – who won four Emmy Awards for Season 1 – returning to the US Midwest to chronicle what happened next, including court appeals, new lawyers and fresh evidence.

Ricciardi and Demos have again had exclusive access to Avery, Dassey, their families and their legal teams. The official Twitter account (@MakingAMurderer) offers occasional updates, including news of Dassey's quashed conviction in 2016, and Reddit is awash with theories (bit.ly/redmam460). But the details are under wraps until 19 October, when Season 2's 10 episodes all arrive at once.

The Netflix *Making A Murderer* page has a teaser you can watch for free, plus all of Season 1 for subscribers (bit.ly/making460).

Discover the teen witch's dark side in *Chilling Adventures Of Sabrina*

From 26 October

Chilling Adventures of Sabrina is a long way from the comic and sitcom that inspired it. *Sabrina, the Teenage Witch* was fun, family entertainment, sticking closely to the original Sabrina Spellman comics (bit.ly/spellman460), but this Netflix reboot is a twisted teen psycho-drama that casts Kiernan Shipka (*Mad Men*, *Feud*) as an audacious sorceress struggling with her dual human-witch identity.
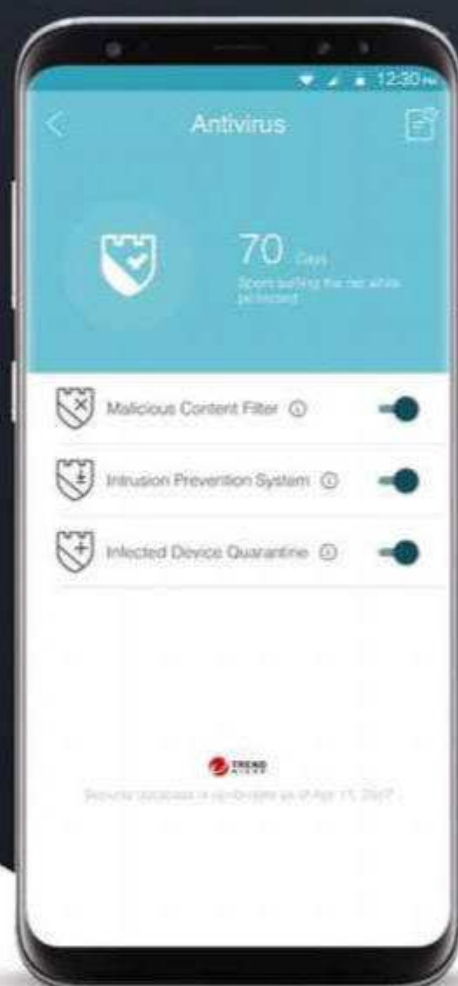
It's all very *Stranger Things* but also reminds us of *Donnie Darko* – just check out the Darko-style horns in that poster. Pick up your own vibes from the trailer (bit.ly/sabrina460).

See true horror brought to life in *Lore* and *Haunted*

From 19 October

Amazon's true-horror show *Lore*, back for a second season, is genuinely scary viewing. As with the original podcast (www.lorepodcast .com), each episode features different actors bringing grim historical tales to life. For example, Paula Malcomson (*Hunger Games*) plays 17th-century "witch" Mary Webster, while Emmett J Scanlan (*Hollyoaks*) is graverobber William Burke. Malcomson's stitched mouth in the trailer was enough to scare us off (bit.ly/lore460), but if you're made of stronger stuff, you can watch all six episodes on 19 October (bit.ly/loreprime460).

New Netflix show *Haunted* arrives on the same day and also promises to reenact "true" horror tales – but this time, they're supernatural experiences reported by members of the public. There's no trailer but you can add *Haunted* to your Netflix List (bit.ly/haunted460).
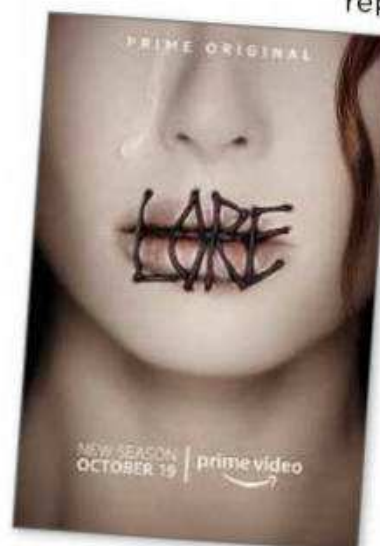
Watch Derren Brown's first Netflix-only special

From 19 October

Mind-hacker Derren Brown has ditched his long-term relationship with Channel 4 and hooked up with Netflix for his new film, *Sacrifice*. The stakes are higher than ever, with Brown attempting to persuade a man to take a bullet for a complete stranger, and no expense has been spared, with the action spanning two continents and involving a host of stunt people and ballistics experts. There's no trailer at the time of writing, and Netflix's
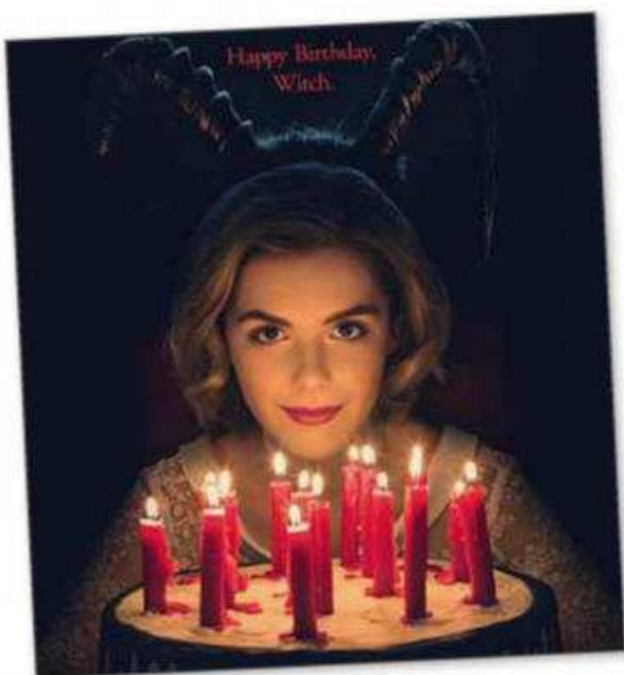
We reveal what's new on Netflix, BBC iPlayer, Amazon Prime Video and other streaming services
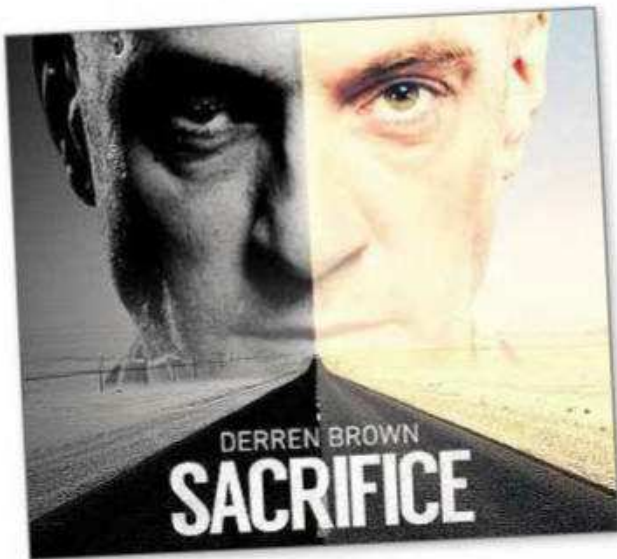
Sacrifice page has an address but not much more (bit.ly/sacrifice460), but keep an eye on Derren's YouTube channel (bit.ly/derren460) and Twitter account (@DerrenBrown) because he's a prolific uploader.

Netflix arrives on Now TV's Smart Stick

Now TV has finally added Netflix to its Smart Stick streaming device, making the HDMI dongle a serious rival for Amazon's new Fire TV stick.

The Now TV Smart Stick and Amazon Fire TV Stick 4K both come loaded with streaming apps including BBC iPlayer, ITV Hub, UKTV Play and YouTube, as well as Netflix. Amazon's new device (£49.99, bit.ly/firestick460) adds 4K streaming, Amazon Prime Video and Alexa Voice Remote, while Now TV's device (from £14.99, bit.ly/nowstick460) adds a Now TV app and Sky Sports Box Office. Access to subscriptions services costs extra, but both sticks come with special bundled offers.

Netflix is also available through the new Now TV Smart Box, which offers 4K Ultra HD streaming, voice search and live pause, and costs from £45.99, www.nowtv.com/tv-smart-box). Netflix won't be available on the pricier Sky Q box, from Now TV's parent company Sky, until next month.

Welcome back Now TV's superheroes

From 18 October
You wait months for a new DC Comics superhero season, then four turn up at once – all on Now TV. Season 5 of *The Flash* is first to arrive, on 18 October. Grant Gustin (*Glee*) returns as brisk Barry aka The Flash, facing new supervillain Cicada, played by Chris Klein from *American Pie*. Watch the trailer at bit.ly/flash460.

Supergirl Season 4 follows on 22 October, with Melissa Benoist's Girl of Steel facing a Russian doppelganger (bit.ly/supergirl460). Then 23 October sees Season 7 of *Arrow*, with Stephen Amell as vigilante Green Arrow, now behind bars with none other than Vinnie Jones as Danny "Brick" Brickwell. Get a sneak peak at bit.ly/arrow460. Finally, on 31 October, Brandon Routh and his rag-tag time-travellers return for Season 4 of *Legends of Tomorrow* (bit.ly/legends460).

All shows air weekly on Sky One at 8pm, and are then available on-demand with a Now TV Entertainment Pass (£7.99 per month after free 14-day trial; bit.ly/nowtv460).

Watch the WTA Finals tennis online

22-28 October
Caroline Wozniacki defends her title at the 48th annual Women's Tennis Association finals, with full matches streamed online exclusively by BT Sport (bit.ly/bttennis460). BT and EE customers get free access, and Plusnet customers can pay £5 a month (bit.ly/watchbt460).

If you want free online WTA coverage, you'll find highlights, build-up coverage and player interviews on the News & Gallery section of the tournament's website (www.wtafinals.com) and YouTube channel (bit.ly/wtatube460).

In case you missed it...

Now TV has just the thing to lift your October gloom: *Flight of the Conchords: Live in London*, HBO's film of the Kiwi troubadours on stage, available on-demand since 7 October. There's no link at the time of writing, but we can direct you to HBO's trailer: bit.ly/flight460.

Now TV has just added a couple of returning shows, too: Season 2 of US drama *The Good Doctor*, with Freddie Highmore as a brilliant autistic surgeon (bit.ly/good460); and *Get Shorty*, the Elmore Leonard adaptation starring Chris O'Dowd from *The IT Crowd*, is back (bit.ly/shorty460).

Over on the BBC iPlayer, new series of *Doctor Who* (bit.ly/drwho460), *Still Open All Hours* (bit.ly/hours460) and LA drug drama *Snowfall* (bit.ly/snowfall460) are underway – with all previous episodes available to watch on demand. New iPlayer box set *Students on the Edge* has also just arrived to make you glad you're no longer 18 (bit.ly/edge460).

Motorola
Moto E5 Plus

Motorola has released three new phones in its affordable E5 range. Our favourite is the E5 Plus with its large screen, superb camera and epic battery life

Affordable phones usually come in small packages but Motorola is bucking the trend with the Moto E5 Plus. There's a more compact E5 in the range, with a 5.7in screen, or the even smaller and cheaper E5 Play with its 5.3in screen, but we were particularly impressed with the largest model.

Build and hardware

The Moto E5 Plus has a 6in 18:9 1,440 x 720-pixels resolution display and a 12-megapixel rear camera. Inside, there's a 1.4GHz Snapdragon 425 processor, alongside 2GB of memory

and 16GB of storage. What really wowed us, though, is its huge 5,000mAh battery.

Given the generous suite of core specifications, the £149 price tag is a gift. You could buy almost ten Moto E5 Pluses for the price of a single 512GB iPhone Xs Max. That's astounding value for money.

At such a knock-down price, you might expect the E5 Plus to look and feel

cheap, but that's not the case at all. The phone's glossy plastic chassis looks great and feels solid in your hand. We particularly like the rear-mounted fingerprint reader sporting the Motorola logo – it's in exactly the right position to rest comfortably under the tip of your index finger. The camera housing is flush with the back, too.

Flip the phone over and the

6in screen is protected by a layer of Corning Gorilla Glass, for added resilience against drops and scrapes. The powerful 5,000mAh battery doesn't add much to the weight – just 197g – although at 9.4mm thick, the phone feels quite chunky.

One corner that's been cut is the charging port, which sticks to bog-standard micro-USB rather than USB Type-C, limiting the speed at which its meaty battery is replenished. It's also worth pointing out that this model doesn't have the p2i water repellent treatment that some pricier Motorola models include.

> **"** You could buy almost 10 Moto E5 Pluses for the price of a single 512GB iPhone Xs Max. That's astounding value for money **"**

Moto E5 compared

	Motorola Moto E5 Play	Motorola Moto E5	Motorola Moto E5 Plus
PRICE	£89	£119	£149
BUY FROM AMAZON	bit.ly/motoplay460	bit.ly/motoe460	bit.ly/motoplus460
SCREEN SIZE	5.3in, 960 x 480 pixels	5.7in, 1,440 x 720 pixels	6in, 1,440 x 720 pixels
REAR CAMERA	8 megapixels	13 megapixels	12 megapixels
BATTERY CAPACITY	Not stated	4,000mAh	5,000mAh
DIMENSIONS	148 x 71 x 9.2mm	154 x 72 x 9mm	161 x 75 x 9.4mm
WEIGHT	150g	174g	197g

Screen and performance

The screen looks great. The pixel density of 268ppi (pixels per inch) is just about sharp enough to satisfy the most exacting eyes, and its good contrast ratio provides eye-popping images. Peak brightness hits a sunlight-friendly 511cd/m² (candles per square metre).

Even under the scrutiny of our colorimeter, it's clear the screen has no problems with colour accuracy on the phone's default 'standard' display profile.

The internal specifications won't blow your mind but they're generous for the price. The 16GB of storage provided with the phone is low but that's easily remedied with a microSD memory card of up to 256GB.

Processor performance is also good for the price. We saw some frames drop when playing very demanding 3D games but you can't expect miracles for £149. Day-to-day use may feel sluggish if you're downgrading from a more expensive phone but it's not so bad you'll be tearing your hair out.

Battery and camera

The jewel in the crown of the E5 Plus is its remarkable battery power. Even more expensive phones struggle to compete. Running our continuous video-playback test, which loops a film clip with the phone's brightness set to 170cd/m² and flight mode engaged, the 5,000mAh capacity battery reached a staggering 23 hours and 2 minutes before the battery indicator dropped to zero. The only phone currently available that does better is the Huawei Mate 10 (bit.ly/huaw460), which is older and more expensive.

The camera is a single-lens 12-megapixel model, which looks underspecified next to the multiple-lense models you find on more expensive phones, but the quality of the photographs it captures is nothing short of stunning. In low light, it achieves the perfect balance of grain and noise suppression, with the camera capturing a fine level of detail and accurate colours.

The quality continues with outdoor photography, with our test shots of London's bustling skyline bursting with crisp detail and well-balanced exposures. There are a few niggles, of course, but nothing that we wouldn't be prepared to live with: the camera's shutter delay may catch you off guard if you're not prepared; and you're limited to 1080p video recording at 30fps. In other words, you're not getting a state-of-the-art video camera but, as with so much about this phone, the remarkable price allows you to overlook its shortcomings.

BETTER PERFORMANCE

Motorola Moto g6, £219
bit.ly/motog460

EVEN CHEAPER

Motorola Moto E5, £119
bit.ly/motoe460

OUR VERDICT

★★★★★

A short battery life is one of the biggest annoyances in a smartphone, but the Moto E5 Plus tackles this head-on. The phone has a large chassis to accommodate the generous screen, and Motorola has sensibly filled the extra space with battery power.

It's paid off, too: the E5 Plus outlasts almost every other currently available phone we've tested, except for one that's significantly more expensive.

With a decent screen and a good camera to boot, the larger-sized Moto E5 Plus is a bargain at £149 and well worth considering if you're looking for an affordable smartphone with features that rival the big names.

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

HP Envy 13 (2018)

A high quality laptop with plenty of power for a very reasonable price

> 66 Slim, light and easily portable, the Envy 13 manages to cram a very respectable specification into its slender chassis 99

Costing £799.99, the 2018 refresh of the HP Envy 13 isn't the cheapest laptop we've reviewed recently, but we believe it's phenomenally good value for money. Cast in aluminium, it looks stylish without being ostentatious.

The keyboard is unfussy, with plenty of space between the comfortably large keys. We would have preferred the Enter key to be double-height, but that's our only criticism. The touchpad isn't a Microsoft Precision, which is also a shame, because it misses out on some Windows 10 gestures. However, it still includes the basics – such as resting three fingers and swiping up to reveal the Timeline feature – and responds accurately.

It has a fingerprint reader that sits on the right of the chassis next to one of the two USB 3.1 ports. There's no dedicated video output but a USB Type-C port means you can connect a separate monitor directly or through an adapter – HP includes an HDMI one in the box. There's also a microSD slot and a 3.5mm headphone jack.

Screen and battery

Compromises have been made with the screen quality to allow for the relatively affordable price – it's able to recreate 76.5% of the colours in Microsoft's sRGB colour standard, which is acceptable but not brilliant. Its peak brightness is 278cd/m² (candles per square metre), which is also a little lacking, but in combination with the 1,119:1 contrast ratio, it's fine for watching videos, which is ably helped by excellent Bang & Olufsen speakers.

The Envy lasted 7 hours and 10 minutes in our video-playback test, which isn't a brilliant result compared to its rivals but should be enough to get you through a working day. Fortunately, it is able to charge back up to 50% within 45 minutes.

Performance

The Envy 13 is slim, light and easily portable, but it still manages to cram a very respectable specification into its slender chassis. Its Core i5-8250U is a great mid-range chip, and although you only get 8GB of memory, it achieved a creditable overall score of 76 in our Windows benchmark tests. You'll hear some fan noise when it's pushed, but we didn't notice it in general use.

There's even some gaming capability. Its GeForce MX 150 isn't the fastest chip, but it hit an average of 38.9fps (frames per second) in the Metro: Last Light game at full resolution, although we had to drop the quality to Medium and switch off all effects.

There are higher-spec versions of the new HP Envy. Codes that begin with 'ah000' identify the 2018 models and, for instance, we would seriously consider the £1,099 ah0003na, which includes 16GB of memory, a 512GB SSD and a Core i7-8550U, if you can afford it.

PRODUCT INFO

HP Envy 13 (2018)
Price: £799.99
Buy from Amazon:
bit.ly/hpen460

SPECIFICATIONS

- 1,920 x 1,080-pixels screen resolution
- 1.6GHz quad-core Intel Core i5
- 8GB of memory
- 256GB SSD
- Windows 10 Home

FOR

✓ Great value
✓ Stylish design
✓ Good range of supplied ports

AGAINST

✗ Budget display
✗ Poor battery life compared to rivals

OUR VERDICT ★★★★☆

This slim, attractive laptop is a genuine bargain. If you want perfection, you'll still need to spend £1,000 or more, but if that's beyond what you're prepared to spend on a laptop, then the new HP Envy 13 is the next best thing.

We'd have preferred a brighter, better quality screen but most other elements of the laptop surpassed our expectations of what you can get at this price.

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

Chillblast

UK's most awarded PC Manufacturer

COMPUTER SHOPPER
BEST BUY
★★★★★

"This PC is as good as you'll get without spending a lot more... our best buy for this price range"

James Archer – Computer Shopper

RECOMMENDED
Chillblast
RECOMMENDED

FUSION RYZEN 2700X

CUSTOM VIDEO / PHOTO EDITING PC

Case:	Fractal Design Define R6 Case
Processor:	AMD Ryzen 7 2700X
CPU Cooler:	AMD Wraith Prism Cooler
Memory:	16GB DDR4 2400MHz
Motherboard:	Asus TUF X470-PLUS
Graphics Card:	NVIDIA GeForce GTX 1060 3GB
OS Drive:	250GB SK hynix SL308 Solid State Drive
Storage:	Seagate 4TB 5900RPM Hard Disk
Optical Drive:	Blu-Ray ReWriter Drive
Wireless Network:	802.11n WiFi included
Power Supply:	Corsair CX750M 80 PLUS Bronze 750W
Operating System:	Windows 10 Home

Price from: **£1499.99** inc VAT

www.chillblast.com

Web User's Best Buys

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

HARDWARE

BUDGET SMARTPHONE

NEW!

Motorola Moto E5 Plus

£149 from bit.ly/motoplus460
Tested: Issue 460

Impressive specifications, a 6in screen, excellent battery life and a 12-megapixel camera that captures stunning images – the Moto E5 Plus is astounding value for money.

KEY SPECS

■ Quad-core 1.4GHz Snapdragon 425 processor ■ 2GB RAM ■ 16GB storage, expandable by 256GB ■ 12-megapixel rear camera, 8-megapixel front camera ■ 6in, 720 x 1,440-pixel screen ■ 161.9 x 75.3 x 9.35mm ■ 200g ■ Fingerprint reader

LAPTOP

Acer Aspire 5

£629.99 from bit.ly/acer458
Tested: Issue 458

The Acer Aspire 5 is a no-frills, fast-performance laptop. It's not as slim and lightweight as top-of-the-range models, but is a reliable Windows workhorse that powers through tasks.

KEY SPECS

Quad-core 1.6GHz Intel Core i5-8250U processor ■ 256GB SSD ■ 8GB memory ■ 15.6in, 1,920 x 1,080-pixels screen ■ 1 x USB 2, 2 x USB 3, 1x USB Type-C ■ 802.11ac Wi-Fi ■ Windows 10 Home ■ 382 x 263 x 21mm ■ 2.2kg ■ 1-year return-to-base

ROUTER

Linksys EA9500 Max-Stream

£224.99 from bit.ly/lksy456
Tested: Issue 456

The EA9500 Max-Stream is a superb router that's packed with features and sensibly priced. It delivers terrific wireless speeds, creates two 5GHz networks on separate frequencies and offers an excellent smartphone app.

KEY SPECS

802.11a/b/g/n/ac ■ 8 x Gigabit Ethernet ports ■ 2 x USB 3 ports ■ Guest-network mode ■ DLNA media server ■ 318 x 265 x 67mm ■ Two-years return-to-base warranty

PHOTO PRINTER

Epson Expression Photo HD XP-15000

£251.96 from bit.ly/epsonexp450
Tested: Issue 450

Epson's XP-15000 lacks some of the features of a true all-rounder but it prints photos beautifully, all the way up to size A3+.

KEY SPECS

5,760 x 1,440dpi maximum print resolution ■ 250-sheet input capacity ■ Double-sided printing ■ Colour touchscreen ■ USB, Ethernet, Wi-Fi connectivity ■ 479 x 370 x 159mm ■ 8.5kg ■ Three-years return-to-base warranty

SMART THERMOSTAT

Honeywell Evohome

£199 from bit.ly/honevo449
Tested: Issue 449

The Honeywell Evohome is a powerful multi-zone smart heating product that lets you control all the radiators in your central heating system. This will save on heating bills, but it may take a while before you recoup the cost of the initial outlay.

KEY SPECS

Remote thermostat ■ Battery-powered ■ Hot-water support ■ Individual radiator support ■ Alexa voice-assistant support ■ IFTTT support ■ 13.9 x 2.1 x 10.1cm ■ 898g

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

All prices correct at time of review

SOFTWARE & SERVICES

PHOTO-EDITING SOFTWARE

DxO PhotoLab

£99 from
bit.ly/dxo455
Tested: Issue 455

If you're put off
by Adobe's
subscription
costs, DxO
PhotoLab is the
best alternative for managing and editing your photos.
Its interface is streamlined and elegant, and the editing and
image quality are exceptional. It's also very simple to use
and comes with lots of sophisticated tools.

KEY FEATURES

RAW conversion ▪ High quality noise-reduction ▪ Optical
corrections ▪ Red-eye correction ▪ Advanced light and
colour ▪ Batch processing ▪ Selective tone ▪ Full-screen
mode ▪ Spot-weighted mode

VIDEO-EDITING SOFTWARE

Adobe Premiere Elements 2018

£86.56 from
www.adobe.com/uk
Tested: Issue 453

With its clean
interface and sackful
of special effects,
Elements performs
just about every action you'll ever need from a consumer-
level video-editing suite. It's a powerful beast and rendering
is super-speedy, even when exporting at 4K – but note that
it only runs on 64-bit systems.

KEY FEATURES

Automatic editing ▪ Image stabiliser ▪ Surround-sound
support ▪ Stop-motion capture ▪ Variable-speed control ▪
Unlimited timelines ▪ DVD disc authoring (no Blu-ray
support) ▪ 4K support ▪ Requires Windows 7/8.1/10 or
Mac OS (64-bit versions only)

Web User Gold Award winners

BOOKMARKING TOOL

Raindrop.io

NEW!

Free from **raindrop.io**
Tested: Issue 459
This powerful bookmarking
tool automatically saves your bookmarks to the cloud and
provides enough add-ons and apps to work on all devices.

SCREEN RECORDER

FlashBack Express

Free from **bit.ly/fbex458**
Tested: Issue 458
FlashBack Express looks good,
is easy to use and produces great results. It can capture video
of anything that's happening on your screen.

DICTATION TOOL

Google Voice Typing

Free from **docs.google.com**
Tested: Issue 457
Google Voice Typing delivers an
effortless, impressively accurate speech-to-text experience
that's sleekly presented and a joy to use.

SYSTEM MONITOR

Wise System Monitor

Free from **bit.ly/wise456**
Tested: Issue 456
A lightweight tool that performs seriously well, offers lots of
useful features and is very easy to use.

IOS BACKUP TOOL

Air Transfer

Free from **bit.ly/aitr455**
Tested: Issue 455
Air Transfer takes the fuss out of getting files and photos from
your iOS device to your PC. It works beautifully over Wi-Fi.

Best Free Software

BlueStacks 4

www.bluestacks.com
Min requirements: Windows XP/
Vista/7/8.1/10
File size: 406MB

BlueStacks lets you run your favourite Android games and apps on your PC, so you can enjoy playing them on a much bigger screen. All the necessary software can be downloaded from the program's built-in app store.

BlueStacks also lets you create multiple "instances", so you can run several apps and games simultaneously, as well as in different accounts – which is useful if you plan to share it with family members.

BlueStacks 4 is a major update that includes a shiny new interface with all the main buttons and links accessible via a dock at the bottom of the screen. Apps and games that you've installed appear in the main window, and you can launch them from there.

You can customise the interface with a choice of skins and apply your own wallpaper. There's also a new interface for the key-mapping tool that lets you control Android games with your keyboard, configuring buttons for certain tasks such as taps, D-pad, swipes, tilts and zooms.

Another big improvement in this latest version is enhanced gaming performance. BlueStacks claims to be six times faster than any existing phone, so everything should run smoothly, even when you're using the software's multitasking functions.

The BlueStacks Store now lets you buy Pro gamer products – including a mouse, mousepad, T-shirt and sticker pack – using points that you earn from completing tasks, such as playing a new game every day, or levelling up. You even get points just for starting the program or downloading an app, and there are also virtual cards to collect and swap.

⚙ MINI WORKSHOP | Run Android apps and games in BlueStacks
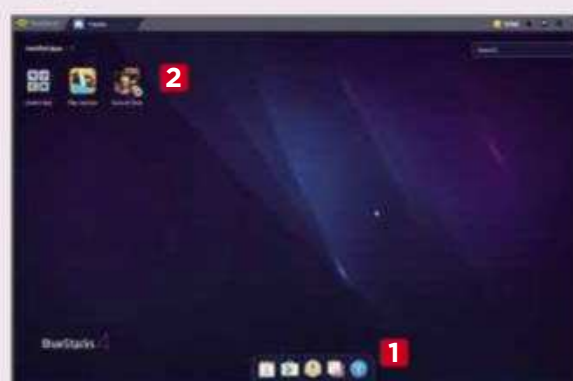
1 When you first run BlueStacks, you'll be prompted to choose your language, then sign into your Google account – just as you would when setting up a new Android device. You can create a new account if you need to. BlueStacks' new interface shows the installed apps **1** and a dock at the bottom. **2**

2 New apps can be installed from App Center or Google Play. Click the store you want to use and it will open in a new tab. **1** In App Center, you can explore Top Charts **2** and Collections. **3** To get an app, click its Download button. **4** It will probably open in Google Play.

3 When you run a game or app, it will open in a new tab. **1** Your mouse replicates swipes and taps. If you need to use the keyboard, you can configure it via the controls at the bottom. **2** From this taskbar, you can also toggle full screen, **3** set your location, **4** take a screenshot **5** and 'shake' your device. **6**

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

SYSTEM CLEANER
Free Windows Cleanup Tool 3
www.windowscleanuptool.com
Min requirements: Windows 7/8.1/10 **File size:** 1.6MB

Free Windows Cleanup Tool cleans and optimises your PC. Select the areas you want to focus on – Windows, Edge, Firefox, Chrome, Office and so on – then click Test to scan your system and display unnecessary items found by the software. Click Clean to begin the removal process. The program also comes with a Registry cleaner and Registry defragmenter (you should use both with care), as well as tools to manage startup and to back up the Registry and Windows.

SYSTEM TOOL
SMF — Search My Files 12
funk.eu/smf
Min requirements: Windows 7/8.1/10
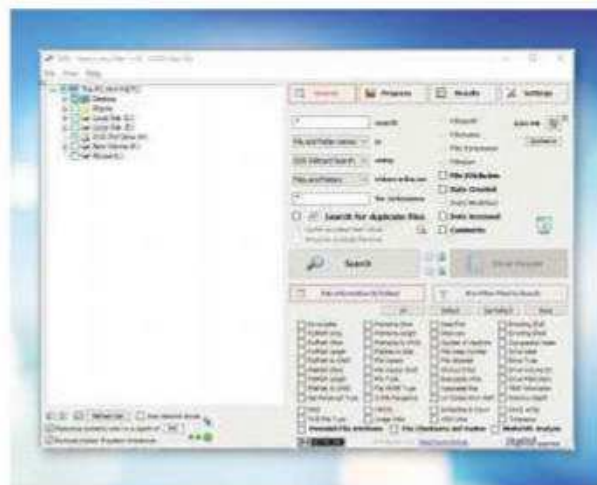**File size:** 7.7MB

If you copy files from one location to another instead of moving them, it's easy to end up with lots of duplicates taking up valuable hard-drive space. Search My Files can find, move or delete these copies. It can also track down files by a range of criteria, such as name, size, date, song length and photo dimension. The latest version updates the program's codebase and makes a number of speed improvements.

PAINT TOOL
EZ Paint 4
ezpaintsoftware.com
Min requirements: Windows XP/ Vista/7/8.1/10 **File size:** 5.1MB

EZ Paint is an alternative to Microsoft Paint. It offers customisable drawing tools and a number of 2D and 3D shapes. Version 4 of the software has a new interface with a dark theme and lets you change the background colour of the canvas. The text tool gains a previewable font drop-down menu selecter and support for the mouse wheel. A number of bugs have been fixed in this release, too.

New Windows Apps

Microsoft Sticky Notes 3
bit.ly/sticky460
Min requirements: Windows 10
File size: 34.73MB
This app lets you put sticky notes on your desktop. You can now sync and back up notes across Windows devices, and use the formatting bar to style your notes. There's also a new dark, Charcoal Note.

Microsoft To-Do
bit.ly/todo460
Min requirements: Windows 10
File size: 40.56MB
Microsoft's To-Do app makes it easy to plan your day and can also be used for taking notes. The latest version adds support for Windows 10 live tiles.
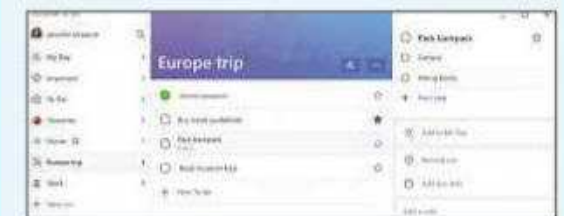
Unigram
bit.ly/unig460
Min requirements: Windows 10
File size: 62.89MB
Unigram is a free third-party client for the Telegram chat service. It matches your system theme, supports adding multiple accounts with different phone numbers and restores voice-call support.

REGISTRY TOOL
Free Window Registry Repair 4
bit.ly/wrr460
Min requirements: Windows 7/8.1/10
File size: 799KB

Most of the time, the Windows Registry is perfectly capable of taking care of itself. Occasionally, however, rogue programs and poor user editing can cause problems, leading to an unstable system. Free Window Registry Repair aims to fix any problems you may be experiencing with the Registry. It's been around since 2006, and the latest version adds some Registry keys to ignore (for safety reasons) and includes a number of bug fixes and stability improvements.

You can run a full or custom scan, fix errors and restore your Registry. It's advisable to back up the Registry before making any changes, and the program can do this for you.
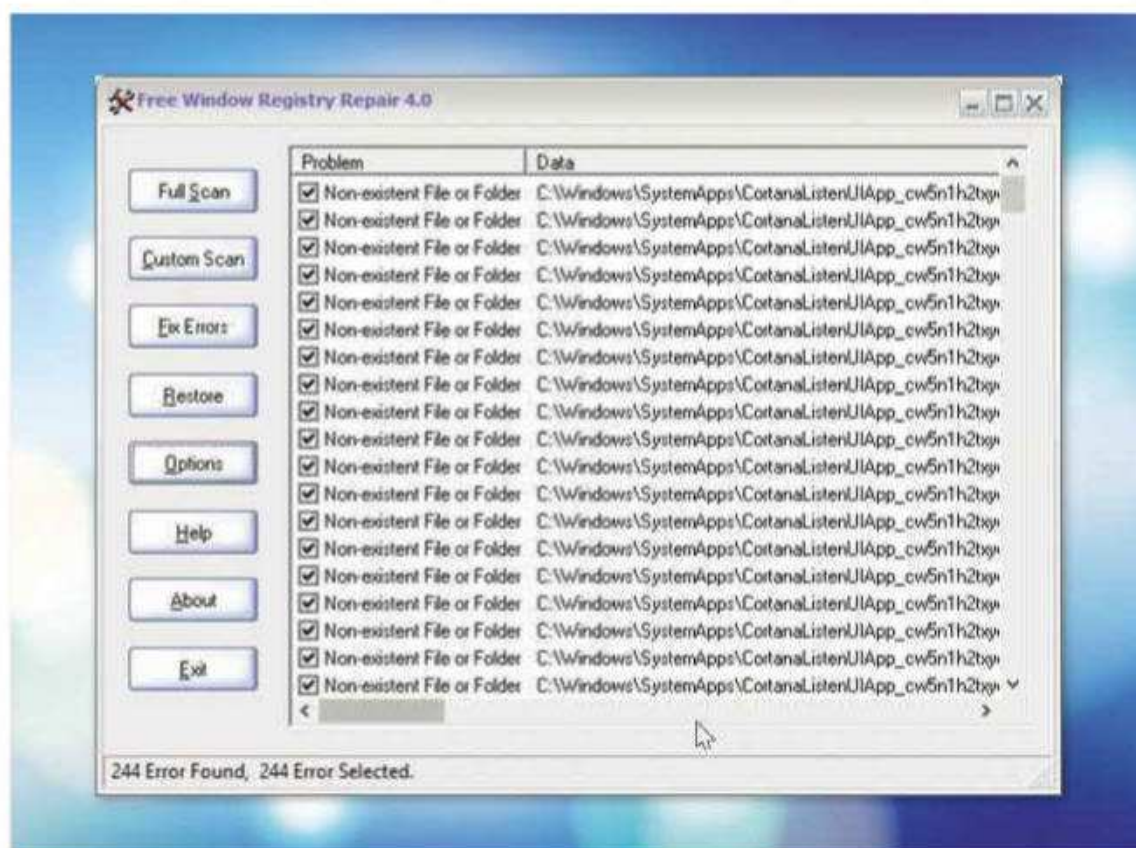
DOWNLOAD TOOL
Microsoft Windows and Office ISO Download Tool 7
bit.ly/iso460
Min requirements: Windows 7/8.1/10
File size: 3.8MB

This program makes it easy to download genuine Windows 7, 8.1 and 10 disk images directly from Microsoft. It can also download Office 2010, Office 2013, Office 2016, Expression Studio and Office for Mac. Reject the option to donate spare system resources when you run the software, then choose the ISO you want to download from the selection on the right.

This new version gains some new ISO tools and adds the latest developer and Insider versions of Windows 10 (up to build 17758), Office 2016 for Mac build 16.16, and a placeholder for Office 2019.

SYSTEM TOOL
Win Update Fixer
bit.ly/wufix460
Min requirements: Windows 7/8.1/10
File size: 1.3MB

Win Update Fixer from NoVirusThanks is a simple tool that attempts to repair common Windows Update errors. To use it, simply open the program (there are installer and portable versions) and click the Fix Windows Updates button. There are some additional options available for advanced users that let you perform tasks such as flushing the DNS cache, resetting Windows Firewall rules and resetting TCP/IP settings.

The program also has a number of links that can run Windows commands such as Check Disk and System File Checker directly in the Command Prompt and launch troubleshooting tools.
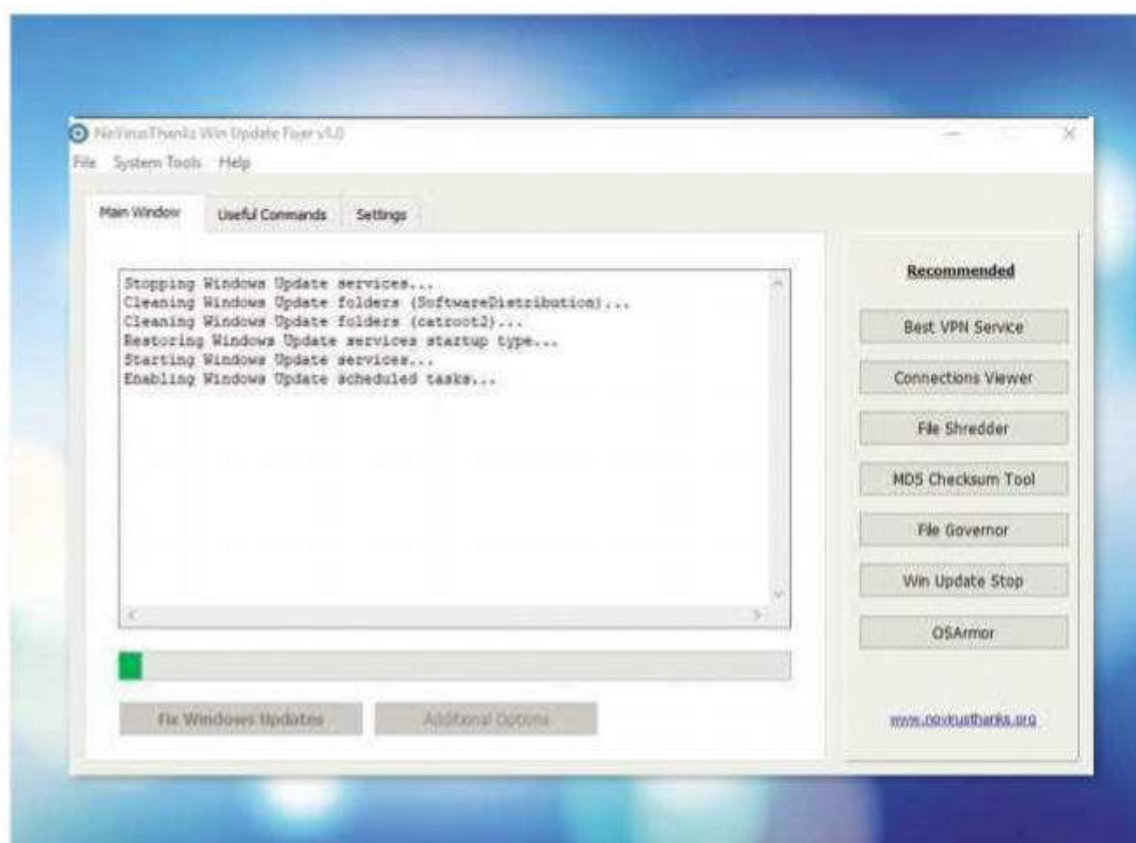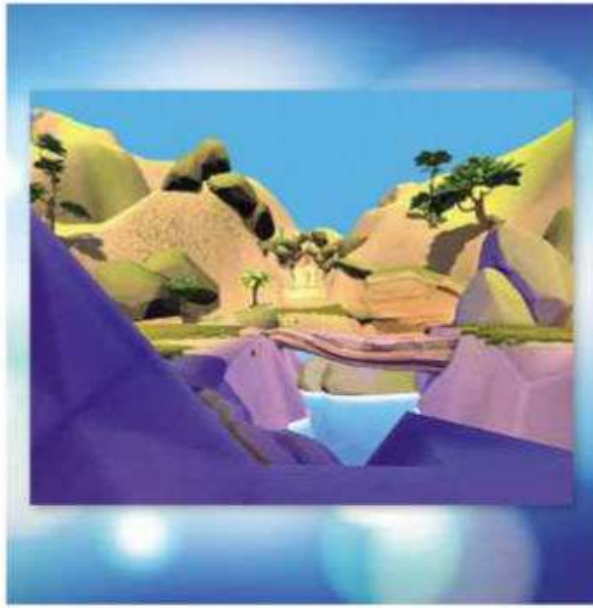
GAME
Intertwined
bit.ly/inter460
Min requirements: Windows XP/ Vista/7/8.1/10
File size: 413MB

Intertwined is a first-person parkour game – a bit like the best-selling Mirror's Edge but set in a beautiful, mysterious village. It's not just about running, jumping and climbing, though – there's plenty of exploration and some puzzles to solve. Pay careful attention to the on-screen instructions, which help you master the controls.

✖ Don't install...

Aerize Explorer
bit.ly/aerize460
Min requirements: Windows 8.1/10
File size: 6MB

Despite being hamstrung by a clunky interface and awkward navigation, this file-manager app does have a few benefits, including badges showing the number of items contained in each folder. Sadly, many tools and options, such as file compression, require £1.89 for the Pro version – and you have to pay a further £3.89 to permanently disable the adverts.

...Install this instead ✔

Metro Commander
bit.ly/metro460
Min requirements: Windows 8.1/10
File size: 61MB

Metro Commander is a smart file-management tool that offers an impressive range of features in its free version, including a handy dual-pane view. To choose which directories are shown, click the heading at the top of a column to highlight it, then click one of the icons on the left – Navigation, Recent or Browse. You can drag and drop between panes, and use the strip of icons at the top to access further tools. Metro Commander also supports OneDrive (with no extra charge), offers a wide range of keyboard shortcuts and has its own built-in file viewer.

↻ UPDATED | New tweaks and fixes for your favourite free programs
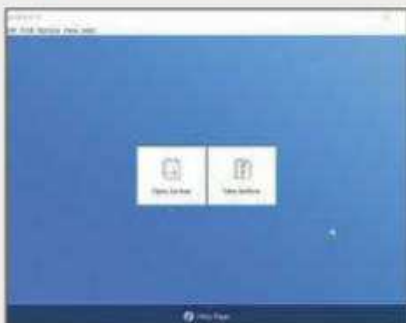
ZIP ARCHIVER
Bandizip 6.15
www.bandisoft.com
Min requirements: Windows 7/8.1/10 or Mac OS
File size: 5.2MB

Bandizip is a superfast, easy-to-use compression tool that supports all the main file formats, including ZIP, 7Z and RAR. This update increases security by copying Zone.Identifier information and also improves the file-association process.

SYSTEM CLEANER
CCleaner 5.47
www.ccleaner.com
Min requirements: Windows 7/8.1/10
File size: 16MB

The Avast-owned system-cleaning tool gets updated every month. This latest version of the software gains a new rule for cleaning credit-card data in Edge and makes other stability improvements. It also fixes cleaning from the Recycle Bin context menu and via the command line.

PDF TOOL
PDF Shaper 8.6
www.pdfshaper.com
Min requirements: Windows XP/Vista/7/8.1/10
File size: 8.5MB

PDF Shaper is a collection of tools for editing and creating PDFs. This updated release includes a new method for extracting text and an option to select pages in the PDF-to-TXT tool. The PDF Viewer interface has also been updated. Make sure you decline the bundled junk during installation.
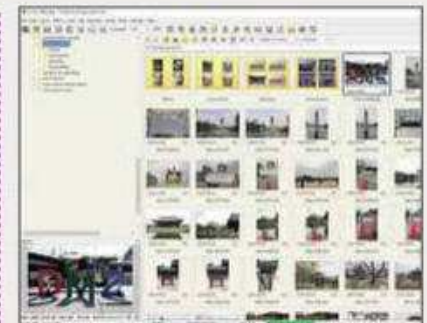
PHOTO VIEWER
FastStone Image Viewer 6.6
www.faststone.org
Min requirements: Windows 7/8.1/10
File size: 6.7MB

This photo browser, converter and editor comes packed with powerful tools and features. The updated release makes loading images faster, and speeds up copying and moving files. There's also a new date-range filter in the photo importer. ∎

Best New Browser Tools

Customise new tabs without extensions

There are lots of add-ons that make your New Tab page more interesting, but as of Chrome 69, you can personalise the page without needing to install anything. For example, to change the default white background of your new tabs, click the cog in the bottom-right corner and choose 'Chrome backgrounds' to browse collections of attractive wallpapers. These include landscapes, seascapes, textures, geometric shapes and solid colours. To apply one, simply select it and click Done. Alternatively, you can upload a JPEG or PNG image from your hard drive to use as new-tab wallpaper – this will automatically be stretched to fit the page. To return Chrome to its white default, click the cog again and choose 'Restore default background'.

Chrome 69 also lets you decide which website shortcuts appear on the New Tab page, so that it doesn't just show thumbnails of your most visited sites. Click the 'Add shortcut' button, enter the name and URL of the site, then click Done. You can edit or remove the shortcut by hovering over it and clicking the three-dot button in the corner.
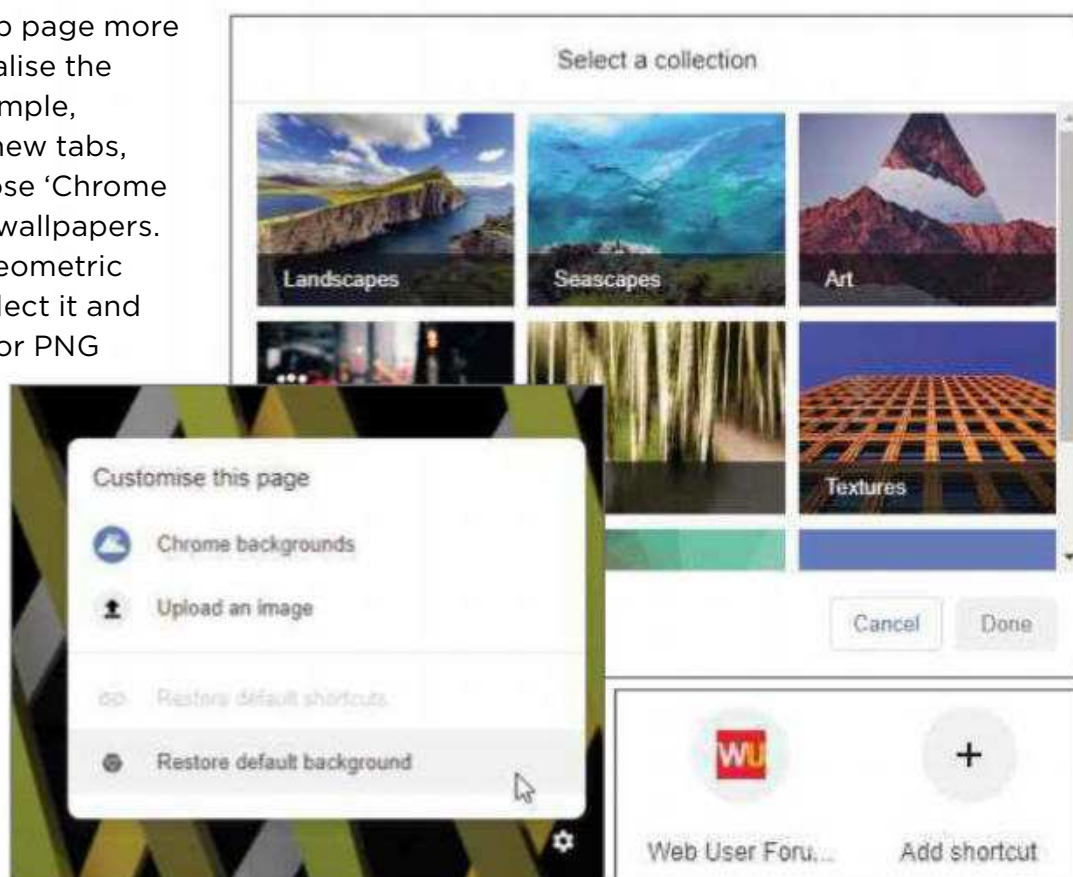
Disconnect Chrome from other Google services

Among the many changes brought by Chrome 69 is the integration of the browser with other Google services. This means that when you sign into Chrome to access and sync your bookmarks, extensions, passwords and other data, you're also signed into other Google tools such as search, Gmail and YouTube. Likewise, when you sign out of your Chrome account, you're automatically logged out of all other Google services.

The change is supposed to be for your convenience, but it could prove annoying if you want to use Chrome without being signed into Google across the web, with all the privacy concerns that entails. Fortunately, there is a quick fix that separates Chrome from the rest of your Google account. Type `chrome:flags` into the address bar and press Enter to access Chrome's Experiments page. Search for the flag 'Identify consistency between browser and cookie jar', which connects your browser with other Google services. Click the menu next to it and select Disabled, then relaunch Chrome for the change to take effect.

Google has promised to undo the automatic sign-in feature in Chrome 70.

Manage multiple Chrome tabs more easily

Tab-management tools for Chrome usually serve a single function, such as reducing memory usage or letting you save open pages, but new extension ProTabs (bit.ly/protabs460) offers everything you need from a tab manager in one place. It's ideal for web users who regularly have lots of tabs open, helping you stay on top of multiple web pages at once.

ProTabs's useful features include auto-saving tabs, so you don't lose anything important; suspending idle tabs after a set number of hours, so they don't waste memory; and grouping tabs by website or the parent tab they opened from. The add-on keeps a list of recently closed tabs, so you can instantly restore pages you closed accidentally or that were lost when Chrome crashed, and lets you search for content across all open tabs. It even lists your tabs in order of most recently viewed – or alphabetically, if you prefer!

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

VIVALDI

Sync your data in Vivaldi 2.0

In our 'Battle of the Browsers' comparison in Issue 440 (bit.ly/wu440), we gave Vivaldi (vivaldi.com) our Gold Award for being "the most original and progressive browser around", but said it could be improved by offering syncing options. So we're delighted that the second stable release of the browser, Vivaldi 2.0, introduces a new feature called Sync, which lets you securely synchronise your bookmarks, passwords, extensions, notes and other browser data across devices, protected by end-to-end encryption.

To set up Sync, either go to Tools, Settings, Sync or click the cloud icon that now appears in the bottom-left corner of the browser. Sign into the service, choose which data you want to sync – or use the default option Synchronise All Data – and click Start Syncing.

FIREFOX

Remove all cookies for the current tab

Virtually all websites use cookies in one form or another, and most are completely harmless, merely storing anonymous data about your preferences and actions to make future visits easier. However, if you've no intention of returning to a site, then there's no reason to retain its cookies in your browser, especially if some of them were installed surreptitiously by hidden third parties. The Firefox add-on Remove Cookies Button (bit.ly/button460) boosts your privacy by letting you delete all the cookies installed by the current tab, along with any other storage data, simply by clicking its toolbar button.

Usefully – and sometimes alarmingly – it also tells you how many cookies it has deleted for that page: 21 on the Mail Online homepage alone!

Turn Firefox dark in Windows 10

If you're enjoying the current vogue for dark themes and night modes, you'll be pleased to hear that version 63 of Firefox integrates the browser with Windows 10's built-in dark mode. This means that when you switch the operating system's colour scheme from light to dark (or vice versa), the browser follows suit. To do this in Windows 10, press the Windows key+i on your keyboard to open the Settings panel, then choose Personalization, Colors. Select Dark under 'Choose your default app mode' and Firefox will instantly turn black.

If you're not using Windows 10, you can still apply a dark mode to Firefox by going to Tools, Add-ons, Themes and selecting Dark.

OTHER BROWSERS

Open YouTube videos in MyTube

MyTube is a popular Windows 10 (and mobile) app that lets you watch YouTube videos on your desktop, but it's hampered by the fact that you can't open YouTube links directly in its window but instead need to copy them from your browser.
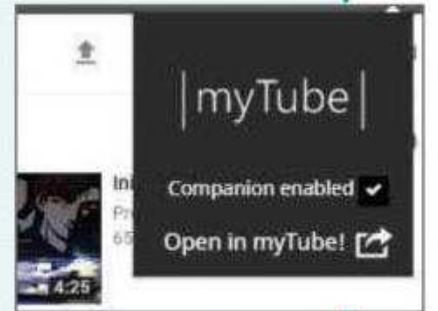
A new Edge extension called MyTube Companion (bit.ly/mytube460) solves this problem by letting you play videos from the YouTube website in the MyTube app instead. When you click a YouTube link, it prompts you to switch to the app to open the video rather than watching it in Edge. MyTube Companion is also available for Firefox and Chrome.

Try the new features in Opera

Opera 56 continues the browser's recent trend of applying minor tweaks rather than introducing big new features. Notable changes include a revised About Opera page, which provides more info about the browser version and your operating system; a new page-zoom indicator that tells you the magnification level when you zoom into or out of a web page; and the addition of a volume control to Opera's pop-out video player. There's also a new Help option for reporting problems with the browser to Opera's developers. All pretty useful, but hardly groundbreaking.

✚ Tell us your favourite add-ons at www.facebook.com/webusermagazine

Best Free Apps

GAMING

Parsec
bit.ly/parsec460
(varies)

UPDATED

Traditionally, if you wanted to play the latest, greatest PC games, you'd need access to a powerful desktop computer – which isn't much good if you like to play while you're on the move. Gaming laptops are an option, but these are usually expensive – and while mobile and tablet games are great, they don't tend to deliver the same immersive experience as PC titles.

Streaming is fast becoming a viable solution for anyone wanting to get their game on while they're away from their PC. And, while the technology is still in its infancy, there are already a couple of very promising options on the table. One is Steam Link (see bit.ly/steam460) and the other is Parsec.

You'll still need a powerful desktop computer, but with the Parsec tool installed on it and this new companion app on your phone or tablet, you can stream the game from your PC to your mobile device, wherever you happen to be. We show you how to set this up in the Mini Workshop, right.

Parsec can stream games at up to 60fps (frames per second) in full HD with barely any lag between your controller and the on-screen action. The platform has other benefits, too, such as the ability to play local multiplayer games over the internet.

We should point out a few caveats. Firstly, Parsec is still in development, so you may experience a few beta blips, and it isn't guaranteed to work on all devices. Secondly, you need a fast network connection to get the most out of it. Parsec recommends 5GHz Wi-Fi, if possible. In any case, if you're an Android user who enjoys PC gaming, it's well worth taking Parsec for a spin.
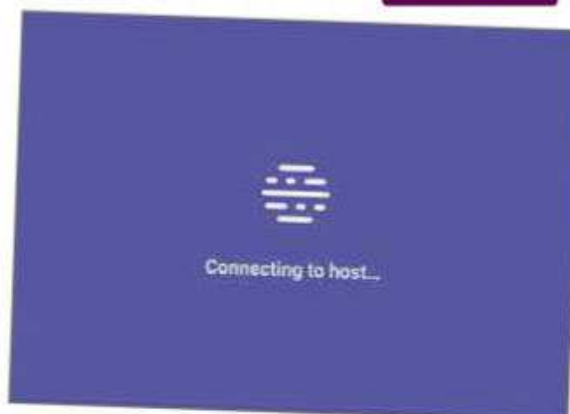
MINI WORKSHOP
Stream games from your PC to your Android device

1 On your gaming PC, open the Parsec website (parsecgaming.com) in your browser and click 'Download for Windows'. **1** Save and run the file to install Parsec on your computer, enabling controller support when you see the prompt. You'll also need a Parsec account – click the Start Playing button **2** and choose 'Sign up'. Enter a username and password, then follow the remaining prompts to create your account.

2 Launch the Parsec tool on your PC and enter your new account credentials at the login prompt. You'll need to set the PC as the host, so click the cog icon, **1** then click Settings. **2** Click the Hosting tab, **3** then click Enable Hosting. **4** Now fire up the Parsec app on your mobile device and log in using the same account. You should see your PC listed under Computers on the home screen.

3 Tap the Play button next to your computer's name **1** and you should see a message telling you that you're connecting to the gaming PC. Bear in mind that, as mentioned, the Android version of Parsec is still very experimental, so it's not guaranteed to work well – or even at all. If you're experiencing problems, press the cog icon **2**, then Settings, Computer and try tweaking the streaming settings.

Our rating ★★★★★

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

MUSIC

UPDATED

Apple Music

bit.ly/
applemusic460

4.3

Apple Music is built into iOS, and iPhone and iPad users were treated to a whole load of new features when the updated operating system iOS 12 was released a few weeks ago (see page 52). Now, Android users who subscribe to Apple's music-streaming service can also benefit from many of these improvements, thanks to the latest update to the Android version of the app. Among the new features is the ability to search by song lyrics, along with improved Artist pages, a social playlist feature called Friends Mix and support for Android Auto.

Our rating ★★★★☆

BROWSER

UPDATED

Ghostery

bit.ly/
ghostdroid460
bit.ly/
ghostyios460

4.1 11

You may know Ghostery as a privacy-enhancing extension for your desktop browser. But there's also a dedicated Ghostery browser for mobile devices that's just had a massive update. The browser comes with built-in ad blocking, phishing protection and tracker controls, as well as a smart search engine that suggests results as you type, without compromising your privacy. Switching on Ghost Mode blocks sites from being logged in your browsing history. Meanwhile, performance has also been improved and browsing now feels much faster.

Our rating ★★★★☆

ENTERTAINMENT

NEW

This Morning

bit.ly/
morningdroid460
bit.ly/
morningios460

4.1 9

Looking for something to fill the gap between each daily morning fix of Phil, Holly, Ruth and Eamonn? Then download this new companion app and you can carry ITV's flagship daytime show around in your pocket at all times. The app features clips from the show, along with advice, gossip and access to exclusive backstage content. You can also interact with the programme via quizzes, polls and competitions, or by submitting comments, pictures and videos that could end up being featured in the show itself.

Our rating ★★★★☆

TOOLS

NEW

Connectpaper

bit.ly/connect460

(varies)

Everything seems to be 'going social' these days, so it was only a matter of time before the humble wallpaper you use for your home-screen background gained some kind of social-networking element. Now, thanks to Connectpaper, you can happily share the images you use for your device's wallpaper with your friends and family over the internet. There's not a great deal more to it than that, though you can opt to display wallpapers you receive as moving images, rather than cropping them. Connectpaper is currently Android-only and is still in beta, so you may notice the odd glitch.

Our rating ★★★☆☆

BROWSER

NEW

Assistant Shortcuts

bit.ly/assistant460

(varies)

Ever wanted to change what the buttons on your Android device do? Well, with Assistant Shortcuts installed, you can remap the functions of any button with just a few taps – handy if you'd like a long-press to, say, launch a specific app instead of powering off your device. Bear in mind, though, that the app is still in beta. Also, setting Assistant Shortcuts as your device's assistant effectively disables Google Assistant, so if you use this a lot then you may want to give Assistant Shortcuts a miss. If not, and if there are buttons you're desperate to reassign, then it's definitely worth a try.

Our rating ★★★☆☆

5 NEW APPS WORTH PAYING FOR

GAME
Professor Layton and the Curious Village
bit.ly/laytondroid460
bit.ly/laytonios460
Price: £9.99

🤖 **4.4** 🍎 **8**

Nintendo fans will already be familiar with the Professor's much-loved puzzlers. Now the series' brilliant first game has been remastered in HD for mobile.

PHOTOS
Inkwork
bit.ly/inkwork460
Price: £2.99

🍎 **9**

This fantastic app transforms your photos to look like beautiful hand-drawn illustrations in just a few taps. Choose a drawing style, then select the type of paper and ink. You can share your completed art or order prints.

SECURITY
Bouncer
bit.ly/bouncer460
Price: 79p

🤖 **7**

Bouncer is an essential tool for security-conscious Android users. It lets you temporarily grant permissions to apps and blocks them when you don't. It also saves battery life.

PUZZLE
Owlee
bit.ly/owlee460
Price: 99p

🤖 **4.1**

This challenging, yet relaxing brainteaser blends charming design and atmospheric music with six different types of logic and memory puzzles across almost 100 levels.

EDUCATION
Japanese Kanji Tree Pro
bit.ly/kanji460
Price: £4.99

🤖 **4.0**

There's a free version of this app (bit.ly/kanjifree460), but if you're serious about learning Japanese, paying for the Pro version adds useful extras including speech, sound effects and study lists.

Professor Layton and the Curious Village	Inkwork	Bouncer	Owlee	Japanese Kanji Tree Pro
[QR code]	[QR code]	[QR code]	[QR code]	[QR code]

❌ Don't install...

Cigna Virtual Health
bit.ly/cigna460

Mobile apps have the potential to provide a useful level of medical support, but if you're looking for an app that can help you check symptoms, communicate with healthcare professionals and more, sadly, Cigna Virtual Health can provide none of this. If, on the other hand, you're after an app that hangs on a blank screen for ages when you try to launch it, then randomly crashes, look no further.

...Install this instead ✔

Ask NHS
bit.ly/nhsdroid460
bit.ly/nhsios460

🤖 **4.4** 🍎 **10**

Underfunded and often unloved, the poor old NHS comes in for a lot of stick. However, its Ask NHS app is actually a very useful, easy-to-use tool that combines free 24/7 symptom checking and self-care advice with information about local healthcare services and an appointment-booking system that lets you search for or cancel an appointment with your own GP's practice. It's not intended to be a replacement for a doctor but, used in conjunction with other NHS services such as 111, Ask NHS can be an invaluable first point of contact, especially as we enter the season of coughs and sniffles. ■
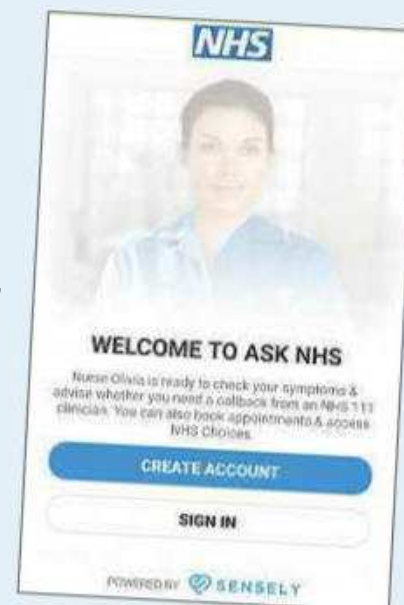
Take a Screen Break

Give your eyes a rest from your browser by taking our fiendish fortnightly challenges. Can you guess our sci-films and our web year?

CAN YOU GUESS THE SCI-FI FILMS FROM THE EMOJI?

1. 👁️ 🤖

2. 🔪 🏃

3. ⛔ 🌍

4. 👬 ➡️ ⬛

5. 🤠 🤠 ➕ 👽 👽

6. 🐒🐒🐒🐒🐒🐒🐒🐒🐒🐒🐒🐒

GUESS THE TECHNOLOGY YEAR

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

1 Queen Elizabeth II sends her first email, from a research facility in Malvern, and becomes the first head of state to do so.

2 Apple is founded and launches its first computer, the Apple-1. It's designed and built by Steve Wozniak and costs $666.66.

3 Atari releases its legendary arcade game Breakout, which involves destroying layers of coloured bricks with a paddle and ball.

4 Jack Dorsey, later to become the co-founder and CEO of social-networking service Twitter, is born in St Louis, Missouri.

5 Clive Sinclair's company, Sinclair Radionics, launches the Sinclair Sovereign, a high-end calculator made from pressed steel.

COMPETITIONS

WIN 1 OF 4
Hudson Sport Bluetooth Earphones

WORTH £29.99 EACH

With a tangle-free cable and custom-fit earbuds, KitSound's Hudson Sport earphones have been designed for strenuous exercise in mind. It's also reflective, so passing cars will see you if you're running at night. To enter, email your address to webusercomp@dennis.co.uk with 'hudson' in the subject line. For more information visit www.kitsound.co.uk and follow @KitSoundUK on Twitter.

WIN 1 OF 2
MAGIX VEGAS Pro 16 Edit

WORTH £299 EACH

The new version of professional video- and audio-editing tool VEGAS Pro now includes video stabilisation, to eradicate camera shaking. Also new are Motion Tracking, Dynamic Storyboarding features, full HDR support, and more. To enter, email your address to webusercomp@dennis.co.uk with 'vegas' in the subject line. For more information, visit www.magix.com/gb and follow @MAGIX_INT on Twitter.
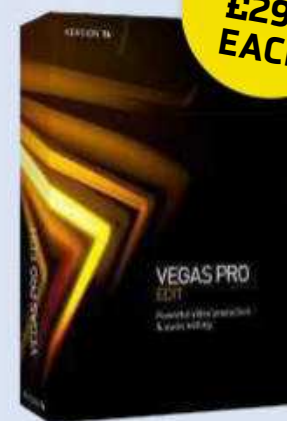
Retro games consoles

Forget Fortnite and PUBG, it's time for some gaming nostalgia. **David Crookes** looks at the revival of classic games machines
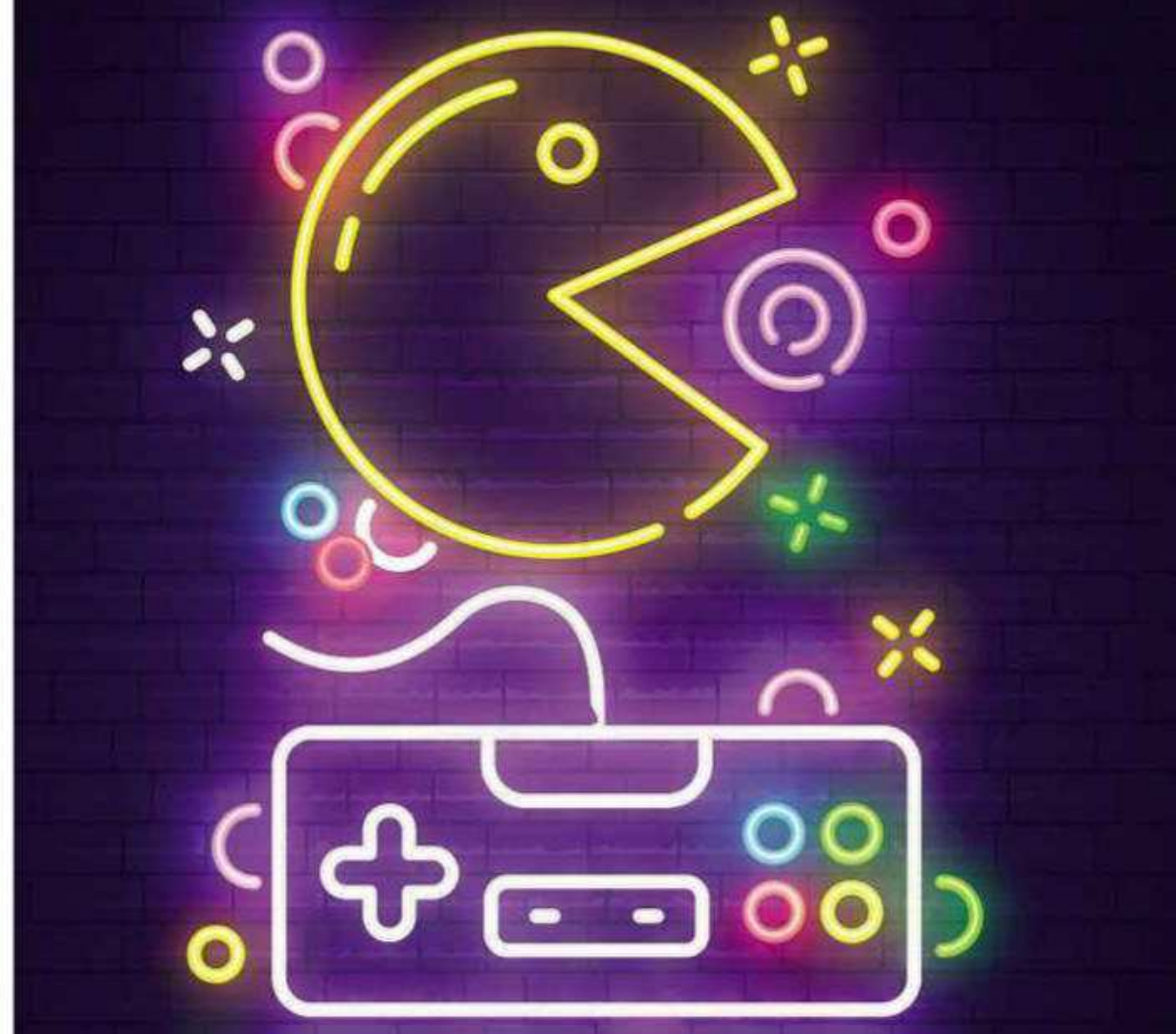
The NES Classic Mini has already proved popular with retro gamers

What are they?

Retro consoles are gaming devices closely based on older-generation machines. Created to capitalise on a wave of nostalgia, they plug into your television and allow you to play a range of preloaded classic titles. Many have already been released and more are set to come, with some of the biggest names in gaming getting involved.

How do they work?

Most retro consoles mimic the look of the original machines, but tend to be smaller (often not much larger than your hand) and don't have

Most retro consoles are small enough to fit in the palm of your hand

slots for cartridges or CDs because the games are built-in. You do get a regular-sized controller or two, however, which you can use to play the games and select different titles from the system's menu.

Which consoles are available?

Two of the most popular in recent times have been the NES Classic Mini (bit.ly/nesclassic460) and the SNES Classic Mini (bit.ly/snesclassic460), both made by Nintendo. The former comes with 30 retro games including Super Mario Bros, Pac-Man, Donkey Kong and The Legend of Zelda; while the latter includes 20 titles, among them Super Mario World, Super Mario Kart, Street Fighter II Turbo and Yoshi's Island. They arrived in the wake of various consoles produced under licence over the years

by companies such as AT Games, which made the Sega Mega Drive Flashback, packed with 85 titles, and a series of Atari Flashback consoles that provided plug-and-play versions of the Atari 2600 and Atari 7800. You can also buy portable retro handheld consoles (including the Atari Flashback portable and the Sega Portable), as well as plug-and-play devices that feature a single game, such as Space Invaders or Ms Pac-Man.

Are there retro computers available, too?

Yes. The C64 Mini (thec64.com) is based on the Commodore 64 and comes with 64 games and a Competition Pro-style joystick. The beauty of this machine is that you can also plug in a USB keyboard and turn it into a fully functional home computer, and there are even ways of adding more games (bit.ly/adding460). Meanwhile, the Sinclair ZX Spectrum Vega mimics the 48k

You can turn the C64 Mini into a fully functional home computer

computer and comes with 1,000 officially licensed games. It has been endorsed by the Speccy's maker Sir Clive Sinclair and is not to be confused with the ill-fated Vega+ (see box, opposite).

What about the PlayStation?

As reported last issue, Sony recently started taking pre-orders for a retro console based on the original 32-bit PlayStation, which made its debut back

The PlayStation Classic goes on sale just in time for Christmas

in 1994. The new PlayStation Classic (bit.ly/classic460) goes on sale on 3 December for £89.99 and has 20 built-in games including Final Fantasy VII, Ridge Racer Type 4 and Tekken 3 – switch between games by pressing the disk-eject button. It is 45% smaller than the original and comes with two controllers, an HDMI cable and a virtual-memory card, so you can save your game progress.

The release of the PlayStation Classic looks set to kick-start a new trend for advanced plug-and-play machines. An N64 Classic Mini based on Nintendo's 1996 64-bit console is reportedly on the way and may prove the best of the bunch.

Are the controllers wireless?

The SNES Classic Mini, NES Classic Mini and PlayStation Classic all come with wired controllers, but you can buy wireless ones from third-party companies such as 8bitdo (www.8bitdo.com) and Nyko (nyko.com). You may also need to purchase a power cable, because many retro consoles don't come with one.

Isn't all this just money for old rope?

To a degree, but fans of retro consoles argue

Buying a retro console is easier than buying old games on eBay

that these machines provide an easy way to play much-loved old games on larger, higher-quality TVs. The alternative is to buy an old console and hunt down the original games on eBay, then try to get everything working on a non-CRT television (bit.ly/oldconsoles460) or fiddle around with emulators (software that allows your computer to behave like a console and run games made for it).

Couldn't I just emulate games on my PC?

Of course. There are emulators available to download and install for nearly every retro system from the ZX Spectrum to the Amiga to the Nintendo DS and Sony PSP. It's a legal grey area, however, since in a lot of cases you need the BIOS files of the original machines and, while you can locate them online, there are copyright issues attached.

More troublesome are the ROMs (the files containing the games). These are also available online but big companies are cracking down. Nintendo recently hit the headlines when it effectively forced the closure of several popular ROM websites, thanks to a demand for $150,000 (£114,150) damages for each of the pirated games.

There are legitimate ways to play classic games on a PC via sites such as Gog.com and Steam, and you'll soon be able to stream licensed retro games on Android and Windows devices via a new service called Antstream (www.antstream.com).

Antstream is due to launch soon and will let you stream hundreds of retro games

What if I have loads of old cartridges, though?

If you still have physical cartridges for the NES, SNES, Game Boy Advance, Sega Mega Drive, Game Boy Colour and Gameboy, consider buying a retro games console that lets you play them. The Retron 5, from Funstock Retro (bit.ly/retro460) is a popular choice, although it has none of the styling of the original retro machines.

The Retron 5 lets you play old games cartridges

How popular are these consoles?

The NES Classic Mini (£49.99) and SNES Classic Mini (£79.99) sold out quickly when they were first released, and gamers had to spend months scouring websites to get their hands on them (they're widely available now). The C64 Mini (£69.99) came on the back of an Indiegogo campaign for a full-sized C64 retro machine, which raised $100,611 (£76,650) from 435 backers, while the Atari Flashback 8 HD (£79.99) and other Flashback variants are easy to come by. At the time of writing, there were still plenty of PlayStation Classics available for pre-order.

WHAT HAPPENED TO THE ZX SPECTRUM VEGA+?

Back in March 2016, an Indiegogo campaign for a handheld ZX Spectrum (bit.ly/spectrum460) attracted £512,790 in funding and 4,772 backers. With prices starting at £100, the Vega+ looked promising, trumpeting the inclusion of 1,000 licensed games, TV-connectivity and a beautiful styling that evoked the memories of Sinclair's finest computer, complete with the iconic rainbow stripe.

Since then, however, the project has been mired in controversy. Delays saw the £100 gadget miss repeated deadlines, Indiegogo appointed

a debt-collection agency, rights holders Sky stripped the console of both its ZX Spectrum and Sinclair trademarks, and when some of the units finally fell into hands of buyers, they arrived with no protection and no installed games. Even worse, buyers complained of poor build quality.

Pick up an Atari Flashback to play classic arcade games

ACCESS ANYTHING ANONYMOUSLY
USING TOR

There's no need to be afraid of the so-called dark web. **Robert Irvine** explains how to browse safely and anonymously using the new version of Tor, and the essential sites to visit

The most common misconception about Tor is that it's a network designed for criminal activities: it's actually completely legal and was originally funded by the US government. Tor's real purpose is to provide anonymous communication, and there's no better tool for protecting your privacy online.

The Tor Browser, now in its eighth version (see last issue's Best Free Software) not only encrypts and reroutes your web traffic, but deletes cookies and browsing history after each session, blocks harmful scripts and unsafe connections, and disguises your IP address so that no one can see who or where you are.

Unlike a VPN, Tor has no central service you need to trust to enjoy the web privately, which makes it essential for anyone who wants anonymity – from journalists, whistleblowers and activists to web users who are concerned about data theft, surveillance and censorship.

In this feature, we explain how to use Tor in the most secure and private way possible, whether to browse websites without being tracked or check out 'onion' services that can only be accessed through Tor Browser.

We also pick 15 of the most interesting and useful hidden sites, which dispel the notion that Tor will only lead you into trouble. Note that we haven't shortened these sites' URLs using Bitly, as we usually do, because this would make them less private – so be prepared to type some lengthy onion addresses!

STAY COMPLETELY PRIVATE AND SECURE IN TOR

Tor provides a more secure way to access the web than other browsers, but these tricks will ensure you remain as anonymous as possible

Switch to the 'onion' version of DuckDuckGo

The default search engine in Tor is the privacy-focused DuckDuckGo, which – unlike Google and Bing – doesn't store your search history or personal information, or track you around the web. However, if you want to guarantee that nobody else can see what you're looking for, it's worth switching to the 'onion' version of DuckDuckGo, so that all your Tor search queries are end-to-end encrypted, and nobody can even tell you're using the search engine.

You can access this super-secure version of DuckDuckGo via its onion website (3g2upl4pq6kufc4m.onion) or by selecting DuckDuckGoOnion from the options below the address bar or search box when you type a search query. To always use the onion version, right-click its icon and choose Set As Default Search Engine. Because of the 'onion routing', you'll find it a little slower than standard DuckDuckGo.

Set DuckDuckGoOnion as Tor's default search engine for optimum privacy

Block canvas fingerprinting when browsing

When you visit a site or click a download link in Tor, you may be asked whether or not to let the host website use your "HTML5 canvas image data". This allows the site to assign you a 'canvas fingerprint', based on how your computer draws a hidden image.

Because every computer draws the image differently, the canvas fingerprint is unique to you, and can be used to identify and build a profile of you for ad-targeting purposes – think of it as an alternative to cookies. For this reason, you should always click Don't Allow to the canvas-image request – otherwise,

Don't let websites use your canvas-image data when you browse with Tor

you're defeating the whole object of using Tor to browse anonymously! This won't prevent you from viewing content or downloading files. If you have Tor set to its highest security level (see next tip), canvas fingerprinting will be blocked automatically.

Firefox, which Tor is based on, also offers fingerprinting protection, but the option is disabled by default. Turn it on in 'about:config' by setting 'privacy.resistFingerprinting' to 'true'.

Set Tor's security to its highest level

Download sites are notorious for their deceptive adverts, malicious scripts and hidden trackers, and venturing onto the dark web puts you at even greater risk. It's therefore wise to maximise Tor's security to ensure your privacy and safety aren't compromised.

Click the onion button in the toolbar, choose Security Settings and push the slider up to Safest. This disables all non-essential features on websites, including JavaScript, autoplaying content, many images and more, so you'll still be able to download most files. If this causes download links to stop working, reduce the security level by moving the slider down to Safer.

Tor also provides protection via its built-in tools HTTPS Everywhere, which forces sites to use their encrypted versions; and NoScript, which blocks harmful scripts. Don't install other security add-ons – such as those mentioned in our feature on page 48 – or you risk breaking your anonymity.

Protect Tor against dodgy websites by setting its security to the safest level

Open your downloads in a safe environment

Although Tor offers a secure way to browse the web, that security doesn't extend to the files you download, so it pays to be cautious. Tor works by sending data through a circuit of 'nodes' (other computers, also known as 'relays'), which has the potential to be exploited for malicious purposes. For example, a rogue 'exit node' – the last relay Tor traffic passes through before it reaches its destination – could modify or swap the file you're trying to download, and infect your computer with malware.

There's also the risk that when you open a downloaded file, it may automatically connect to the internet – such as software checking for an update. This connection will be made outside the safety of Tor and could compromise your anonymity by revealing information about you and your system.

Files you download in Tor may compromise your anonymity when opened

The Linux version of Tor has a built-in sandbox to protect against download dangers, but in Windows, you may see a warning for certain file types. To prevent privacy leaks and avoid malware, you should open potentially risky downloads in a free sandboxing program such as Sandboxie (www.sandboxie.com), which isolates files from the rest of your PC and stops them connecting to the internet.

Tor also suggests that you only open downloaded files while offline or when using Tails (see boxout on page 42). Naturally, if you trust the source you're downloading from, you can ignore the warning and open the file in the usual manner.

Check the safety of your relay circuit

As mentioned above, because Tor relays are run on a voluntary, anonymous basis, its circuit system can potentially be abused by unscrupulous users who could snoop on web traffic and even spread malware. It's been estimated that as many as 3% of Tor nodes are 'rogues' (bit.ly/rogues460), but Tor regularly scans the network for bad relays and

encourages users to report them via bad-relays@lists.torproject.org).

To address such concerns, Tor Browser 8 improves the Circuit Display feature that shows you all the nodes being used in your connection to the current site, making this information much clearer. Click the 'i' icon in your address bar to view a list of the relays in the circuit; this will include a highlighted 'Guard node', which is the first point of entry in the circuit and has been verified as trustworthy (although that doesn't mean it can't be hijacked). Other nodes may include details of their host countries and IP addresses, but the most important is the exit node, the gateway where encrypted Tor traffic hits the 'normal' internet.

You can check the IP address of your exit node, which websites will see as

Tor shows you all the nodes that your web traffic is being routed through

Check your fake IP address and run a relay search for more information

your IP address, by visiting check .torproject.org. This tells you what your IP address appears to be and links to a 'Relay search' tool that provides full details of the exit node, including where it's based, how long it's been running for and whether it's been approved by Tor for speed, stability and safety.

If you suspect your privacy or security has been compromised – perhaps the site is behaving erratically or the exit node seems to have popped up overnight – either click 'New Circuit for this Site' to reroute your connection or click the onion button on the toolbar, choose New Identity from the menu and restart Tor to get a fresh IP address and circuit.

Theoretically, you can avoid dodgy exit nodes by sticking to 'onion' sites when using Tor, which keeps all your traffic encrypted, but this isn't practical if you also want to browse the 'normal' internet.

Connect to Tor securely using a VPN

It's important to remember that Tor is a proxy service rather than a VPN, which means it only encrypts and protects web traffic routed through its browser – not the connection between your PC and the internet. As we've explained, there's also the danger that a dodgy relay could break your anonymity, especially if it's the entry node to the circuit – the only one that can see your real IP address.

You can significantly boost your privacy and security by using Tor Browser with a VPN. This adds an extra layer of protection by hiding your IP address from a circuit's entry node, and keeping it hidden once your data is decrypted at the exit node. It also prevents your ISP from knowing that you're using Tor.

NordVPN offers special servers that redirect your web traffic through Tor

NordVPN, which won the Gold Award in our VPN mega test in Issue 458 (bit.ly/nordvpn458), has a useful feature called Onion Over VPN. This connects you to special VPN servers configured to redirect your traffic through the Tor network, without the need to download the Tor Browser (though the browser works fine with NordVPN's regular servers). ProtonVPN (protonvpn.com) offers a similar option, while our Silver Award winner, ExpressVPN, has its own 'onion' website (expressobutiolem.onion) where you can sign up anonymously.

Using a VPN with Tor is a sensible precaution but you may have to pay for a compatible service and put up with slower browsing and download speeds.

ExpressVPN has its own onion site that you can only access through Tor

RUN A TOR OPERATING SYSTEM

The downside to using Tor on your computer is that it only encrypts and protects what you do within the browser, while other web-connected software – including your operating system – leaves you detectable and identifiable.

If you're really concerned about your online privacy, consider using Tails (tails.boum.org) – The Amnesiac Incognito Live System, to give it its full name. This portable Linux-based operating system can be stored on a USB memory stick or DVD and booted into directly on any computer. It encrypts your files, emails and instant-messaging chats, and all its built-in software, which includes a browser, office suite and image editor, is configured to connect to the internet through Tor. If an application tries to access the internet directly, the connection is automatically blocked, which makes

it particularly useful for safeguarding against dodgy downloads.

When you remove the Tails drive or disc from your computer and reboot, all traces of your session are wiped, so nobody will ever know you were using the private OS. Tails is available for Windows, Mac OS and Linux and was updated last month to version 3.9, which lets you install additional software and integrates file-encryption tool VeraCrypt.

BEST SITES YOU CAN ONLY ACCESS WITH TOR

Now that you know how to browse privately and securely, here are 15 of the most useful, legal onion sites that you can only visit using Tor

Use anonymous and unhackable email

ProtonMail (protonmail.com) is already the most secure webmail service available: it encrypts incoming and outgoing messages, doesn't log IP addresses and stores your data in an underground bunker in Switzerland, which has some of the strongest privacy laws in the world. But if you're still worried about email snoopers (who may wonder what you've got to hide), or you're in a country that blocks access to ProtonMail, you can access its hidden service through Tor.

ProtonMail's official onion site (protonirockerxow.onion) provides true end-to-end encryption on the Tor level, whereas a non-onion Tor connection doesn't encrypt messages beyond the exit node. This makes it impossible for anyone spying on your web activities to know that you're using ProtonMail, and Tor's extra encryption prevents man-in-the-middle attacks, because your connection is completely anonymous and your IP address undetectable – even to ProtonMail itself.

The free version of the service limits you to 500MB of storage and 150 messages a day. You can increase this to 5GB and 1,000 messages by paying a monthly subscription fee of €4 (£3.57).
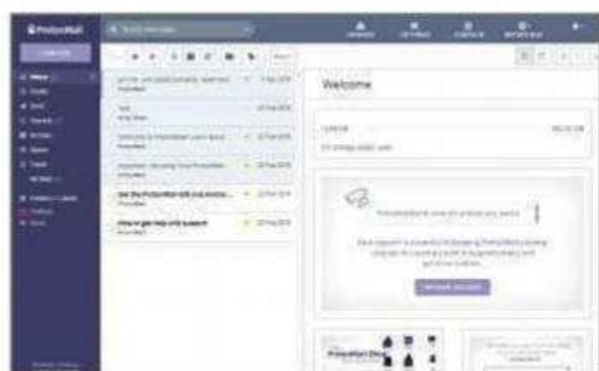
ProtonMail's onion site stops anyone knowing you're using the service

Search hidden services on the Tor network

We've already recommended DuckDuckGoOnion as the most private way to search in Tor, but it won't find you content on dark-web onion sites. For that, you should try Ahmia (msydqstlz2kzerdg.onion), which scours thousands of hidden services and handles more than 180,000 search queries every day. Launched with support from the Tor Project, it's very easy to use, consisting of little more than

Ahmia lets you search hidden services that are only available through Tor

a search box against a photo of a railway platform in Finland (where Ahmia is based), which makes it a good place for Tor newbies to start. Ahmia lets people add their own onion sites to its index and commendably blacklists those that contain abuse material, asking its users to report any they encounter.

Be warned, though, that the indirect nature of Tor makes Ahmia a far cry from Google for speed and reliability – search results often take a long time to load or just fail completely.

Get help and advice from Hidden Answers

You might expect a Tor-only message board to be like a scary, unfettered version of Reddit, but Hidden Answers (answerstedhctbek.onion) is nothing of the sort. It's true that some discussions can be eye-opening, but the site is also a good source of knowledge, with a community that is happy to provide helpful – or, at least, honest – answers to any question. The Technology board is by far the most popular, addressing such innocuous topics as 'Best free antivirus software for Windows 10' and 'What do you think about electric vehicles?'. You'll also find useful advice about online security and privacy, and avoiding the latest scams.

Hidden Answers forbids users from trading illegal wares (unlike certain subreddits) and blocks users who flout

Hidden Answers is surprisingly informative for a Tor-only message board

its rules about spam, pornography and attacking others.

Read uncensored international news

ProPublica (www.propub3r6espa33w.onion) has been described as the "dark web's first major news site" and, as the winner of four Pulitzer prizes, it's certainly one the most respectable organisations to have a hidden service (its 'clear web' version can be found at www.propublica.org). ProPublica's mission is to "expose abuses of power and betrayals of the public trust… using the moral force of investigative journalism", covering topics such as media censorship, digital privacy and breaches of private medical information.

ProPublica's fearless investigative journalism can be read through Tor

The often controversial nature of ProPublica's content makes Tor a natural fit, allowing visitors to browse the site without worrying that someone is watching – a major fear in countries with state-controlled internet – and without leaving a digital trail. The onion site also proves ProPublica's assertion that "the dark web isn't necessarily the seedy place it's cracked up to be", as well as offering a news source that's free from ad tracking and other online surveillance. Learn more about why ProPublica launched a Tor service at bit.ly/protor460.

Access Facebook anonymously

Facebook may be notorious for invading its users' privacy, but its onion site (www.facebookcorewwwi.onion) offers a way to protect your anonymity (to a degree) by using the social network through Tor. It's primarily aimed at people in countries where Facebook is blocked or censored, but is useful for anyone concerned about online surveillance. The site claims not to keep logs of user activities and attracts more than a million users a month. The hidden Facebook service can also be used through Tor's Android app (bit.ly/tordroid460).

Listen to music while browsing with Tor by streaming Deep Web Radio

Venture into spooky abandoned tunnels beneath a Chicago university

Tune into deep-web radio stations

Although it's possible to download audio files in Tor using torrenting tools, this is actively discouraged – not just because it's likely to be illegal, but because it blows your anonymity by revealing your real IP address and also places a strain on the already slow Tor network. If you want to listen to music as you browse the hidden web, check out Deep Web Radio (76qugh5bey5gum7l.onion), which offers free audio streams that you can play in the Tor browser. Genres include Ambient Chill, 'Jazz and Latin' and 'Country, Folk and Bluegrass'.

Explore underground tunnels in Tor

There are plenty of sites on the 'clear web' devoted to urban exploration, but the fact that IIT Underground (62gs2n5ydnyffzfy.onion) can only be accessed through Tor makes it seem especially intriguing and dangerous. Described as "an expedition to the forbidden subterranean and superterranean areas of Illinois Tech", it documents the findings of an anonymous adventurer exploring the mysterious tunnels below a Chicago university, coming across steam vents, asbestos-insulated pipes and abandoned telecommunications cables.

High-quality photos are complemented by a map of the tunnel system and views from campus roofs, along with advice for setting off on your own expedition. It arguably feels spookier than it should; a scrawled message in one image reads: "I have been to Hell and this is not it"!

Beneath VT (74ypjqjwf6oejmax.onion) is a similar hidden site, which explores the extensive network of steam tunnels that runs beneath the Virginia Tech campus.

Play chess against Russian opponents

From Alexander Alekhine to Garry Kasparov, most of the all-time greatest chess players have been Russian, and – who knows? – perhaps the next Grandmaster is lurking on TheChess (theches3nacocgsc.onion). This Tor-only chess site lets you play games against strangers, many of whom are based in Russia, Ukraine and Chechnya (you can switch between those languages and English).
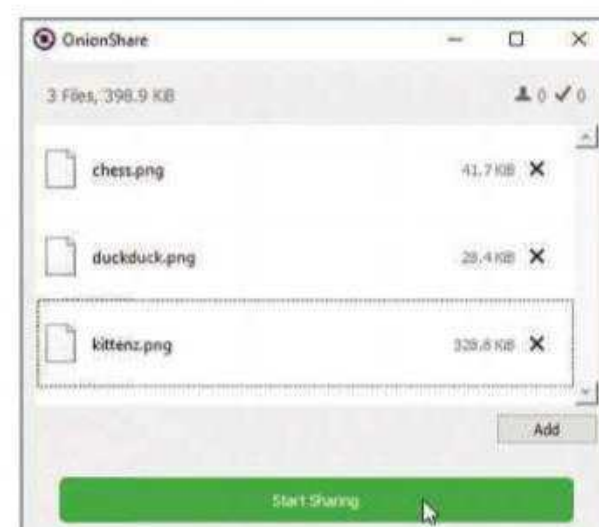
There's no catch – no hidden malware, fake-news links or Muscovite meddling – just free, good old-fashioned chess. You'll need to create an account before you can play (use a secure email service such as ProtonMail), or you can just sit back and watch other players' moves, and have a go on the testing board. When we visited, TheChess was hosting game number 365,665.

Share files securely and anonymously

Sending a file to someone over the internet is fraught with privacy risks, not least from the file-sharing service you use, which can see both your address and that of the recipient. A free program called OnionShare (elx57ue5uyfplgva.onion) solves this dilemma by letting you share files directly with other people via Tor, which keeps both parties' identities anonymous and prevents snoopers from spying on the files when they are in transit.

To use OnionShare, drag some files into it and click the Start Sharing button to generate a unique '.onion' URL. Send this to the other person, who can then click to download the files in Tor Browser, after which the link is deactivated and the files disappear.

OnionShare places no limit on the number or size of files you share, and is available for Windows, Mac OS and Linux. Visit OnionShare's hidden or standard website (onionshare.org) for more information on how it works.

IS TOR SAFE TO USE?

Any talk of Tor invariably raises concerns about the so-called dark web, which has a fearsome reputation as a hive of depraved criminality that sensible web users should steer clear of. While there is undoubtedly a lot of dubious stuff (to put it mildly) on hidden services, Tor doesn't provide links for you to start exploring such sites – you need to know the exact web addresses, which usually consist of an unguessable jumble of 16 characters and the domain '.onion'.

The Tor team states in its legal FAQ that "it is not a tool designed or intended to be used to break the law", but to "enable anonymous communication and combat network surveillance that threatens personal freedom and privacy". As we explain in this feature, it's perfectly possible to use Tor without coming anywhere near illegal activity or seeing disturbing content.

Nevertheless, it pays to be vigilant, especially when using onion search engines and directories. Avoid opening suspicious files and links, and don't do anything that could compromise the anonymity that Tor grants you.

Foil snoopers by sharing files anonymously with OnionShare and Tor
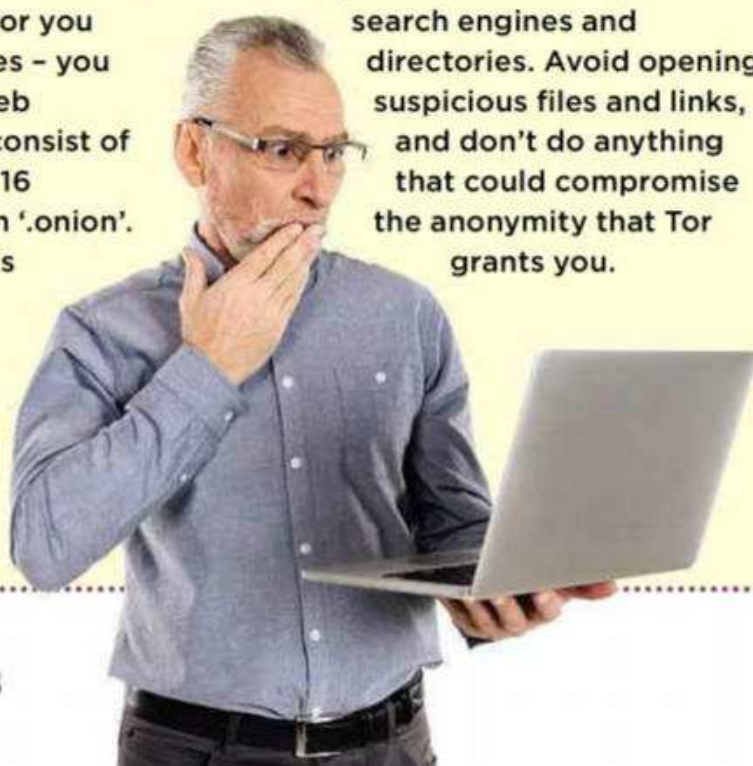
Solve one of Tor's biggest mysteries

"You have been chosen. You have always been awake. Seek and it shall be found" begins How Will You Tell the World (55uiisia4xo5tyua.onion). This enigmatic onion site challenges you to decipher its baffling diagrams, portentous statements and an audio download consisting of a eerie tone followed by a blast of static. Is it a mission statement from aliens using the dark web, a communication from a sentient artificial intelligence or just a prank to fool Tor users into thinking they've uncovered a secret? There are lots of YouTube videos and Reddit discussions pondering the site's meaning, but the answer has yet to be confirmed.

Can you solve the mystery of onion site How Will You Tell the World?

Learn about the work of Privacy International

In a fitting example of 'why we need Tor', it was revealed last month that the government intelligence agencies MI5, MI6 and GCHQ had been unlawfully spying on the charity Privacy International (bit.ly/spying460), whose aim is to "shine a light on overreaching state and corporate surveillance".

Privacy International has long offered a Tor service (privacyintyqcroe.onion) to grant its visitors anonymity as they learn about its work in areas such as biometrics, government hacking and

Privacy International is evidence that your paranoia may be justified

mass surveillance. It also means that Privacy International practises what it preaches by not tracking or collecting data about its users.

Translate foreign languages in Tor

Don't inadvertently click dodgy links in Tor because you don't understand where they lead – use the Deep Web Translator (deeptrantci3pydq.onion) to translate to and from 44 languages instantly. It's much more private than using Google Translate; indeed, it even offers a list of eight things you should never type into Google's service, including 'trigger words' that will make the authorities' ears prick up.

Upload files anonymously to WikiLeaks

Even if you disagree with WikiLeaks' tactics, its controversial founder Julian Assange and its publishing of classified military and diplomatic documents, the site (wikilw7ayqhjl6zr.onion) remains one of the most important sources of uncensored and unrestricted official information, especially regarding surveillance, corruption and cover-ups.

You can access WikiLeaks in any browser, but its onion site gives you more anonymity while browsing its content. For security reasons, the only way to submit documents to the service is through Tor at wlupld3ptjvsgwqw.onion – files are encrypted automatically

Tor allows whistleblowers to submit evidence anonymously to WikiLeaks

during upload, as is the data in the submission form.

Check how anonymous you are in Tor

Sometimes it's worth ensuring that Tor is doing its job properly by concealing identifiable data about your computer. BrowsInfo (bit.ly/browsinfo460) lets you verify your anonymity by listing as much info as it can detect about your browser, operating system, screen resolution, active plugins, IP address and more.

Test the site with Tor's security settings at different levels to see how private they make you (having JavaScript enabled leaks a lot more data). Note that because you're connecting to an onion site inside the Tor network, your IP address will always appear as 127.0.0.1 – visit the 'clear-web' version of BrowsInfo (bit.ly/browsclear460) to see how it looks to non-onion sites. It put us in Zurich rather than London, so Tor was clearly working well! ■

Use BrowseInfo to check whether your identifiable data is secure

Edit videos on your Android phone

Trim memorable moments on the go or stitch together social-media snapshots that won't use too much data when you share them. **Steve Clark** finds out which mobile video-editing tools for Android make the cut.

Adobe Premiere Clip | bit.ly/prem460 | ★★★★★

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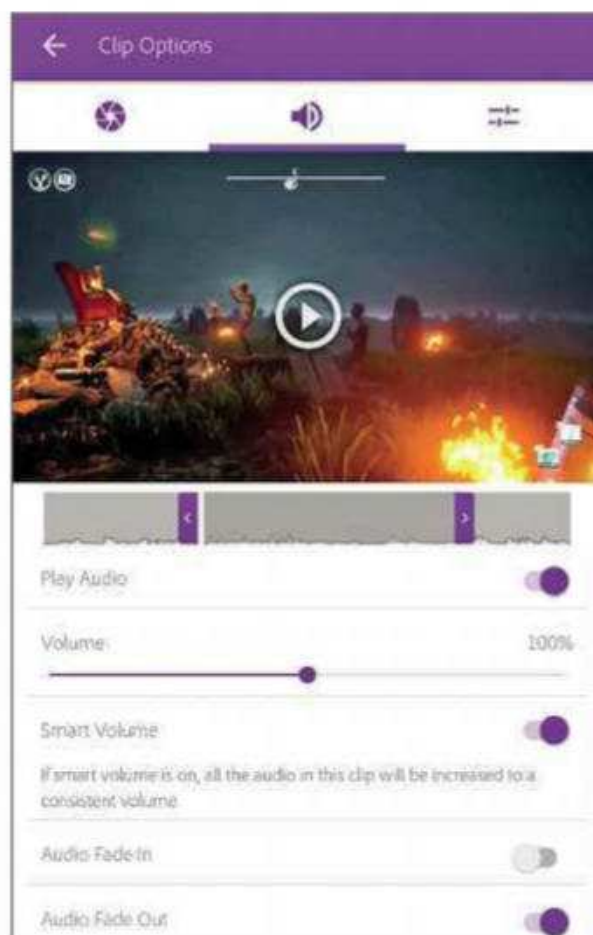

What we liked:

Premiere Clips' older, Windows-based sibling, Premiere Elements 2018, recently won our coveted Gold Award (bit.ly/webuser453) and, with this app, Adobe continues the winning streak with a first-class mobile video editor. Initially, it's difficult to tell who it's pitched at: it looks too streamlined for professionals and feels too heavyweight for rookies. But don't be fooled, this is perfect for both. That's because, more than a mere free editing tool, Premiere Clip is the gateway into the Adobe ecosystem, where you can freely sync completed videos to Adobe's Creative Cloud, then refine them in its pricey desktop software.

Editing is an embarrassingly simple two-step process. Highlight a specific clip in your timeline (carefully avoiding the poorly placed dustbin icon that deletes it), then drag your sliders to determine where the clip begins and ends. Above the timeline, a dinky screen shows your results. For true auteurs, there's also a pleasing selection of special-effects filters, though you only get 10 backing tracks.

The sheer level of control is commendable: mobile editors don't often make it easy to edit together multiple videos or extract clips, but Premiere Clip fixes this with video duplication and the ability to split clips from the timeline. You'll also find a streamlined Options menu ready-made for mobile: use the sliders to tweak exposure and shadows, and toggle on audio fades and Smart Volume, which levels out inconsistent video volumes.

With other thoughtful extras, including the auto-editing 'Sync to Music' and Photo Motion, which zooms in on still images, Premiere Clip is the full – and free – package.

How it can be improved:

Editing videos is a delight but the setup and layout can feel less than intuitive. Trimming clips was occasionally awkward: with a cramped timeline, it didn't always register that we wanted to drag the sliders and ended up playing the video instead. It was also disappointing to find you can only apply effects to the entire video, which may limit your directorial vision. And where are all the fun *Star Wars* transitions?

> **OUR VERDICT**
> Adobe's well-earned reputation continues with a strong mobile offering that's ideal for casual and hardcore users alike. Beyond its excellent toolbox of functions and features, Premiere Clip is completely free, which is refreshing when most of its rivals ruin the fun with intrusive ads or persistent demands for a subscription.

PowerDirector Video Editor | bit.ly/cyber460 | ★★★★☆
FEATURES ★★★★★ PERFORMANCE ★★★★★
EASE OF USE ★★★★★ VALUE FOR MONEY ★★★☆☆

WebUser SILVER AWARD

What we liked:
CyberLink's accessible PowerDirector won the Bronze Award in our recent PC-editing software round-up. Like its Windows counterpart, the mobile PowerDirector Video Editor is packed with useful tools but doesn't suffer from the full program's fiddly interface – control is comfortable on a landscape phone screen, even if you're all thumbs.

Starting a new project entails adding a video and selecting your aspect ratio – ideal for phone-friendly portrait films. Multiple clips can be stitched together and trimmed, before adding transitions, while tucked behind the FX button, you'll find professional-looking effects and overlays that can be applied to individual clips.

Once your masterpiece is assembled, drop in audio from either your own library or the app's admittedly limited free catalogue with a quick tap of the '+' icon, before exporting or sharing your movie on social media.

How it can be improved:
This is the best video editor out there – but it's not the best *free* editor. Your movies are stamped with a watermark that can only be removed with a £2.50 monthly subscription – for which you also get upgraded resolutions and expanded visual and audio effects. It may be worth it if you edit a lot of films, but we'd rather pay a one-off fee.

OUR VERDICT
CyberLink's PowerDirector is a zippy, full-featured video editor. Download it if you're happy to shell out (or can tolerate the watermark), but the cash demands may deter free users.

## VidTrim | bit.ly/vidtrim460 | ★★★★☆
FEATURES ★★★☆☆ PERFORMANCE ★★★★☆
EASE OF USE ★★★★★ VALUE FOR MONEY ★★★★☆

WebUser BRONZE AWARD

What we liked:
VidTrim makes no bones about what it does: it's an app that trims videos and that's about it. Merging multiple videos, grabbing a single frame or trimming individual clips are the only tools you really need for quickly editing on the move.

You'll also find a handy option to compress videos or convert the audio to an MP3 – probably most useful for YouTube-related downloads. Unlike the fiddly interface problem encountered on some rivals, VidTrim features a fuller, fatter timeline that responds well when sliding start and stop locations into place. Despite offering a £2.09 Pro version that unlocks non-watermarked special effects and merged videos, producing a single-clip video won't result in an unsightly 'VidTrim' stamp – so it's fit for social-media shares from within the free app.
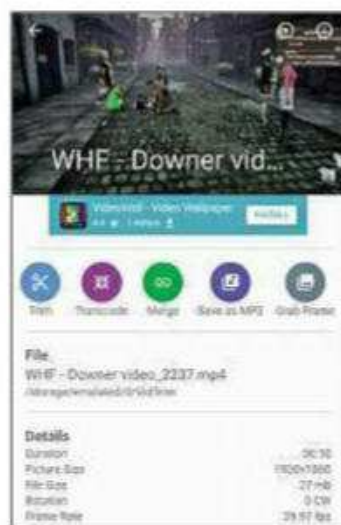
How it can be improved:
This is a hassle-free mobile editor, but it's limited in scope and a few more features wouldn't go amiss. The layout is also odd, and it took us a moment to realise that more options lay along the scrollable bar beneath the video. Mind you, it wasn't worth the effort – everything was placed behind a watermarked paywall and we were disappointed not to see some free or trial effects included.

OUR VERDICT
VidTrim is the mobile answer to Windows Movie Maker. It does one thing very well, with none of the distractions in similar apps. Really, it's built for quick trims rather than more sophisticated YouTube fodder.

BEST OF THE REST

You Cut
bit.ly/youcut460
YouCut is a quick and lightweight editor in the VidTrim mould. Most features and effects come as standard elsewhere, but on-screen emoji and controllable video speeds are two of its more unique features. We didn't find the ads too intrusive, but you can remove them for £2.69. Overall, its pleasantly crisp interface makes piecing together movies straightforward.

Timbre
bit.ly/timbre460
Musically inspired Timbre should be a Gold Award-winning all-in-one editor, with a focus on letting you create, combine and convert different video and audio formats. The trouble is, it failed to open all but one of our clips. Editing that particular movie was a flawless joy (and we were almost overwhelmed with all the options the app threw at us). It's definitely worth keeping an eye on this one.
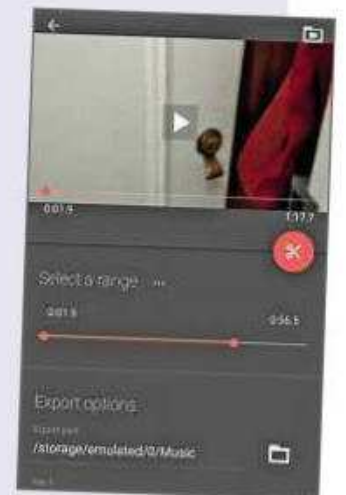
Video Cutter
bit.ly/vidcut460
Video Cutter is shamelessly unambiguous about its role. From the say-what-you-see name to featuring just four home screen options, it couldn't be more basic if it tried. Choosing to edit means simply picking a start and stop point for your clip, and it's the only option you have before producing your movie. That simplicity may be the app's biggest drawback, though, since anyone with a interest in editing will quickly graduate to other apps with more advanced tools.

IMMUNISE YOUR BROWSER

It's essential to protect your browser against the latest net nasties that infiltrate and infect your system. **Steve Clark** reveals the best extensions to boost your privacy, security and browsing speed

Avoid phishing scams and malware

Even with antivirus software running in the background, it's still wise to create an additional layer of browser security by installing Windows Defender Browser Protection (bit.ly/defend460) or Avast Online Security (bit.ly/avast460). Both tools are available for all the major browsers and, like their antivirus counterparts, these 'all-in-one' extensions constantly scan for malicious code, suspect links and phishing attacks, and check threats against continually updated lists.

You'll find more settings in Avast, which also adds a traffic-light system to Google search results, so you can check a website's reputation before you click
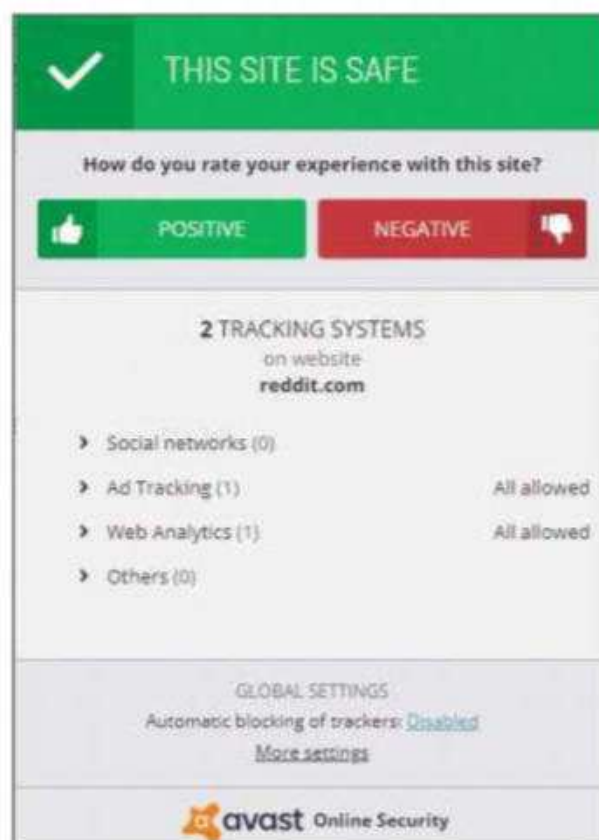
Avast Online Security helps you steer clear of dodgy websites

the link. This red-amber-green display is similar to BitDefender's anti-phishing, anti-malware extension TrafficLight (bit.ly/traffic460) – a tool that also reveals when you're being tracked and analysed by a website. Windows Defender only features an on-off button.

Each tool clearly communicates potential hazards as you browse the web. Hostile sites are locked behind unmissable warning signs so you can opt to return to the safety of your homepage rather than risk infection or stolen data.

Encrypt your browsing habits

You may have noticed that Google now marks as 'unsafe' any site still using HTTP, rather than the more secure HTTPS protocol. That doesn't necessarily mean a site is compromised, but non-HTTPS addresses are more susceptible to hijacking and leaking sensitive information.

HTTPS Everywhere (bit.ly/he460) – created through a partnership between digital privacy advocates The Tor Project and the Electronic Frontier Foundation – forces HTTP sites to switch to HTTPS wherever it's supported. This multi-browser extension places the emphasis on keeping your communications safe: Chrome (and therefore Vivaldi), Firefox

Force sites to encrypt your data – even when they don't want to

and Opera all get a look-in, but you're also protected on mobile in Firefox for Android.

Since the tool enforces HTTPS, all the data you send and receive on particular sites remains totally secure and automatically encrypted.

Block online trackers and spying ads

Every site you visit and link you click creates information that a website or third party can use to identify and analyse you. At best, this means your data is flogged to marketers who target you with 'relevant adverts'. In the worst-case scenario, it leaves you wide open to identity theft. Either way, you're likely to suffer a slow-down when too many ads follow you around the web.

Popular multi-browser ad-blockers Ghostery (ghostery.com) and uBlock Origin (bit.ly/ublock460) both let you mask your digital footprint. Constantly running in the background, these check for advertising and analytic trackers on every web page you visit, before blocking them.

Ghostery is the more user-friendly add-on of the two. It's available for most browsers, has its own Android and iOS apps (see Best Free Apps on page 35), and provides useful at-a-glance info. However, uBlock Origin has a standout feature, Element Picker, which lets you permanently block all sorts of sluggish or suspect website elements – including sidebars and comment sections.

Alternatively, try Privacy Badger (bit.ly/badger460). Created by the developers behind HTTPS Everywhere, this 'smart' tool learns to recognise and block new trackers as you browse –

Ghostery helps you become an untraceable shadow online

so, unlike its rivals, there's no need to create whitelists and blacklists.

Defend your browser against CDN threats

Back in Issue 457 (bit.ly/webuser457), we detailed how almost half the world's websites are considered 'risky'. One of the chief reasons is the Content Delivery Network (CDN) – a system that populates web pages with content such as adverts and images from multiple background sites: sites that are vulnerable to hackers.

Decentraleyes (decentraleyes.org) – available for Firefox, Chrome and Opera – dodges these centralised networks. And by cutting out the highly exploitable CDN middle-man, the extension is able to protect you from malicious software hidden within background content.

Given their widespread popularity, most attempts to circumvent CDNs cause a web page to break, but Decentraleyes sneaks past this problem, tricking sites into displaying the extension's own bundled local files that 'plug the gap'.

The tool is designed to get on with other privacy-enhancing extensions, including uBlock Origin, uMatrix and Cookie AutoDelete. However, if you're running it alongside HTTPS Everywhere, you'll need to tweak the settings before they'll work together.

Use Decentraleyes to dodge risky content

Evade dodgy scripts on websites

Executed scripts also put websites at risk, and security experts have revealed

that hackers use "scripting capabilities for iframe redirects and malvertising links to compromise web browsers".

You can protect yourself from this threat by using an extension such as uMatrix (bit.ly/matrix460, bit.ly/foxmatrix460), which grants you the power to instantly stop sites running media, CSS, scripts and frames.

The matrix-based interface looks advanced, but it's deceptively simple: open uMatrix on a specific website to see a detailed grid of running HTML elements, then click the lower half of a box to block an element, or permit a process by clicking the top half. You can implement global settings across all sites by clicking the asterisk symbol (∗) and selecting Preferences.

By controlling individual elements, you can tighten security and still ensure every site works. For example, blocking certain scripts on the Google Play Store removes the See More buttons, making navigation a nightmare, so a blanket ban on all scripts would make the site unusable.
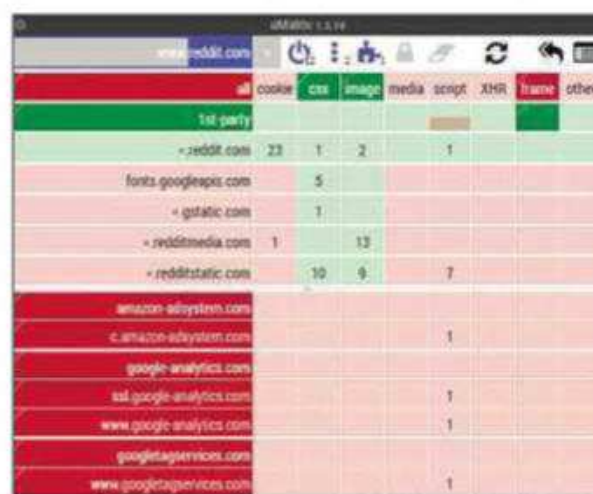
uMatrix gives you full control over shady scripts and malign media

Banish unwanted cookies

Cookies aren't all bad – they're the reason you don't have to type your favourite web address in full every time you visit or remember all your passwords – but they still help advertisers doggedly track you around the web.

Although we understand the popularity of browser extensions that remove irritating cookie notices – such as the excellent I Don't Care About Cookies (bit.ly/cookies460) – these are 'out of sight, out of mind' tools that won't protect you while browsing the web.

For more control over cookies on your machine, first check your built-in browser settings – all major players offer the ability to clear cookies at the end of your session when you exit the browser.

Chromium-based browsers such as Chrome, Opera, Vivaldi and Brave keep this option in Settings, Advanced, Content Settings, Cookies, where you can toggle the switch marked 'Keep local data only until you quit your browser'.

For Edge users, click Settings and, under 'Clear browsing data', select 'Choose what to clear', then turn on 'Always clear this when I close the browser.' In Firefox, visit the Privacy & Security settings, locate 'Cookies and Site Data', then use the drop-down menu to keep cookies until 'Firefox is closed'.

The Cookies AutoDelete extension for Chrome (bit.ly/autodel460) and Firefox (bit.ly/foxdel460) streamlines the process further. One click lets you automatically clean up your cookies; whitelist or greylist specific sites; and select preferences that clean out cookies when, for instance, you visit a new domain or open the browser.

Ditch non-essential cookies to stop being tracked around the web

Revive old Windows

You can't beat a bit of nostalgia when it comes to Microsoft's operating system. **Wayne Williams** explains how to run classic versions of Windows and related tools on your modern PC

Run Windows 95 on any computer

Windows 95 provided us with many of the elements now familiar in modern operating systems, including a Start menu, desktop and taskbar – but it's very different from the bells and whistles of Windows 10. You probably haven't used the groundbreaking OS in a good 20 years, but you can take it for a spin once more thanks to an enterprising developer who has wrapped it inside a virtual machine.

The program (bit.ly/win95-460) is available for Windows, Mac OS and Linux, which means you can revisit the joys of Win95 on any computer, within a window on your desktop. Most classic features including WordPad, Calculator, FreeCell and Media Player work just like they used to, with the notable exception of Internet Explorer, which opens but is unable to load web pages.

When you're ready to return to your present operating system, just tap Esc to free your cursor from inside the virtual space.

Travel back 23 years in time by running Windows 95 on your current computer

Run Windows 2000 Professional in your browser

While consumers were running the dreadful Windows Me back at the start of the new millennium, businesses, professionals and those in the know were using the superior Windows 2000. It wasn't the fanciest of operating systems, but it was stable and fast, so you could rely on it when you needed to get things done.

You can run the old operating system directly in your browser by going to bit.ly/win2000-460. This emulator works brilliantly on desktop computers, and you can even run it on your phone or tablet, though the results may vary. Because it's running in a browser, it's not particularly fast – but that only adds to the authenticity of using an operating system from 18 years ago!
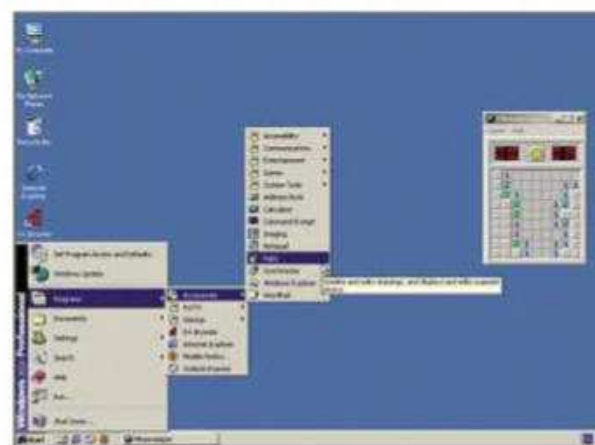
If you never got the chance to use Windows 2000, discover it now online

Download Windows XP for free

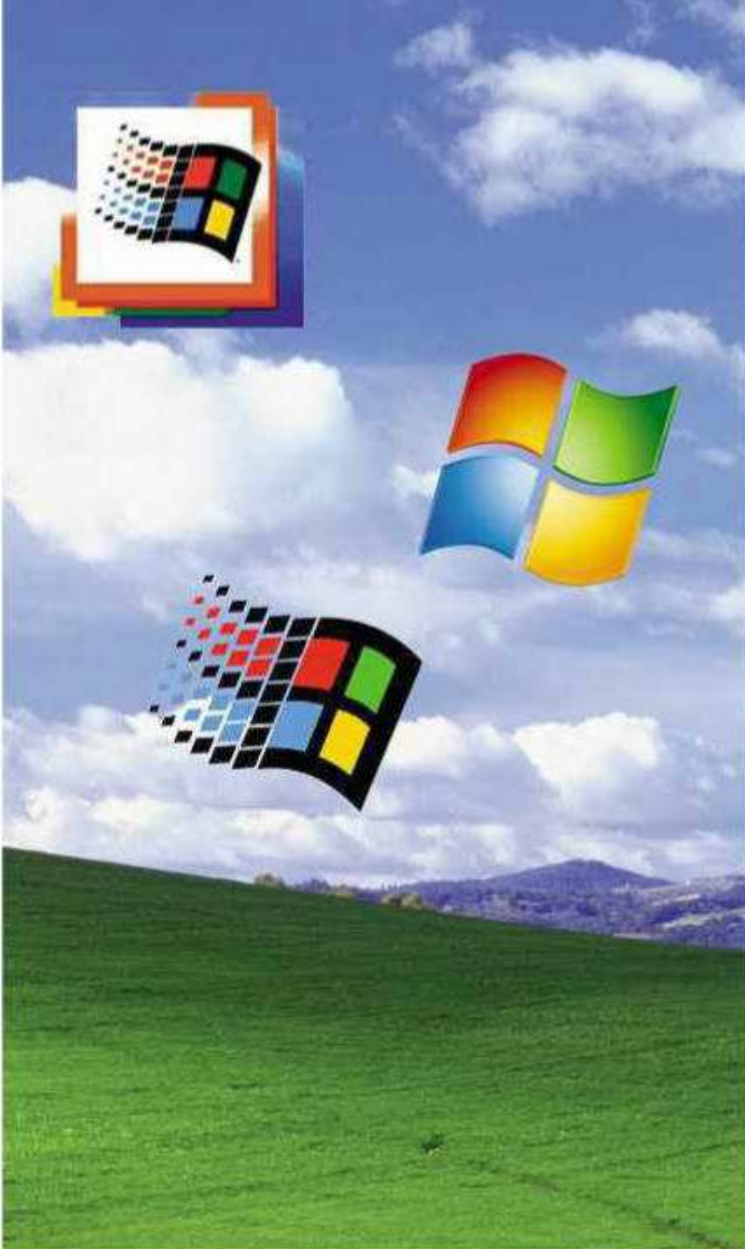Windows 7 comes with Windows XP Mode, a compatibility feature designed

Windows 10 users nostalgic for XP can run the classic OS as a virtual machine

to run XP and its software inside a virtual window. If you're using Windows 10, this option isn't available, but you can still download and run the ancient OS within your current one, although it takes a little time to set up.

To get started, download VirtualBox (www.virtualbox.org) and 7-Zip (www.7-zip.org), if you don't have them already, and download Windows XP Mode from Microsoft (bit.ly/winxp-460). When XP has finished downloading, right-click the executable file, select 7-Zip, then click 'Open archive' and select 'cab' in the context menu. Go into the sources folder and double-click 'xpm' – the XP Mode virtual hard drive folder – and extract all the files it contains to another folder on your hard drive. Click VirtualXPVHD in this second folder and press F2. Insert a full stop between P and V – VirtualXP.VHD – and hit Enter.

Next, install and run VirtualBox. Go to New and name the virtual machine Windows XP. The rest of the information will be filled in automatically. Use the

GET OFFICE ASSISTANT CLIPPY

Remember Clippy, Microsoft's amusing/annoying (delete as applicable) Office assistant from the Nineties? He would spring into life and offer help whenever you started a task such as writing a letter or making a spreadsheet. He would also change his shape and perform funny little actions to entertain you. Well, now you can bring him back, and run him on your desktop for endless nostalgic larks (until he starts to irritate you again). You don't need to be using Windows, either, as he's also available for Mac OS and Linux. Download Clippy from bit.ly/clippy460.

Apply a classic theme to make your modern desktop look like Windows 98

slider to increase the available memory to 2048MB and select 'Use an existing virtual hard disk file' at the bottom. Click the folder icon to the right of the box below, and navigate to and select the VirtualXP.VHD file.

Click Open and select the Create button. Now, click Settings at the top, select System in the new Window and untick Floppy. Move Hard Disk to the top of the list, select Display and increase the Video Memory to 128MB (the maximum). Close this window, select XP on the left and click Start above. Windows XP will now load in the window.

You will need to use your keyboard to navigate the installation pages (tab is especially helpful here) because the mouse won't work properly. When you see a black screen, press Right Ctrl+R to reset the OS. Select Cancel on all the windows that appear, then in VirtualBox, go to Devices, 'Install Guest Additions CD Image' and install it (select the 'Continue Anyway' option when warnings appear).

When it's finished, reboot your PC and you can start using XP, just like in the early Noughties. You can switch between full-screen, seamless and scaled modes via the View menu.
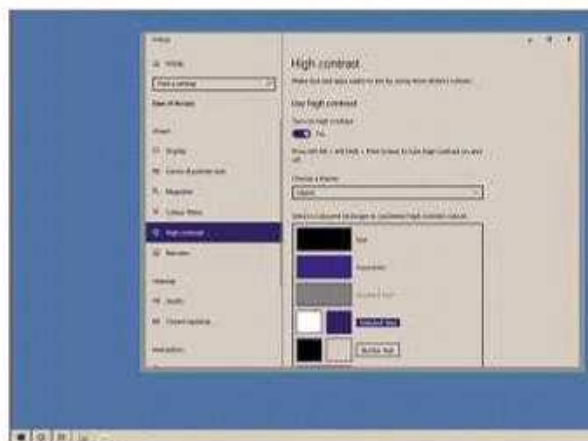
Get back classic
Windows themes

If you're not keen on the modern Windows look and hanker for the old-school style, such as in Windows 98, you can download a 'Windows classic' theme for Windows 8.1 and 10 (bit.ly/

classictheme460). Unzip it and move the file to the 'C:\Windows\Resources\Ease of Access Themes' folder, then right-click a blank area of the desktop, click Personalise and select High Contrast. Enable the High Contrast option and select Classic from the list of themes. It's worth pointing out that this more basic theme won't actually make Windows 10 run any faster, but it will push your nostalgia buttons.

Restore the classic
Start menu

Not everyone loves Windows 10's tiled Start menu as much as Microsoft clearly does. If you prefer the old-style menus found in XP and Windows 7, you can get them back by installing Open-Shell

Undo Microsoft's unwanted changes to the Start menu using Open-Shell

(previously Classic Start) from bit.ly/openshell460. If it looks familiar, that's because it's a continuation of the popular Classic Shell app which was discontinued (and open sourced) late last year.

The software gives you a choice of three different menu styles – Classic, Two Columns and Windows 7 – as well as other options for customising various elements of your operating system, including File Explorer.

To complete the retro look, download a high-res version of Bliss – the famous green and blue wallpaper used by Windows XP – from bit.ly/bliss460.

Run Windows Essentials
tools in Windows 10

Windows Essentials (also known as Windows Live Essentials) was a suite of desktop applications that included various Microsoft-developed programs, such as Messenger, Mail, Movie Maker, Photo Gallery, Writer and OneDrive. The last version of the suite was released in 2012, with the final update in 2014, then Microsoft removed it from its website last year. However, you can still download and install the pack by visiting the Internet Archive (bit.ly/essentials460).
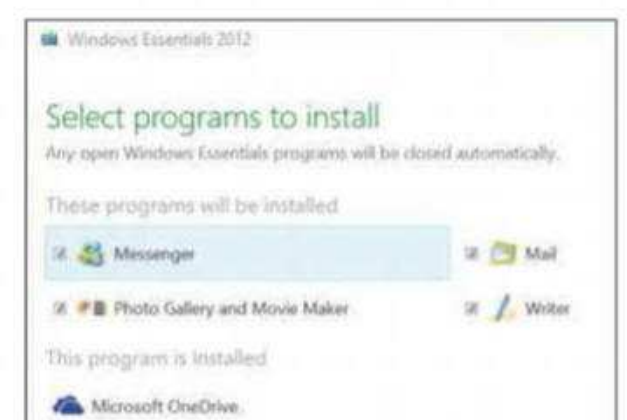
The direct download is pretty slow, but there's a BitTorrent version on offer if you prefer. Some tools, such as Messenger, no longer work, but Movie Maker and Windows Photo Viewer run perfectly in Windows 10.

Make Windows Essentials essential again by grabbing it from the Internet Archive

Try the new tools in iOS 12

The annual iOS update brings new life to your iPhone and iPad experience. Here's how to use some of the new features and interface tweaks

iOS 12: bit.ly/aios460 | 🕐 **20 mins** | 🍎 **iOS**

Apple updates its mobile operating system every year, and times the event to arrive in sync with the latest iPhones. Developers (and brave consumers) have had the chance to test early versions, but iOS 12 is now available to all users, provided they have at least an iPhone 5S, iPod Touch 6th generation, iPad Air, iPad 5th generation or iPad Mini 2.

The new version of iOS makes apps, the keyboard and the camera launch much faster, and introduces a number of major new features, including Memoji and additional Animoji (though only for iPhone X and later), Screen Time, advanced Do Not Disturb, a new For You photo tab, Siri Shortcuts and better notification management. Here's our guide to some of the highlights.

MEASURE
Touch the new Measure app and you'll be able to choose between the measure and level tools

1 Worried that you spend too long on your phone or tablet? iOS 12 now records exactly how long you've been staring at your screen. Tap Settings and select Screen Time. This will show how much time has been spent on your device today **1** and what you've been doing. **2**

2 Tap the arrow to the right of your device name to get a full breakdown of what you've used your device for today **1** and for the last seven days. **2** The app also lets you schedule time away from the screen in Downtime, set time limits for apps and set up Screen Time for Family.

3 Also in Settings, Do Not Disturb can be enabled at any time. **1** You can set a schedule **2** and enable the new Bedtime mode, **3** which dims the lock screen, silences calls and doesn't flash up incoming notifications. There are other options below, such as choosing when calls and notifications should be silenced.

4 iOS 12 comes with a new Measure app which lets you measure anything at all – including your pet. Move your phone around so the app gets an idea of what you're measuring, then line it up with one end of your object and tap the plus sign. **1** Move to the next point and you'll see the measurement displayed. **2**

5 Open Photos and you'll see a new For You tab. This contains a selection of intelligently grouped shots. If you use iCloud for your photos, you can share a selection with your contacts. Tap 'Share with friends?' **1** and click Next, then choose the people you want to share your photos with.
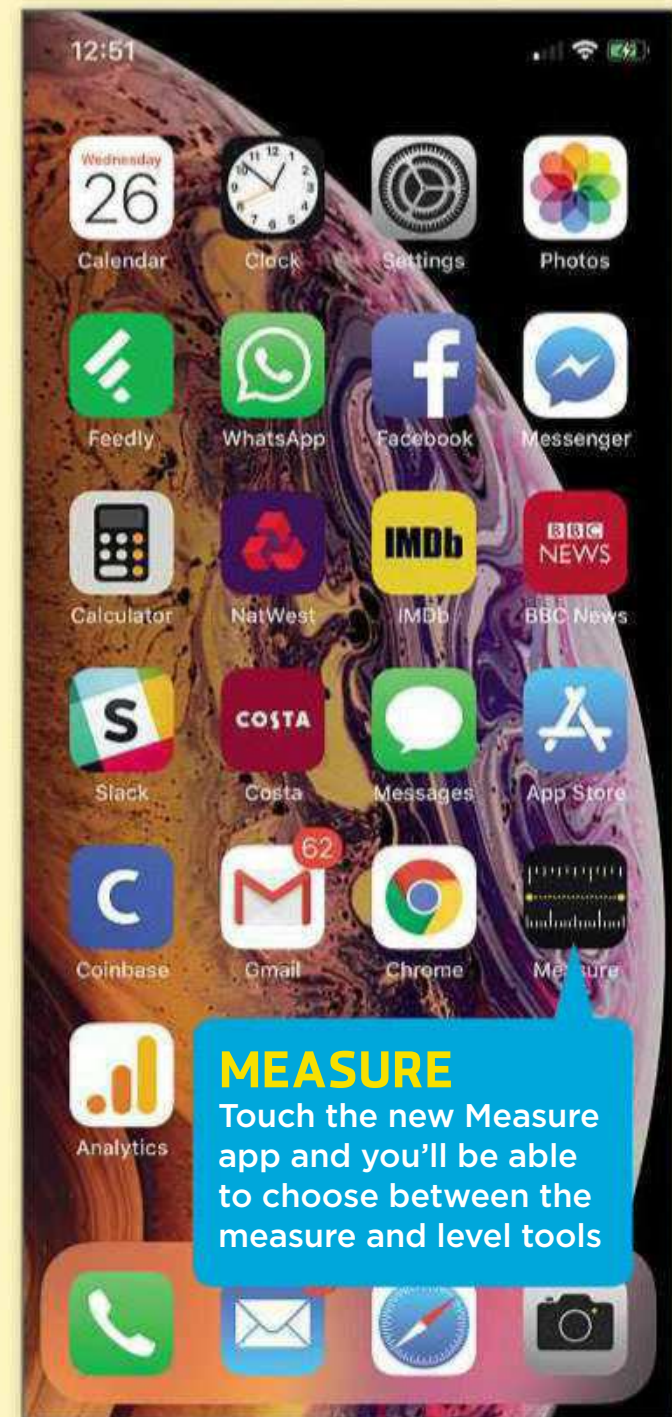
WIDGETS

Swipe right to view your widgets. Scroll to the bottom to edit their order, add new widgets and remove unwanted ones

INSTANT TUNING

Change the behaviour of app notifications in the Lock Screen or Notifications Center. Swipe left on a notification and select Manage to open this screen

SETTINGS

Access the new Screen Time feature and updated Do Not Disturb though the Settings screen
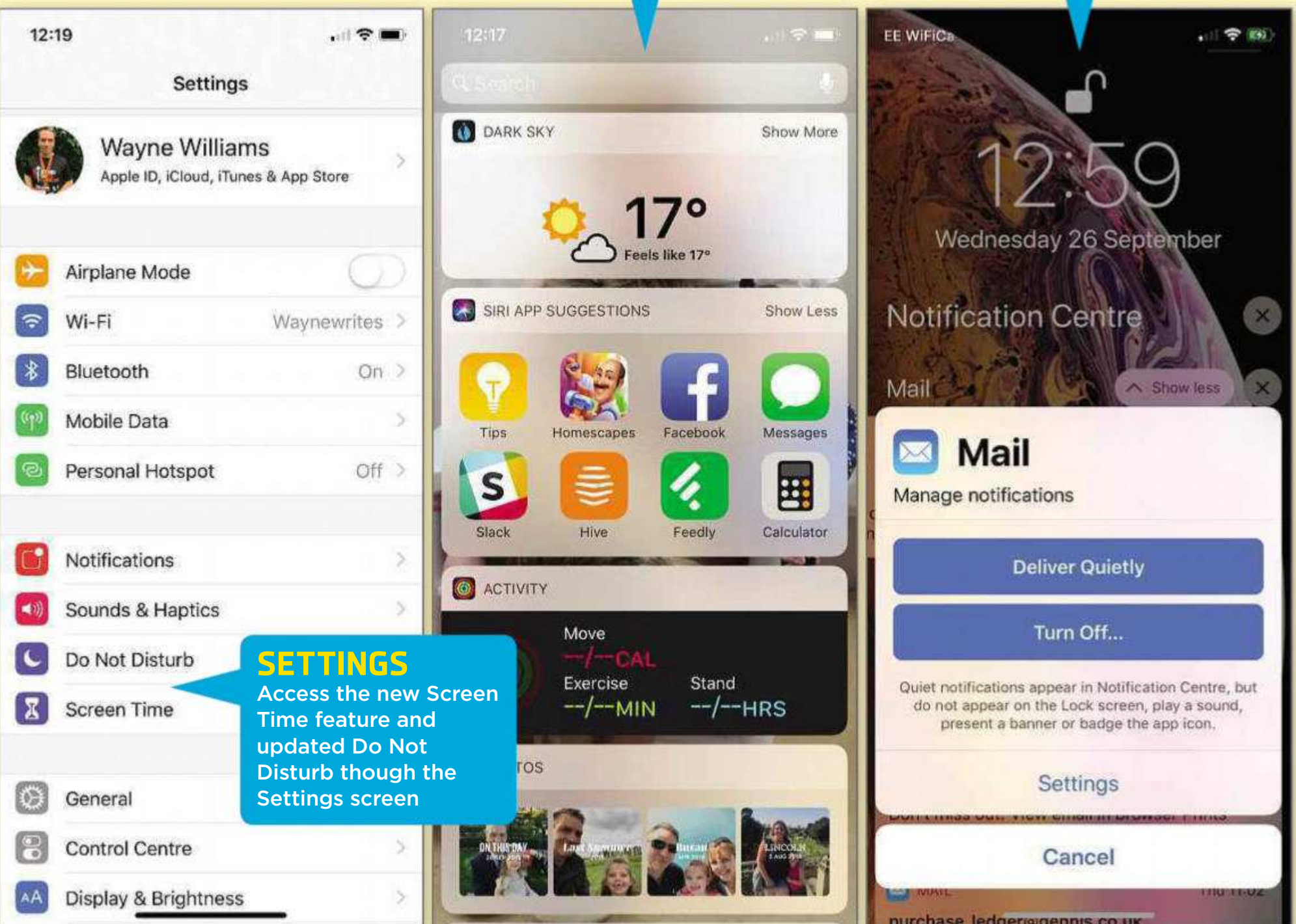
6 iOS 11 introduced Animoji to the iPhone X – real-time animated emoji that respond to your facial expressions. iOS 12 lets you create personalised 'Memoji'. Open Messages, tap Compose and select Animoji. Tap New Memoji, choose a skin type **1** and scroll along to make further changes. **2** Click Done when finished. **3**

7 If you want to take a photo or record a video in Messages, you can now add live filters, shapes and text. Tap the camera button in the compose window, then tap the Effects star **1** and choose what you want to add. Options include Animoji, Filters, Text, Shapes and Stickers from installed apps. **2**
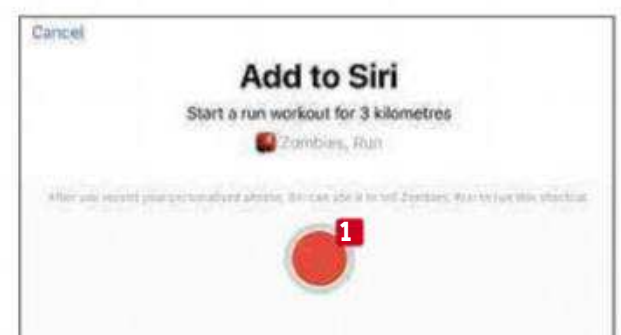
8 Another new feature in iOS 12 is Siri Shortcuts. Go into Settings and select Siri & Search. You'll be presented with some suggested shortcuts created from past activity. Tap the plus symbol to add one to Siri. Tap the Record button **1** and say a phrase for that shortcut. When Siri hears it, the relevant action will be performed.

Follow Microsoft's tips to prepare for the Windows 10 update

**Windows 10: bit.ly/wind460** | 🕐 **30 mins** | ⊞ **Windows 10**
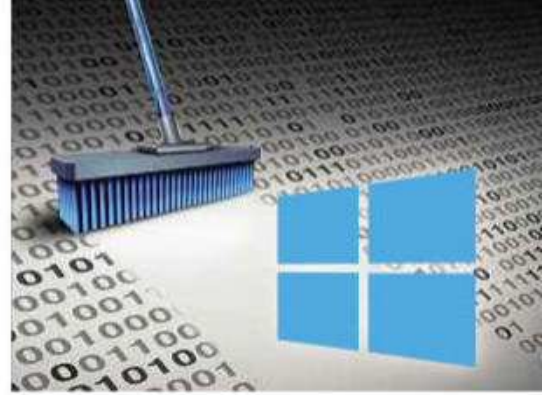
Microsoft started rolling out the October 2018 update at the beginning of the month, but not everyone will have it yet. Its bi-annual mega updates are always large, requiring many gigabytes of space – not just for the download itself, but to give Windows the room to manoeuvre files around while it installs – so it's vital to make sure you have enough room on your hard drive before you start installing it.

Microsoft has issued guidelines on how to manage and maintain the free space on your PC specifically when updating. This has become especially relevant now that many laptop and desktop computers have small (but fast) SSDs rather than the generous capacity of traditional hard drives.

1 The relatively new 'Storage sense' tool has been designed to handle exactly this kind of job, so it should be your first port of call. Open Settings (Windows+i) and click System, then Storage. **1** Click 'Free up space now'. **2** Your hard drive is scanned and a list of items you might like to remove is created.
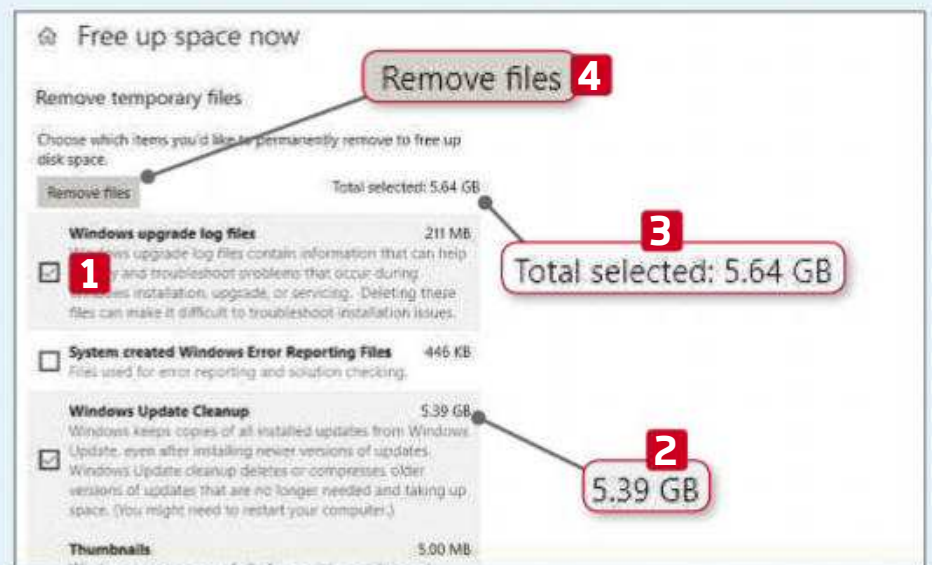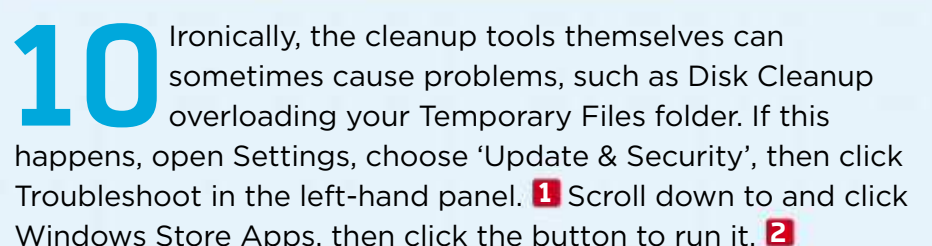

2 Put a tick in the box next to anything you're happy to delete. **1** To help you decide, a guide to how much space each item uses is shown. **2** At the top, you can find out the total space you'll save if you remove everything you've ticked. **3** When you're ready, click the 'Remove files' button. **4**
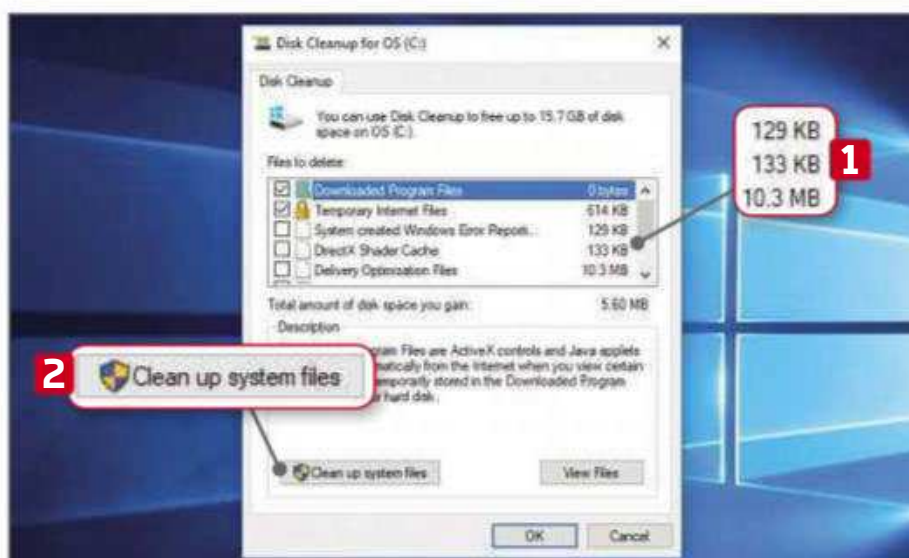
3 If Storage sense doesn't work for you, go back to Disk Cleanup. Click Start, type `disk cleanup` and select it when it appears. As with Storage sense, you can choose what to remove, using the size information as a guide. **1** Click 'Clean up system files' when you've chosen what to remove. **2**

4 Go back to the main Settings menu and choose Apps, then 'Apps & features'. **1** This page contains a long list of all the software installed on your PC. You can go through the list alphabetically or click the 'Sort by' drop-down menu and choose Size. **2** When you've found something to remove, click it and choose Uninstall. **3**

5 It's also worth removing some of the optional Windows features that might be installed but that you may not need. From 'Apps & features', click the 'Manage optional features' link. You're shown a list of optional features. **1** Click one to bring up a Manage **2** or Uninstall button, then click this button to remove it.

6 The gigabytes of holiday footage that you've been meaning to edit for the last five years could be moved somewhere else to make space. File Explorer has a quick way to do this. Find and select the files you want to relocate, select the Home tab, **1** then click the 'Move to' button. **2** If the required folder isn't listed, use 'Choose location'. **3**

7 Saving new files to your existing folders simply compounds the problem, so you could start saving them on a new drive. In Settings, open System, then Storage. Under 'More storage settings', click 'Change where new content is saved'. Use the drop-down menus **1** to make new default folders for saving your documents and other files.

8 Even if you don't use OneDrive, it's worth signing up and letting it free up space on your hard drive by saving lesser-used files in the cloud and only downloading them when required. To set it up, right-click the OneDrive button **1** and choose Settings. **2** On the Settings tab, **3** tick the box next to 'Save space and download files…'. **4**

9 If space on your hard drive is still limited when the update is ready, you may see this window pop up. The 'Free up space' button **1** takes you to the Storage section of Settings. If you've already tried this, you can use a connected external drive to temporarily extend your free space – select the drive you want to use from the drop-down menu. **2**

10 Ironically, the cleanup tools themselves can sometimes cause problems, such as Disk Cleanup overloading your Temporary Files folder. If this happens, open Settings, choose 'Update & Security', then click Troubleshoot in the left-hand panel. **1** Scroll down to and click Windows Store Apps, then click the button to run it. **2**

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

Manage to-do lists with Google Tasks

If you're overwhelmed by a never-ending list of tasks that you need to complete, Google's new streamlined Tasks tool makes it easy to manage everything by syncing reminders across all your devices. There's no standalone website for the service but it provides a handy mobile app and a simple Chrome add-on. Tasks is also built into lots of other Google services, including Gmail and Docs.

**Google Tasks: bit.ly/tasks460** | ⏱ **10 mins** | **Desktop,** 🤖 **Android,** 🍎 **iOS**

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1 Open Gmail (Tasks is also in Docs, Sheets, Slides and Calendar) and locate the Tasks add-on in the right-hand sidebar. **1** Click it to get four choices: 'Add a task', **2** close the app, **3** create multiple lists **4** or open an options menu, **5** where you can reorder tasks and discover keyboard shortcuts.
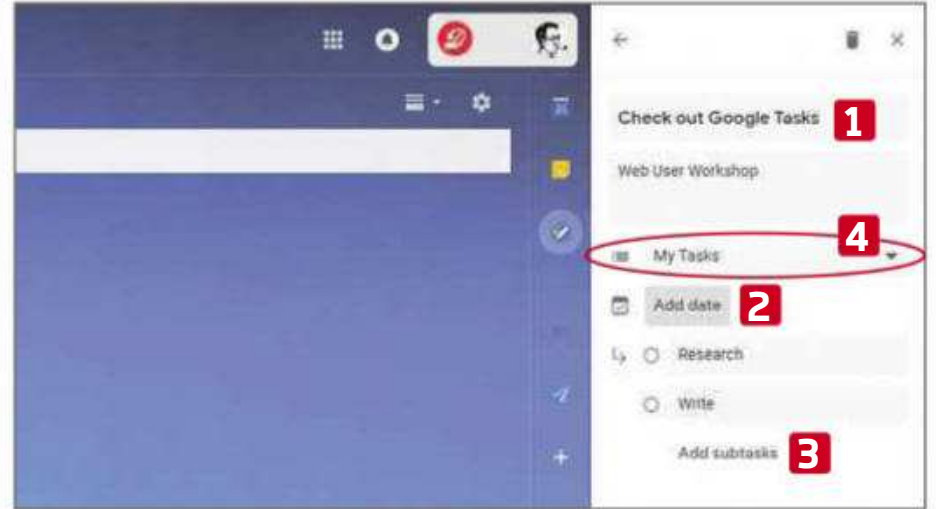
2 Click 'Add a task' and write your to-do item in the box. Click the pencil next to it to add or edit details **1** and set a due date. **2** To add related reminders under the parent task, enter information under 'Add subtasks'. **3** You can move tasks by choosing a different folder from the Lists menu. **4**
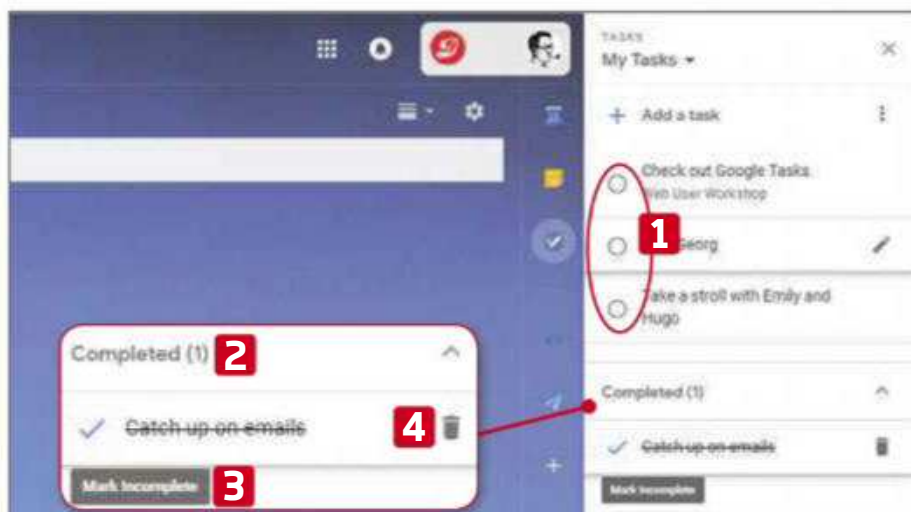
3 Once a task is completed, click its circle. **1** If you're quick, pressing Undo reverses the action. If not, the task is moved to the Completed list. **2** Click this section to either reinstate a task with Mark Incomplete **3** or permanently delete it using the bin icon. **4**
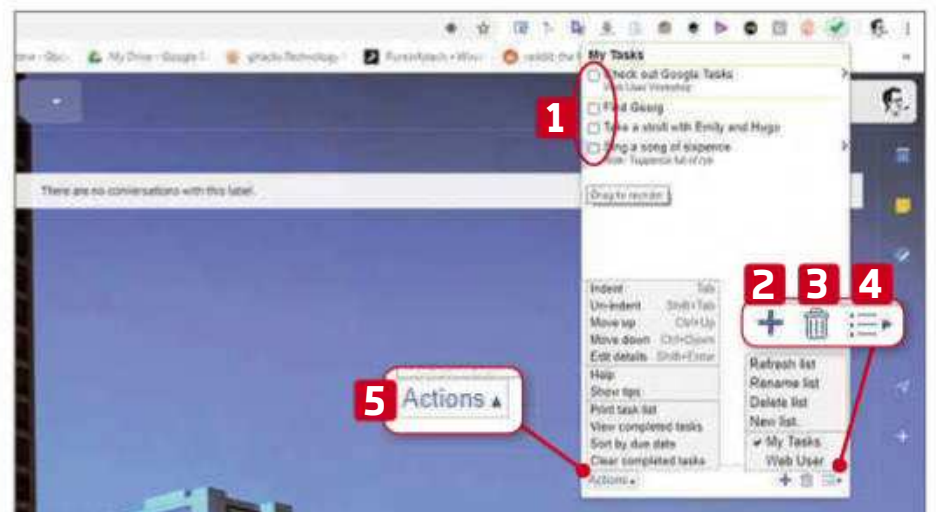
4 Chrome's Tasks add-on (bit.ly/extask460) lets you manage your tasks while browsing. You can tick a task's box as you complete it, **1** add **2** or delete **3** tasks, and take control of task lists. **4** Press Actions **5** to open a menu with options to format, reorder and print tasks.
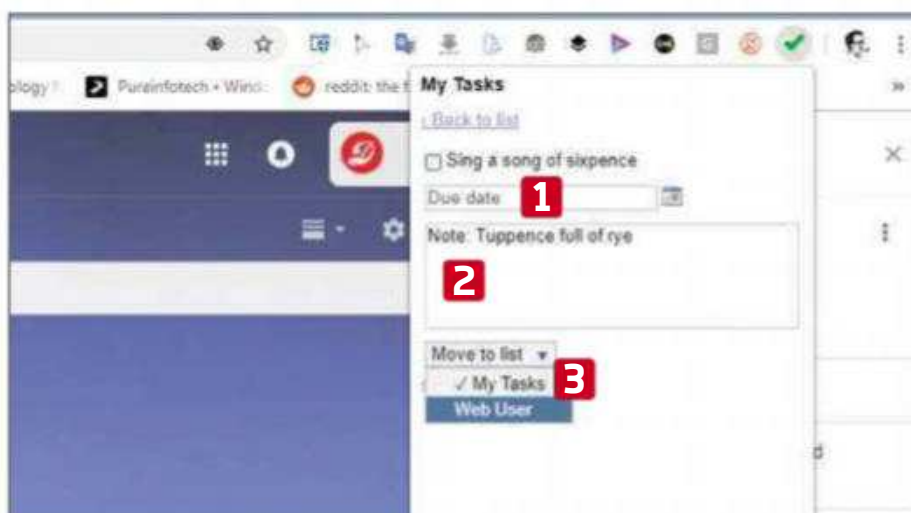
5 To create a task, press '+' or click inside the pop-out. A new line appears. Moving the cursor to the far-left lets you change the order of tasks by dragging and dropping them into position. Click the arrow on the right to add a due date **1** and notes, **2** or to place tasks in a list. **3**
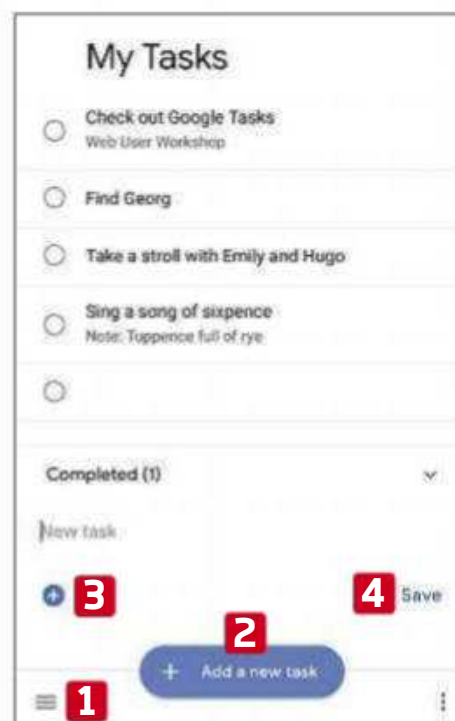
6 Manage tasks on the go using the Tasks mobile app – a near-identical, full-screen version of the Gmail add-on. Switch between multiple Google accounts by clicking the three-line menu button **1** and tapping your name. Press 'Add a new task' **2** and, after naming your task, tap the plus button **3** to add details and a deadline. Tap Save **4** to exit.

Create a professional Wi-Fi hotspot: Part 2

Last issue, we showed you how to set up a professional Wi-Fi hotspot that asks your users to log in, as they would in a coffee shop or hotel. As we'll see in this Workshop, this gives you total control over who can connect and what they can access. To start, launch HotspotCreator and MyHotspot as we showed you in our last issue.

**MyHotspot and WiFiCreator: bit.ly/hot459** | **20 mins** | **Windows 7, 8, 10**
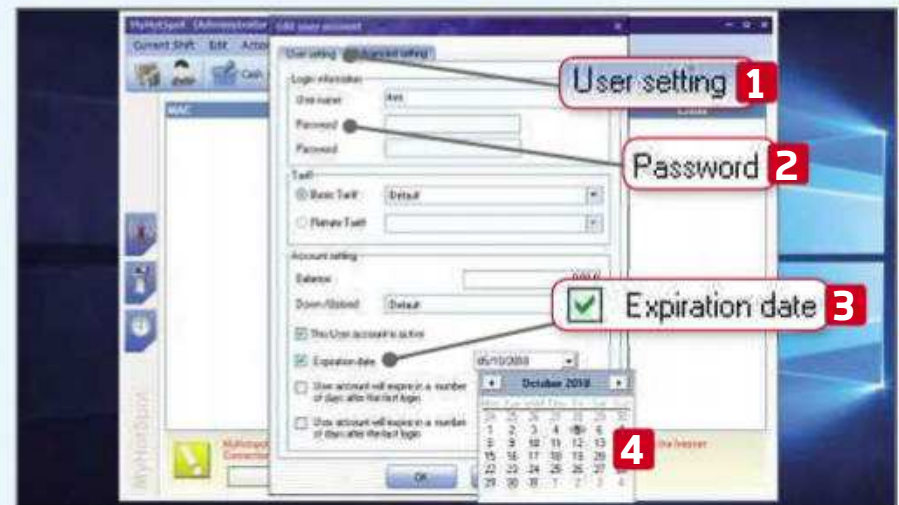
1 Users must create an account. They can do this from the login screen but it's less hassle to set it up for them and provide their details when they first log in. In the Action menu, **1** select 'Create user account' and give it a username. **2** Enter the user's real name in the 'Advanced setting' tab. **3**

2 Go back to the 'User setting' tab **1** and add a password **2** to protect the account from other users. For temporary visitors, you can set access for a limited time. For expiry on a specific date, tick the box by 'Expiration date' **3** and choose it from the calendar on the right. **4**
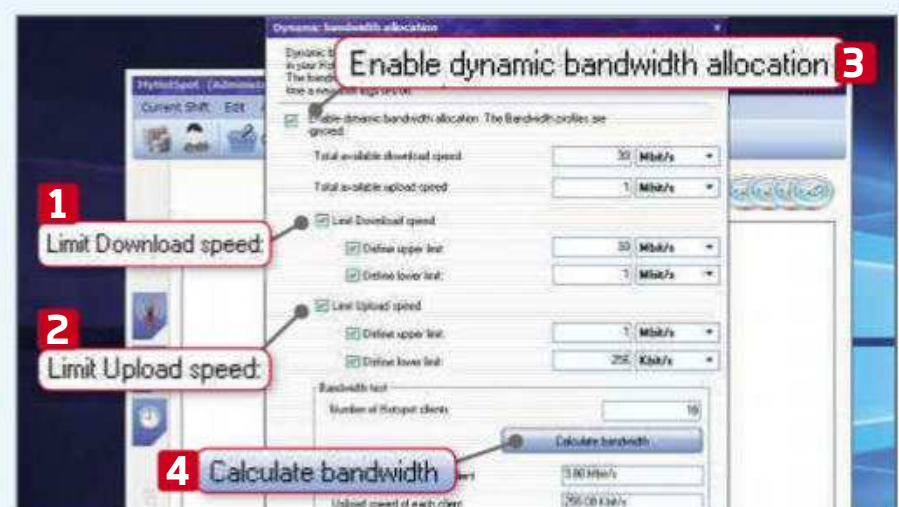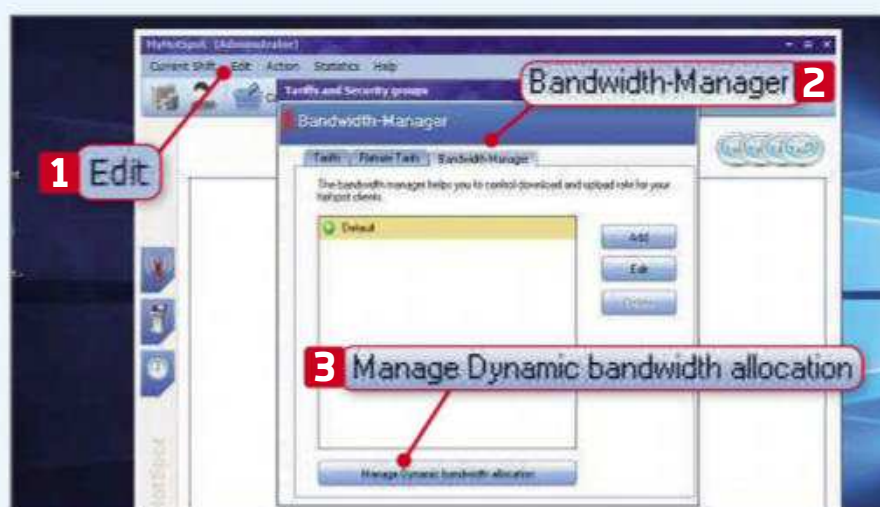
3 If you let a lot of people use your network, you may find that some of them hog its resources. To stop this, you can distribute the bandwidth equally. On the Edit menu, **1** choose 'Tariffs and Security'. Click the Bandwidth-Manager tab **2** and click 'Manage Dynamic bandwidth allocation'. **3**

4 You can manually set limits using 'Limit Download speed' **1** and 'Limit Upload speed'. **2** If you'd like to share what's available between users, tick 'Enable dynamic bandwidth allocation'. **3** You can use the calculator tool at the bottom to work out the figures. **4**
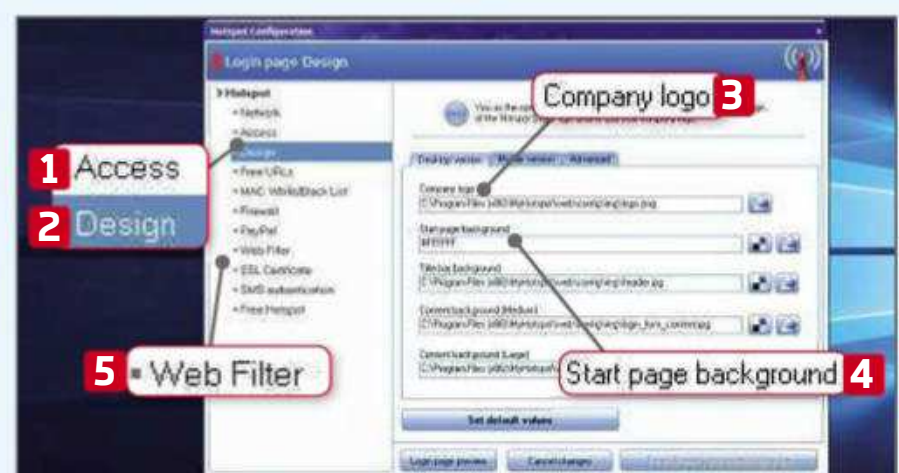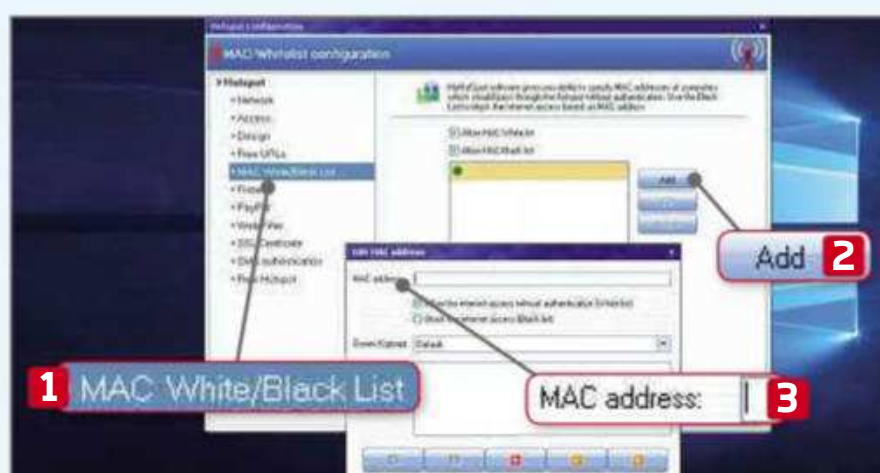
5 To give someone access without them having to sign in, get their device's MAC address (in Windows, type `ipconfig /all` into the Command Prompt). From the Edit menu, choose Hotspot Configuration, MAC White/Black List **1** and click Add. **2** Type the address into the box. **3**

6 You can change how the login screen appears. Click Access **1** to choose some of the available options, such as session timers. Design **2** lets you add your own logos **3** and change the colours. **4** Web Filter **5** can be used to restrict the sites people can visit.
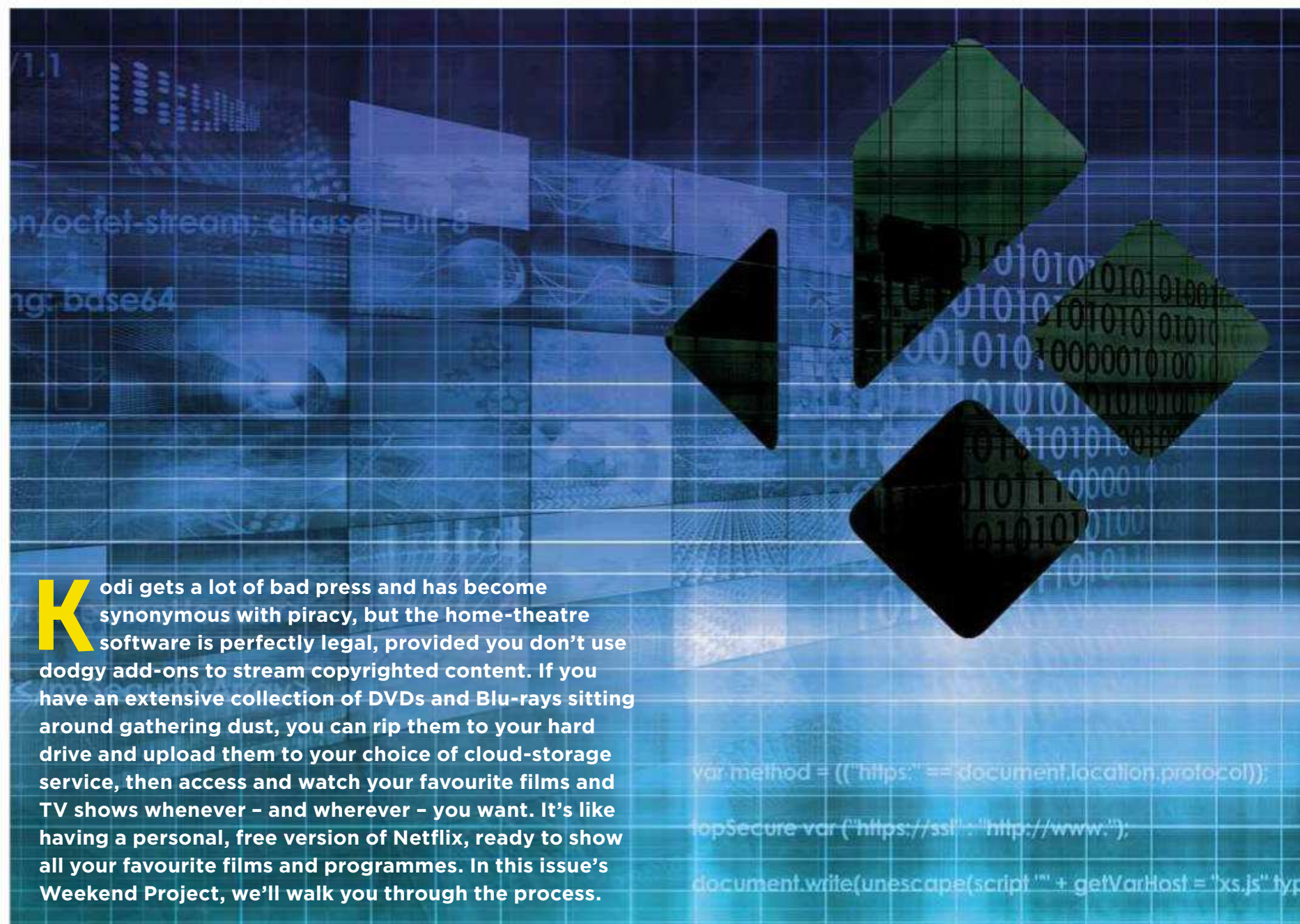
Weekend Project

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

MTWTFSS

How to...

Create a personal Netflix from your DVD collection

Wayne Williams shows you how to use Kodi and cloud storage to make your own personal version of Netflix, using ripped DVDs

Kodi gets a lot of bad press and has become synonymous with piracy, but the home-theatre software is perfectly legal, provided you don't use dodgy add-ons to stream copyrighted content. If you have an extensive collection of DVDs and Blu-rays sitting around gathering dust, you can rip them to your hard drive and upload them to your choice of cloud-storage service, then access and watch your favourite films and TV shows whenever – and wherever – you want. It's like having a personal, free version of Netflix, ready to show all your favourite films and programmes. In this issue's Weekend Project, we'll walk you through the process.

What you'll need

The first thing you need is Kodi. This free software is available for most major platforms, including Windows, Mac OS, Linux, Android and iOS (though only the jailbroken version), and can be downloaded from kodi.tv. Simply select the right version from the list of operating systems, then download it or follow the relevant link.

At the time of writing, the current stable version of Kodi is 17 "Krypton", but its successor – Kodi 18 "Leia" – is close to being finished, and you can download and install a reasonably stable version of this from the 'Pre release' tab. We'll be using Kodi 18 for this project, but the process is much the same, regardless of which version you use.

You also need access to one or more cloud-storage services. There are plenty of free choices available, including Google Drive (drive.google.com), OneDrive (onedrive.live.com) and Dropbox (www.dropbox.com). It's up to you which one you go for but if you're going to use the free version, bear in mind there are storage limitations. Google Drive provides 15GB for free, OneDrive offers users 5GB and Dropbox just 2GB. You may be able to get extra storage through special offers and by completing certain tasks – but if you
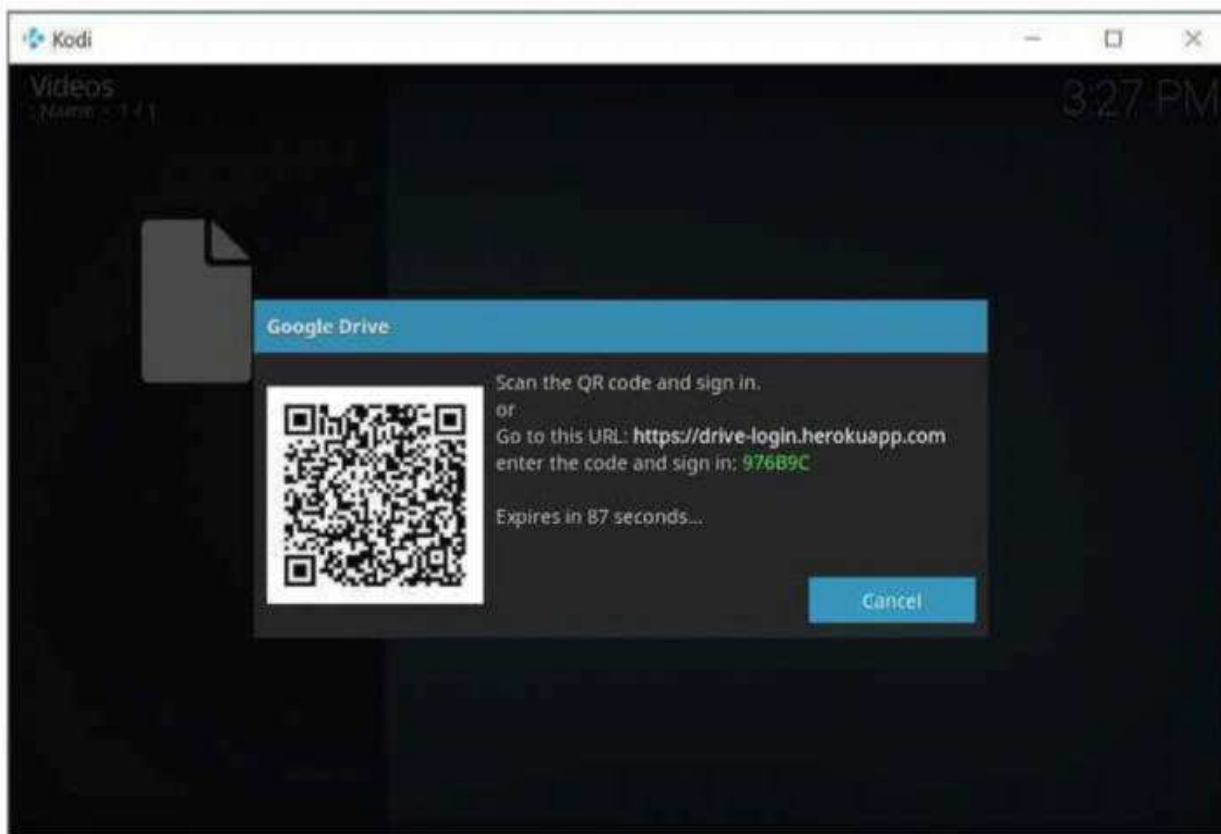
Add Google Drive as a source by scanning the QR code or entering the address

need a lot more, you can upgrade to a paid-for plan. Microsoft also gives Office 365 subscribers a whopping 1TB of OneDrive space, so that might be an option worth considering.

Once you've decided on your storage method, you have the choice of using its own sync tool or the relevant official Kodi add-on. We'll focus on the latter method here and in our Mini Workshop, below, because it works perfectly on PCs, Macs, Android devices and Amazon's Fire TV. However, we'll look at using the sync tools, too, just in case you prefer to go down that route.

A word of warning before you start, though – all the add-ons we've used here are perfectly safe, but they need to be given permission to access your online storage in order to work properly. If you're not comfortable with this, particularly if you have other personal files stored there, you may want to consider creating a new account purely for the purposes of storing movies or TV shows – or use the official sync software instead.

Add your source

Once you've installed your cloud drive add-on, click its thumbnail, then click the 'Add an account…' link. The process for adding your source will vary depending on which service you use.

In the case of Google Drive, you scan a QR code or go to the URL that's listed, then sign in with the code you're given. There's a time limit, so you need to act fast. Check the permissions that Kodi
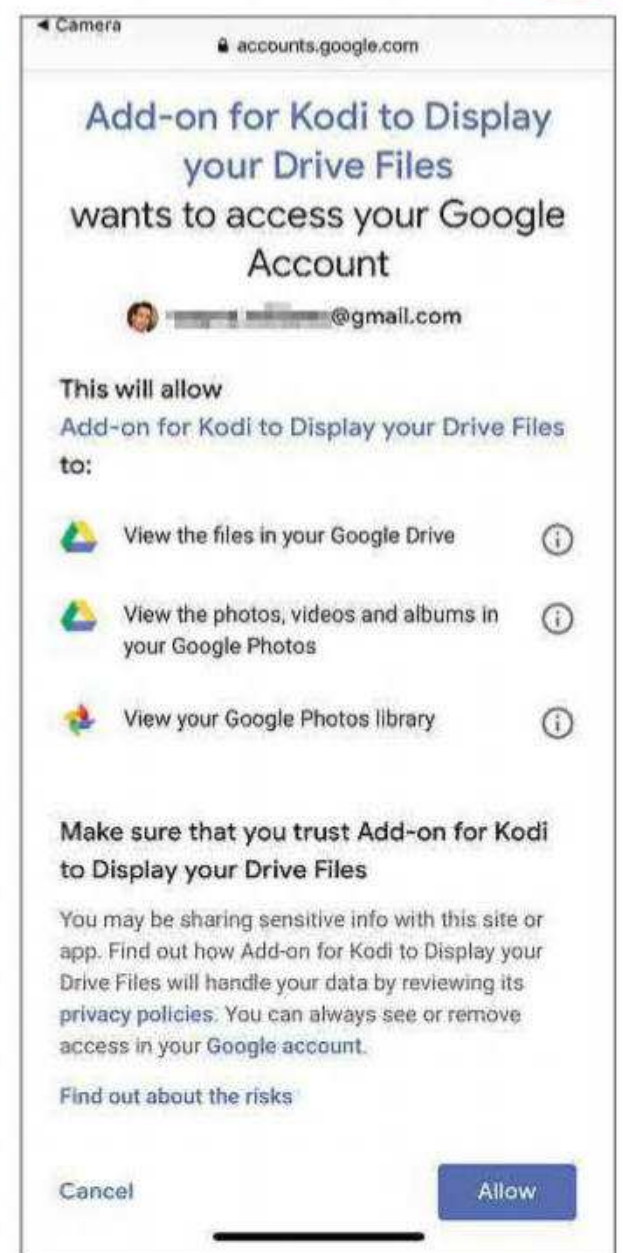

The Kodi add-on requires a number of permissions to work with Google Drive

requires in order to access Google Drive (you can always revoke the add-on if you change your mind) and complete the sign-in process. Your name appears in Kodi and you're able to access your storage from there, so you can browse the content and play any stored videos.

The next step is to add this source to

MINI WORKSHOP | Use Kodi add-ons to set up cloud storage
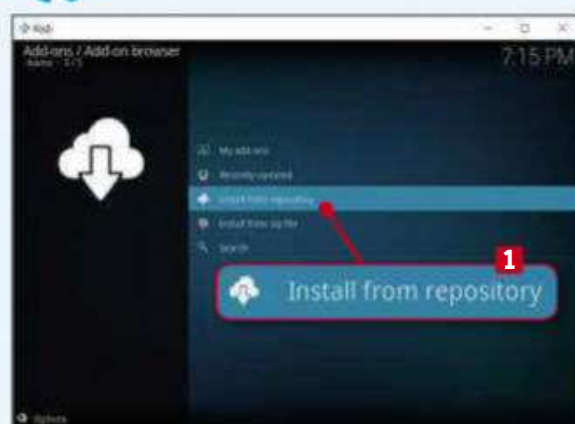
1 Install Kodi and launch it. When it loads, select 'Add-ons' in the left-hand sidebar. Ignore all the different options on offer and just click the box icon in the top-left corner. In the 'Add-ons/Add-on browser' window, click the 'Install from repository' link. **1** This will open a list of various options.

2 Locate and click 'Picture add-ons' halfway down the list. You're presented with a number of add-ons you can install, such as the various supported cloud services, including Dropbox (Dbmc), **1** Google Drive **2** and OneDrive. **3** Choose the one you want to use and click it.

3 We're using Google Drive in this Workshop, but feel free to choose a different service. View the add-on's details, then click Install. **1** You'll see a list of additional add-ons that will be installed. Click OK, then wait while everything downloads and installs. Go back to the main page and the cloud storage will be listed under Add-ons.

Broadband Deals

Upload your favourite movies to the cloud for watching on Kodi

Extract the video from DVD and Blu-ray to your hard drive

your library, which we show you how to do in our Mini Workshop, below.

Use cloud desktop apps

The other option is to use the desktop apps for your choice of cloud service. If you haven't already, download and install the app you require – Google Drive (bit.ly/gddt460), OneDrive (bit.ly/oddl460) or Dropbox (bit.ly/dbdl460). If you plan to store your videos in Dropbox, then it's better to use the desktop app than the add-on, which doesn't let you add it as a source. When you install the program, you'll need to point it at the folder where you'll be storing your videos. You also need to make sure you keep a copy of all of your videos on your hard drive, otherwise the process won't work properly.

Rip and upload your videos

If all of your videos are in the form of DVDs or Blu-ray discs, you will need to rip them to digital formats. There are plenty of free programs that can do this for you. WinX DVD Ripper is one of the better choices (bit.ly/winx460) and there's a paid-for edition if you need its additional tools.

MakeMKV (makemkv.com) is another excellent program, and will rip your videos to the MKV (Matroska Video) format. This container is great for ripped movies and TV shows because it is specially designed to store numerous video, audio and subtitle tracks.

Another option you might also want to consider is HandBrake (handbrake.fr). It's a great tool for converting videos from one format to another, and it can

also rip them from disc.

Once you have your videos in a digital format on your hard drive, you can upload them directly to your choice of cloud service, either by using the sync software (set up a folder to sync and drag your videos into it, if they aren't there already) or by opening the service in a browser window and uploading them that way. Films and episodes of TV shows are usually quite large, so uploading them can take a long time, depending on the speed of your internet connection. It may be less tortuous to upload a handful of videos a day, rather than trying to do the whole lot in one go.

When all your videos have uploaded, you can watch them in Kodi whenever the mood strikes, on any connected device that has the software installed. ■

MINI WORKSHOP | Create a new media library

1 In Kodi, go back to the main screen and select TV Shows, Movies or Videos – whichever one suits your preference. Click the 'Add videos' link, and the 'Add video source' window opens. If you've chosen to use PC software to sync your cloud storage, click Browse **1** and navigate to its location on your PC.

2 If you're using a cloud-service add-on, click the <None> entry and paste in its source address. **1** If you're using Google Drive, it's `http://localhost:8587/source/` and if you've chosen OneDrive, use `http://localhost:8586/source/` instead. Give the source a name, **2** then click OK **3** to move to the 'Set content' window.

3 Next to 'This directory contains', click None, then click Movies, 'Music videos' or 'TV shows', depending on the type of content you're adding. You can change the information provider **1** if you want, and enable fan art and trailers in Settings. **2** The 'Content scanning options' **3** should be fine as they are. Click OK. **4**

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STEP 3 Tap 'Subscribe'

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STEP 1 Search for *Web user* 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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Automatically tag your photos in OneDrive

If you store photos in the OneDrive Pictures folder, they will be tagged automatically. You can choose to let Microsoft's artificial intelligence analyse the photos and assign tags based on what it believes to be in them. Common objects are automatically recognised, so if you have photos of cars, they are organised under a '#car' tag. If you photograph your pets, they are collected into a group tagged '#animals'.

To get this started, put some photos in the OneDrive Pictures folder on your PC, then go to onedrive.live.com in a browser. Click the cog icon and select Options, then Tagging in the sidebar. Click Yes and return to the OneDrive Pictures folder, then select Tags at the top.

It might take some time to generate the tags, but you'll eventually see your photographs organised by tags, which makes them much easier to browse.
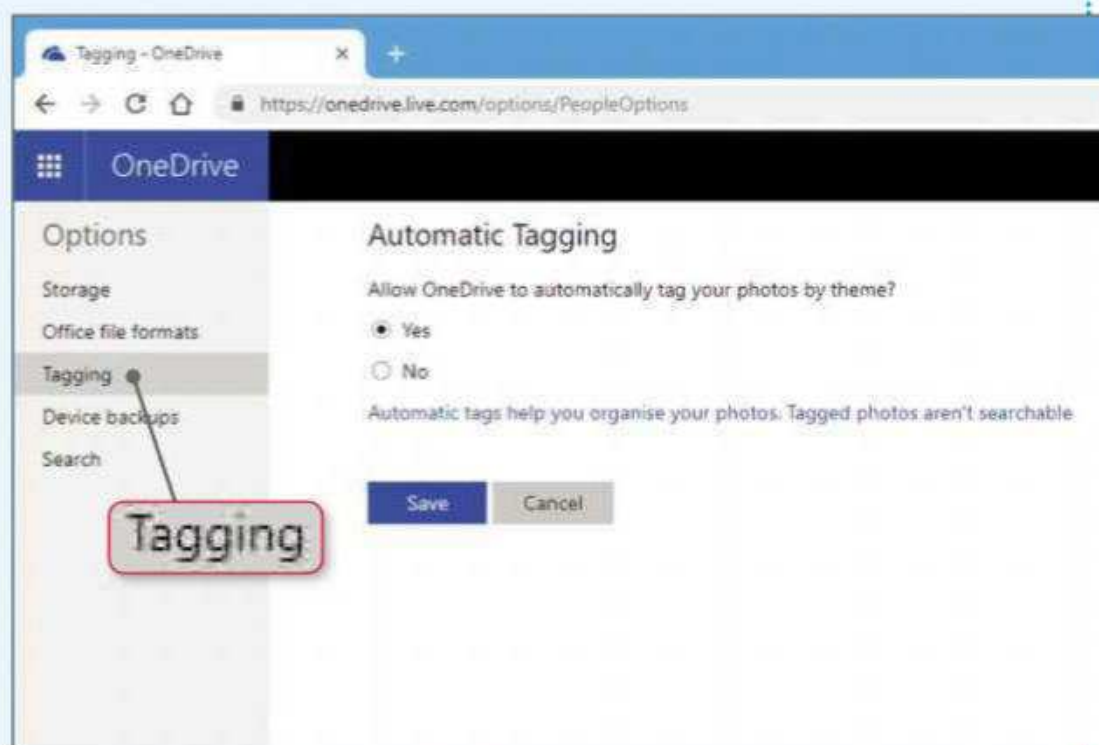
Let OneDrive automatically generate tags for your photographs

Search by tag in Windows 10's Photos app

The Windows 10 Photos app performs a similar analysis of the photographs on your PC and automatically adds tags to them. Open Photos and begin typing in the search box. Suggestions appear as you type and, if you see one under a Things heading, click it to find all photos of that thing, such as a train, car, cat or whatever. It's a great way to find and organise your photos.

If the Photos app makes a mistake and tags the wrong thing, such as mistaking a cat for a car, right-click it
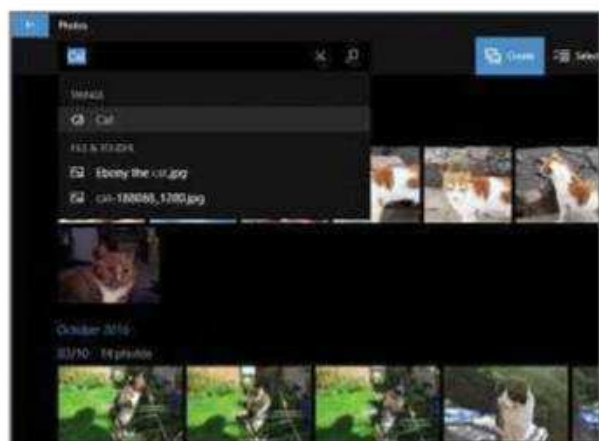
The Windows 10 app offers tag suggestions under a Things heading

and select 'Remove this tag'. It will remove the tag and the photo won't appear in that search again.

Tag photos in Windows

Not all files can be tagged natively in Windows – for example, you can't tag Word, Excel and PDF files because the text they contain can already be indexed for searching. Photos, however, don't tend to feature text so you can add tags to describe them instead.

Right-click a photo in Explorer and select Properties on the menu. Open the Details tab and click to the right of Tags. A box appears into which you can type words that describe the image,
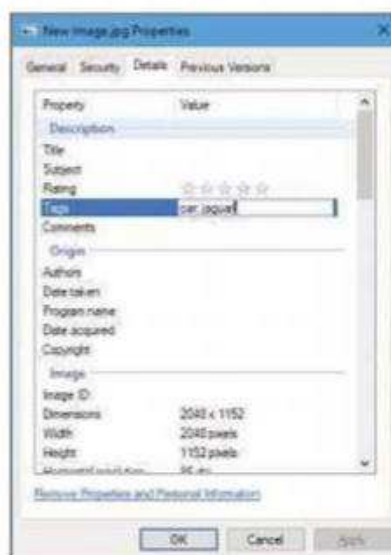
The Properties window for image files lets you add tags

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.

separated by semicolons, such as `landscape; mountain; hills;`. Click OK to associate the tags with that image.

Show tags in Explorer

You can view your photos' tags in File Explorer by selecting Details view on the View tab. Click 'Add columns' and select Tags. If it's not listed, click 'Choose columns' and tick the Tags box. Tags then appears as a column on the right of the list.

Click the Tags column header to organise the tags into alphabetical order. If you entered multiple tags on each image, they're stored in the order you wrote them in, and the list will be ordered by the first tag entered.

Find files using tags

You can use tags to find photos, making it a useful way to organise files. We've shown how to do this in the Windows 10 Photos app, but Explorer can perform the same task.

There are two ways to do this and one is to click in the search box and type `tags:` followed by the tag to search for. However, you get a few extra features if you use the toolbar.

Click in the search box, click Search Tools at the top of the Explorer window and find the Location section. Choose where to search from the available options: This PC, 'Current folder' or 'All subfolders'. In the Refine section, click 'Other properties' and select Tags. Finally, enter the name of the tag in the search box. You'll be shown a list of all files containing this tag.

Find tagged files by searching for them in Explorer. For example, type `tags:cat`

Add tags to Word documents

Contrary to Windows itself, Microsoft Word can add tags to its own documents, even though File Explorer can't. Open a document in Word and click File, Save, Info. Among the file properties is a box that enables tags to be entered.
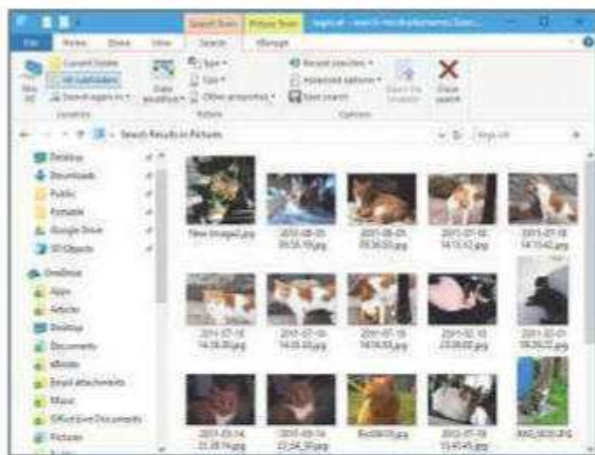
Edit music tags

Music files are perfect for tags and a lot of information can be stored in MP3, M4A and other audio files. Right-click a music track and select Properties to see a long list of information including title, artist, year, album, genre, track number, beats per minute and many more. Click in the boxes to set the information.

There are some great tools that make it easier to edit tags in music files, such as TagScanner (bit.ly/tgsc460). Click the first icon in the toolbar and select a music folder. Select a track to see the tags on the right. Fill in the boxes and click Save at the bottom.

After adding or editing tags for music files, set the Explorer view to Details to see the most important tags displayed. Right-click any column header to add or remove tags from the display.

TAKE IT TO THE NEXT LEVEL
More advanced tips for when you're feeling brave

Save tag searches

After performing a search for tags (or anything else for that matter), click 'Save search' in the Options section of the Explorer toolbar and save it to your PC's desktop. Double-clicking it opens Explorer with the search results already loaded.

Tag multiple files

It's possible to apply tags to any number of images. If there are a dozen photos of your dog at the beach, for example, Ctrl+click each one, or click the first and Shift+click the last in Explorer to select them. Right-click one and select Properties, then go to the Details tab and click in the Tag box to add descriptive words to all the selected files.

Fix tag searches

What if an Explorer search for tags produces no results? First make sure some files have tags. OneDrive and Photos tags can't be read by Explorer, so you'll have to tag these photos manually.

Select This PC in Explorer's sidebar, right-click the C: drive and select Properties. Tick the option 'Allow files on this drive to have contents indexed in addition to file properties'. Right-click Pictures (or any other) folder and select Properties, then click Advanced and make sure the option to allow files to be indexed is selected here, too.

Indexing can take time, so tag searches might not work until Windows finishes indexing all the files on the hard drive.

Remove unwanted tags

You may want to remove tags from a photo or audio file. You can do this by right-clicking it in an Explorer window, selecting Properties, opening the Details tab and clicking Tags to delete them. However, there is another way.

At the bottom of the window, click the link to 'Remove Properties and Personal Information'. A window appears that lets you make a copy of the file with all its properties removed.

Alternatively, you can use the tickboxes to select some of the properties, such as tags. Tick the Tags box and click OK.

This works when multiple files are selected, which is useful if you want to share them online, such as on Facebook.

Tags and other info can be removed from a photograph's Properties

Click the first file in Explorer and Shift+click the last one, or Ctrl+click each one individually. Right-click and select Properties, then the Details tab. You can remove all or just some of the properties, such as tags.

Tag any type of file

Windows' use of tags is limited to photo, audio and Office documents. Tagstoo (tagstoo.sourceforge.io) is a free tool that provides searchable tags for any type of file. The interface isn't particularly intuitive, so consult the built-in Help for tips on using it. When Tagstoo starts, type in a name for a new database and create it, then proceed to the program.

It works as an alternative to Explorer, letting you browse your hard drive and select files and folders. To open a folder, click and hold, then drag the mouse a tiny bit to the right. Click Add New Tag at the bottom to create whatever tags you need. Tags are assigned by dragging them from the bottom of the window and dropping them on a file. Restart Tagstoo if you don't see your newly created tags.

To find a file by tag, click Search at the top, then drag tags from the bottom to the 'That have' or 'That don't have' boxes, then click Search.

It's not the easiest tool to use, but Tagstoo lets you tag any file on your hard drive

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

Solve download problems

Q When I tried to download the free Malwarebytes software (www.malwarebytes.com), I received an error message: "Location not available. C:\users\bonker11\Download is unavailable on this PC, make sure that the device or driver is connected or the disc is inserted." My sub-menu has all the correct headings (Pictures, Download, Music and so on) but the downloaded file is empty.

David Hollingsworth, via email

A This problem raises a few questions. For example, can you download and save other files from elsewhere on the web? If so, the problem is specific to Malwarebytes and not your browser. If not, can you save the download in a different folder, such as Documents? Can you download the file if you change the filename when saving it? Do you have another browser you could try?

Some malware tries to stop you

Windows 10's 'Controlled folder access' can stop some programs working

downloading cleanup tools. If you have any security software, scan your PC thoroughly. Windows Defender is included with Windows 10, so use that if you have nothing else. Emsisoft Emergency Kit (bit.ly/emsi460) is another good free malware cleanup tool, so download and run it to check your PC for malware if possible.

Alternatively, Windows 10's Controlled Folder Access feature can stop applications accessing system folders. If it's enabled, disable it. Type `controlled folder access` into the search box on the taskbar, click it when it appears in the results and turn it off in Windows Security.

PHOTOGRAPHY
Get the right camera software

Q I bought my Canon D70 camera (www.canon.co.uk) around two years ago and installed the supplied software, Canon's EOS Digital Solution Disk V28.2, on my PC. I hadn't used the software until recently, but I decided to update it to the latest version (4.8.30)

Use IObit Uninstaller to remove then reinstall software. It may fix your problem

because I wanted to process RAW files.

Following the instructions on Canon's website, I uninstalled the software, closed all applications, then installed V29.1A, but an error message appeared, telling me the software couldn't be uninstalled. I contacted BullGuard (www.bullguard.com) and followed its instructions to disable its security suite, thinking that might be causing the problem, but it still didn't work.

I've spent two weeks trying to fix this problem with Canon's tech support, and I've now received an email suggesting that my operating system might be the problem. I have an HP Pavilion P6-2018 desktop PC with Windows 7 Home Premium 64-bit installed. Canon advised me to contact Microsoft, but I can't find an email address.

Mac Graham, via email

A We visited the downloads section of Canon's website (bit.ly/can460) and followed the links to the Canon EOS 70D. When we selected the software download and chose 64-bit Windows, it offered us the EOS Digital Solution Disk Software 29.1A. This is the correct version for you. The site only offered us V4.8.30 if we selected Windows 10. We wonder if you were trying to install a version not designed for your OS.

There are a few general fixes you can try, too. Use Windows Update to install all your updates – even optional ones. Disable BullGuard temporarily, then install the original software that came with the camera. If that works, consider sticking with it rather than trying to update to the latest version.

If you want to try updating, use a tool such as IObit Uninstaller Free (bit.ly/iobu460) to remove all traces of the old software, then go to the Canon site and download and install EOS Digital Solution Disk Software 29.1A.

Alternatively, ignore Canon's software and access your RAW files using Paint.net (www.getpaint.net) with a RAW file import plugin (bit.ly/pdnraw460) or UFRaw (bit.ly/ufraw460).

EMAIL
Restore Gmail to English

Q Following Barry Collins' advice in Issue 457, I tried to install Chrome OS. However, it requires a Gmail address and I had stopped using mine because it displayed everything in a foreign language no matter how many times I selected English UK. I've spent hours trying to delete these accounts and open a new one, without success. Now I find that Google needs to send me a code by text message – but I don't have a mobile phone, only a landline.
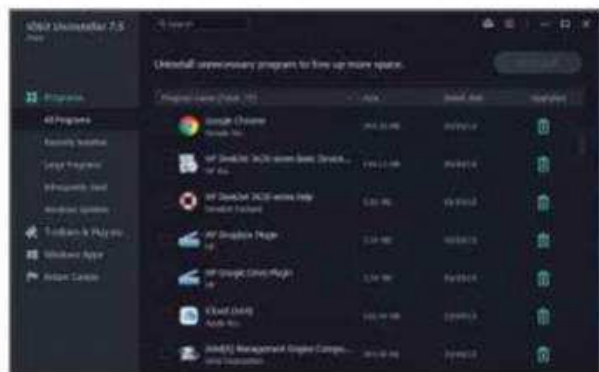
Elizabeth, via email

A It's your operating system that tells websites and software which language to use. So instead of setting Gmail to use UK English, you need to set the language and location in Windows.

Open the Control Panel, choose one of the 'icons' views, then open Region.

Check the language settings if websites or software appear in foreign languages

On the Administrative tab, click 'Change system locale' and select 'English (United Kingdom)'. On the Formats tab, select 'English (United Kingdom)', then click 'Additional settings'. Select the Currency tab and set it to pounds.

If you're using Windows 7, you'll find that there are many more language and keyboard settings in the Control Panel. You need to set each one to UK English.

Windows 10 has moved most of the language and region settings to the Settings app, so press Windows+i to open it, then click 'Time & Language'. Select each of the sections on the left – 'Date & time', 'Region & language' and Speech – and set them all to UK or English. They all have multiple settings.

Once you've changed the language, region and keyboard settings, restart Windows. Gmail should now work properly and so should Chrome OS.

The message about sending a code by text refers to an optional security feature called '2-Step Verification' – an extra layer of protection that's designed to keep out hackers, even if they have your username and password. Google checks unusual login activity by texting a code to your mobile phone, which you then have to enter to log in.

To disable this feature, go to any Google service in a browser, click your picture in the top-right corner and click 'Google account'. Click 'Sign-in & security', then '2-Step Verification' and find the option to turn it off. If it's been enabled, Google may ask for a phone number to send the code to, in which case you may need a friend to help you get past this step. Give their phone number, get the code, sign in, then turn verification off. Delete the phone number if Google has stored it.

HARDWARE
Upgrade your router

Q I am a 70-year-old trying to keep up with tech developments, and I've been thinking for a while that it's time I upgraded my router, so I was very pleased to see your Group Test in Issue 456 (bit.ly/webuser456). I have a Sky package, with the modem that predates the Sky Q box, which I notice comes bottom in all your performance tables.

The mid-table D-Link EXO AC2600 costs £85 on Amazon. I was impressed with your brief review so decided that it was the one for me.

Sadly, I am mystified. According to the article, it seems I have to link my existing Sky modem to the D-Link and use both. Is this right? Are they compatible? How would this work? I also have a wireless link to my Canon MG6450 printer for my PC, tablet and iPhone.

How do I get better speeds with the minimum of financial outlay? Would the D-Link give me what I want?
Keith, via email

A Sky's terms and conditions say you must use a Sky Hub or modem for Sky Broadband, so you have to keep it. However, there is nothing to stop you plugging a better wireless router into it and using it as an access point.

Plug the new router into the old hub or modem using an Ethernet cable – you probably received one of these in the box. Open a web browser, click the

Connect a new router to an older one via Ethernet to improve your Wi-Fi coverage

address bar and type `http://dlinkrouter.local/` or the router's IP address, such as `http://192.168.0.1`. Then press Enter. You don't need to set up the broadband connection on the new router – just create a wireless network.

A router that provides a faster Wi-Fi network lets computers, phones and tablets transfer data more quickly and is less likely to get bogged down when several devices are being used at once.

This could make your internet connection faster if your Wi-Fi speeds were the limiting factor. Newer routers also contain more powerful hardware than older models, which can make your Wi-Fi faster and help the signal reach parts of your house that previously couldn't receive Wi-Fi at all.

SECURITY
Keep Chrome's reporting tool

Q Google has been trying to download and install something called "software reporter tool" without me asking it to. According to Norton, this file was released less than a week ago and has millions of users. Besides the fact that it's a large file (over 13MB), I'm not keen to install something I haven't requested, especially as I have no idea what it is.

I keep deleting it, but Google simply downloads it again. How do I stop Google trying to foist this file on me?
Iain McInroy, via email

Use Chrome's cleanup tool in the browser's settings to clean your PC

A You can stop deleting it because it's actually useful. A 13MB file isn't very big for modern hard drives (even SSDs), so just let it download. It's part of Chrome's cleanup tool, which you can access by going to Settings, clicking Advanced at the bottom and then 'Clean up computer'.

You can run the tool manually, but it's probably run on a schedule or triggered by certain events, such as when closing the browser. It scans the PC for harmful software and removes it. It's like a combined malware scanner and compatibility checker that looks for anything that might interfere with the way Chrome works.

The only way to block it is to use Windows' advanced security tools to lock the folder it's stored in, but that would simply deny you access to a useful tool that keeps your PC clean.

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 nudge about important emails

Did you know Gmail has a Nudge feature that can remind you if you're neglecting important emails? Go to the Gmail website and log in, then click the cog button and choose Settings. On the General tab, about halfway down, you'll find a section called Nudges. Normally, messages in the inbox are listed in date order, with the newest first. With Nudges switched on, however, Gmail will move up an email that it thinks you should have replied to but haven't.

There's also an option to elevate emails you've sent but that need

Use the Nudges option if important emails tend to slip your mind

following up. I have to say, I haven't yet noticed anything different about my inbox since turning on these options, but we'll see. If it is not useful, it can be disabled by clearing the tickboxes.

Ray Spear, via email

SEARCH
Identify a song that's playing

Have you ever heard a song and struggled to identify it, but couldn't be bothered to open the Shazam app on your phone? Well, Google has you covered: it's just replaced the old Now Playing feature with a new and updated version called Sound Search. It works in the same way as Now Playing, using Google search or Google Assistant to ask 'What's this song?', but – according to Google – it's "quadrupled the size of the neural network used". I don't know what this means, but it sounds very impressive. I can't stop using it and I'm amazed at how accurate it is.

Google's Sound Search just made it easier to name that tune

K Williams, via email

MOBILE
Call without dialling on Android

On my Samsung smartphone, I've switched on 'Direct call'. When there's a contact or message on my screen, all I have to do is raise the phone to my ear and it calls them. Features vary from phone to phone but I found this in Settings, Advanced Features.

Eric Doyle, via email

SECURITY
Don't share files in public

The System section in the Settings app (Windows+i) contains a section called 'Shared experiences'. There are two

Switch off these settings to keep your files safe when you're on a public network

options that let you send and receive files to and from other devices on your Wi-Fi network or via Bluetooth. It's a good idea to disable these when using a Windows laptop in a public place when you're on a shared Wi-Fi connection, such as in a café. 'Nearby sharing' has an option to share with 'Everyone nearby' and you don't want to do that in public!

Mark Beckett, via email

BROWSERS
Block ads on Facebook and YouTube

Your normal ad blocker should deal with adverts on most sites, but I find that the Fair AdBlocker (bit.ly/fair460) from the Chrome Web Store is a useful addition. It blocks ads, pop-ups, malware and tracking – even on YouTube and Facebook, where other ad-blocking tools have failed. Options include adding blockers for pop-ups and email.

Control which ads you see and where you see them

FratPark, Web User Forums

SEARCH
Vocalise Google searches

Talking is easier than typing, so why not speak your searches to Google rather than tapping them out on your keyboard? Click the microphone button in the search box and just say what you're looking for. You can even get Google to speak the results back to you.

On the Google homepage, click Settings in the bottom-right corner, then 'Search settings'. There is an option to receive spoken answers. You still get the search results in a list but, if you ask a question, you'll also get a spoken answer.

Mike Hammond, via email

SOFTWARE
Record your Skype calls

I'm glad to see that Skype has now implemented call recording on both the desktop and mobile app. Once you're in a video or voice call, click the '+' sign and select 'Start recording'. As soon as your call ends, the recording appears in the chat box for everyone involved (it also alerts contacts when you begin recording the chat, so you can't do it in secret without the other people knowing). The recording stays there for 30 days before being deleted, so if you need to keep a copy, make sure you save and download it before the month is out.

Skype now lets you record voice and video calls

Jerry Friedrich, via email

GENERAL PC
Set USB drive letters

I've had problems with USB drives disappearing – there one day, gone the next – but I've found a fix. Plug in a USB hard drive or memory stick and Windows assigns a drive letter to it. If two devices use the same drive letter, they often both disappear and need to be reassigned. Right-click This PC in Explorer and click Manage. Select Disk Management, then right-click the USB device and click 'Change drive letter and paths'. Make sure all the USB drives use different letters, even if they aren't plugged in at the same time.

T Hayes, via email

Make sure each external drive uses a different drive letter

GENERAL PC
Get a port of Apple's Dynamic desktops on Windows 10

A fellow *Web User* reader recently tipped us all off about a tool that brings dynamic desktop-style backgrounds to Windows 10 (Your Top Tips, bit.ly/webuser457). However, might I be so bold as to suggest an alternative? WinDynamicDesktop (bit.ly/

Turn Windows wallpaper into Apple artwork

dynamic460) from the Microsoft Store is a marvellous port of Apple's actual dynamic desktop. It uses your location to change wallpaper images based on the time of day. It's also a lot easier to set up and start than Mr Moore's suggestion.

Michael Corbyn, via email

GENERAL PC
Try an alternative dynamic desktop for Windows

Further to Andrew Moore's tip for bringing dynamic desktop wallpapers to Windows (see above), I personally prefer RainWallpaper (bit.ly/rain460). It isn't complicated to use but has a bit more

RainWallpaper applies lively backgrounds to your desktop

going on, such as 2D and 3D graphics, animations and videos. There's a portable version, too. Try it – I hope you like it!

Freddie Haigh, via email

HARDWARE
Get more information using your Android tablet

I've been messing about with my Android tablet and found a rather good extended information link. This trick might also work on other devices. My starting point, oddly, was when I replied to a Web User Forum thread, and lightly tapped a typo. This highlighted the word in a black font on red, and included a link with the option to add it to the dictionary. Anyway, while inspecting what I'd posted, instead of tapping the page to restore it to default size, I lightly tapped the word again, and this time it highlighted in a black font on pale blue. With another tap, a Google 'G' icon appeared at the bottom of the screen with the selected word centred in the caption box. Tapping the box opened up the caption showing useful information about the highlighted word.

Bedstor, Web User Forums

Tap words on your Android screen to search Google
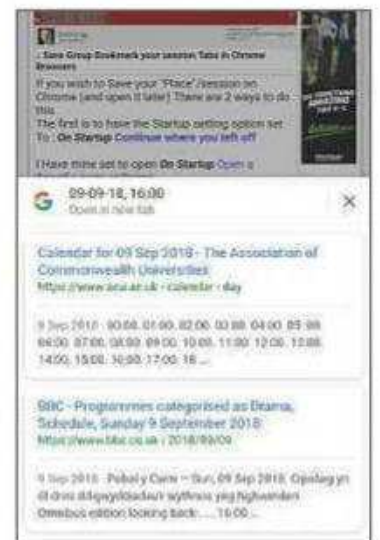
BLUNDER OF THE FORTNIGHT

HARDWARE
Connect iOS to Chromecast with VLC

A few months back, my technophobic wife picked up a Chromecast for my birthday. A lovely, thoughtful gift, to be sure, but unfortunately, I don't own an Android phone and it was difficult to use my new device to cast personal videos from my iPhone to the TV.

First, I tried sharing my videos to my laptop, then connected it to the TV – but I hate unnecessary wires. That's when I thought I'd be a bit more 21st century in my thinking: I uploaded all my videos to a private YouTube account, so I could stream them to my Chromecast. That's still a lot of messing about, I thought. After a couple of months using my YouTube workaround, I struck gold when VLC

The VLC app lets you Chromecast your videos from iPhone to TV

announced Chromecast support for its iOS app (bit.ly/iosvlc460). One download later, and I was finally able to properly enjoy my birthday present.

David Cockburn, 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!

Open Malwarebytes by running it manually

Q I have a problem with Malwarebytes (www.malwarebytes.com) – it won't open. I've double-clicked the icon but it doesn't work. I've updated it using Ninite (ninite.com) and I've even deleted and reinstalled it four times, but it's still not working.

buster2, Web User Forums

A Do you see an error message? Does it work in Safe Mode with Networking? If the problem is caused by an infection, the Malwarebytes support site (bit.ly/mwbs460) says you can manually open Malwarebytes Chameleon – download it from bit.ly/cham460 – using either the Task Manager or via the browser.

To run it from the Task Manager, open it (start typing `task manager` in the search box and click it when it appears), click File, then choose 'Run new task'. Browse to the program,

Use this method to manually open Malwarebytes and scan for viruses

open the Chameleon folder, click Programs and, in the drop-down menu, select All Files. You should now be able to choose the Chamelon.chm file.

Keep clicking the Test Now button until you reach a command-line window where the program starts updating. Once scanned, click Show Results to see and remove any infections using Remove Selected. Restart your computer if prompted.

The browser version works in the same way but you click Alt, Open File to get started, then repeat the steps above. If your results come back clean and Malwarebytes still won't open, run the MB-Clean tool (bit.ly/mbclean460), then reinstall the software.

Cantrel, Web User Forums

EMAIL
Delete Gmail but not your Google account

Q I'm getting loads of spam in the Trash folder of my Gmail account. If I delete my Gmail account, will I be locked out of other Google services, such as the Play Store?

Crocket, Web User Forums

A As long as you only delete your Gmail account, you should still be able to access other services. The Help guides from Google say you should first download your data from takeout.google.com, then use a PC to visit your account and locate the 'Delete a Google service' page. Press the trash can next to Gmail and follow Google's instructions.

You can delete Gmail from an Android phone, too, by selecting Settings, Google, then Google Account. From there, tap 'Data & personalisation', then choose 'Delete a service or your account'. As before, press the Gmail trash can.

Alternatively, if you're on Android, you could turn off Gmail's syncing tools and never open the app again.

Madeline, Web User Forums

You can remove your Gmail without losing out on Google's other services

HARDWARE
Upgrade your laptop and reload Windows 10

Q I've just replaced a 128GB SSD in my desktop PC with a 250GB SSD. I also have an old Windows 7 Sony Vaio, which has been upgraded to Windows 10 – this has a 350GB standard hard drive that's about two-thirds full and very, very slow.

I want to securely wipe the 128GB SSD, install it in the Sony Vaio and reinstall Windows 10. That way, I can either pass it on to a family member or sell it (hence the security requirement).

I have three questions: Will Windows 10 find the right drivers for my Sony Vaio? Will a download of the latest Windows 10 via the Media Creation Tool be enough to reload the operating system from scratch? And will I need to call Microsoft to validate the PC?

dave1510, Web User Forums

A Windows 10 should find and install the required drivers. I've just upgraded a Sony laptop and all the drivers installed, apart from the card reader – and that worked when I told it to update the driver on 'unknown device'. Also, in my experience, you should have no trouble using the Media Creation Tool

to get Windows 10. Finally, as long as the laptop upgraded from Windows 7 to Windows 10 without any problems, the product number is registered on the validating website, so it should automatically validate your device. At the start of the install, you'll be asked for the Windows 10 product number. Just ignore this by clicking the Skip button.

pete.i, Web User Forums

Windows makes it easy to upgrade your operating system and reinstall hardware

Inbox

Star Email

Back Issues disc winner

Buy your kids a PC, not a games console

As I reached the end of enjoying Issue 458, I nearly choked on my coffee reading Barry Collins' conclusion that rather than bothering with a gaming laptop for your child, you should just buy them a console!

The last console I bought my son is in his room, looking like a lost relic. Meanwhile, he's talking to friends on Discord (discordapp.com) while playing games on Steam (store.steampowered.com) – neither of which requires a top gaming laptop. They then stop gaming for a while to do homework together, with the help of the web's vast educational resources.

When my son and daughter were very young, they enjoyed games such as Roblox, Movie Star Planet and Wizard101 on laptops that only cost about £300 – kids' browser games really don't need much processing power. Of course, when they got older, the hardware got more expensive, but keep in mind that your children will need a good PC anyway for their education. Like my son, schoolkids might prefer being able to play games for a bit and then decide after a few rounds that they want to do homework together online.

The conclusion that Barry should have given in his column is for people to consider buying a low- to mid-range 'desktop' PC, instead of a gaming laptop, because they tend to be cheaper for the same specs.

Vincent Loates, via email

Macrorit sorted my wife's partitions

After efforts to rearrange partitions on my wife's PC failed, I looked through my old *Web Users* to Best Free Software in Issue 454 (bit.ly/webuser454), where I found Macrorit Partition Expert Free (bit.ly/mpart454). I downloaded it to a USB stick and rushed to my wife's PC to use the program.

The first attempt failed – too many changes, and too many changes to those changes, I suspect. Anyway, I started again without even attempting to read the manual and made the changes one or two at a time, to brilliant and speedy success. Although my use of Macrorit was limited to moving and changing partition sizes, I'm highly impressed. Please accept my thanks for introducing me to this program.

Graham Davies, via email

Web User says: We'll take a closer look at free partitioning tools in our next issue.
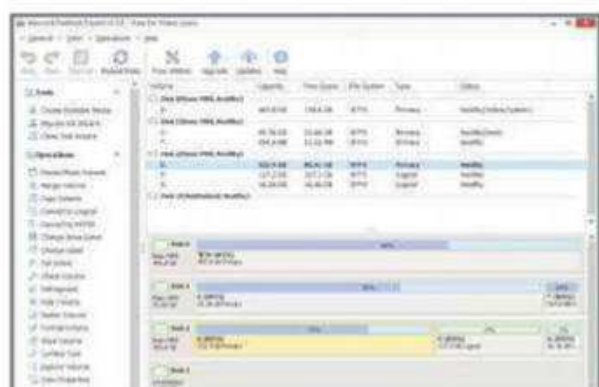
Google's redesign has wrecked Gmail

Why do people who never use a particular program or service think they can develop it? This appears to be the problem with the new Gmail which, in my opinion, has been wrecked. There is no space for the message – which, after all, is what most people want from Gmail – and the left-hand column is much too wide (and apparently can't be adjusted). Unless I make the whole thing minuscule, I have to scroll left and right to view the message – which is a pain.

Also, in Contacts, the scrollbar on the right doesn't work. You can only move it down a short distance and thereafter you have to scroll the rest of the way with your mouse – what is the matter with these programmers?

Above all, we should be able to "try before we buy" and be able to stick with what works if the new version doesn't suit us, instead of just having it foisted upon us! How dare Google come along with a new look that simply doesn't work for me and – obviously – many others?

Lynnette Hammet, Victoria, Australia

Quiz Answers: Issue 459

1. **The Archers**
2. **Desert Island Discs**
3. **Round the Horne**
4. **Gardeners' Question Time**
5. **The Hitchhiker's Guide to the Galaxy**
6. **Hancock's Half Hour**

WINNER! Well done to **Jason Higham** who wins a Web User Back Issues Disc

TECH YEAR

2008

Air your views, write to us at webuser@dennis.co.uk

[Twitter icon] [Facebook icon] [WU icon]

Amazon is upfront about Kindle offers

I read with some interest Rob Forsdyke's email in Inbox, Issue 459, about Amazon charging to remove Special Offers from Kindle lock screens. Perhaps he doesn't realise that Amazon sells two versions of its Kindle e-readers: one without the on-screen offers and the other with. The latter cost £10 less, so I assume that Mr Forsdyke either bought the cheaper model without knowing about the offers or that he received the Kindle as a gift and had no choice in the matter. I agree that charging customers to remove what are essentially adverts does seem rather greedy on Amazon's part, but then it did offer the optional (and clearly highlighted) discount upfront, so it's not really the rip-off that Mr Forsdyke believes.

Katherine Gill, via email

Use common sense about phone contracts

I saw your article about mobile-phone providers overcharging their customers (Need to Know, Issue 459, bit.ly/webuser459). Although I feel that phone companies should be morally obliged to let you know when you've finished paying for your handset, it is also incumbent on the customer to use some common sense and either get a new phone or just cancel that contract and get a new SIM.

You should mark the date that your contract ends in your diary or set a reminder on your phone. After all, most of these so-called clever customers look at their phones every five minutes!

I also think that a lot of people now buy their phones outright, anyway. It's less expensive in the long run and then you can do as you wish. I do not have a very expensive phone because nowadays I only make about 30 calls a year. It is a smartphone, but I only use it for holidays and emergencies.

Martin Fletcher, Thorpe Hesley

What you say...

T HE WINDOWS 10 OCTOBER 2018 UPDATE HAS ARRIVED. WILL YOU INSTALL IT STRAIGHT AWAY OR DELAY IT?

Tough to delay Windows 10 – it's so eager to install upgrades. I miss XP.
Heather Hear @heather_hear

If I don't install it now, it will force itself to install when I'm in front of a customer and can do nothing about it. Better for it to mess up when I have a chance to restore it.
Alan McClean

After the problems with the April update, I'd rather wait. It took two months to finally install, and various programs wouldn't work properly.
Fred Smith

Installed. But for me there's nothing interesting about its features.
Dejan Marić

T WENTY YEARS ON SINCE IT LAUNCHED, WHAT'S YOUR VIEW NOW OF GOOGLE?

Great in its early days, but has now become too powerful and intrusive. DuckDuckGo (duckduckgo.com) or StartPage (www.startpage.com) deserve more support.
John Hewett

Best thing that's happened to the internet. I use it all the time, and Chrome is the best browser ever.
Geoffrey Boow

What started out as a place of freedom has turned into a place of political manipulation, which decides the political views we should follow, while allowing foul-mouthed rants, terrorism and anti-semitism.
Alan Kidsley @alankidsley

I'm aware of its faults, but I love it. It has simplified my life, made my smartphone very useful and Google Maps is magic.
Jenny Jacks @JenJacks3

A MAZON HAS ADDED ALEXA TO MICROWAVE OVENS (bit.ly/alexa460). WOULD YOU USE IT TO COOK YOUR MEALS?

But why? Has it become too hard to press buttons now?
Lee Dodgson

It makes you wonder what's next. Probably voice-activated fridge doors that open when asked.
Brian Brown

No. My daughter had two WiFi-enabled fridge-freezers in one year. The Wi-Fi module failed in each.
Iain Kenworthy-Neale

I've kitted my home out with Google Home-controlled smart lights, sockets and automatic curtains and blinds. My disabled wife finds it a great help. Would I get the microwave? No, I'll wait for a Google-controlled one!
Gary Olsen

L ABOUR SAYS IT WILL MAKE WI-FI FREE IN CITY CENTRES (bit.ly/wifi460). A GOOD IDEA?

Most stores are closing due to competition from websites. I'll just pop down to the high street, and use the free Wi-Fi to order stuff from Amazon!
Anthony Higham

Pointless. Will clog up the airways and pose security risks.
Paul Wallace

Start with free parking. It costs £3.50 an hour to park in my city centre. Wi-Fi will do nothing.
Pete Sherriff

Idiots – it's a hacker's charter. Nobody should use public Wi-Fi – it's too easily hacked.
Steve Ellis @gb022621

The biggest operating system of all will be one we can't see, says **Barry Collins**

Alexa: today your home, tomorrow the world

Which operating system do you think will dominate in 10 years' time? Will Windows still be clinging to its market share? Or will Android or iOS reign supreme? Nope, it'll be none of those old-fashioned operating systems.

The next big OS doesn't have a fancy user interface or require virtual-reality goggles – hell, you can't even see it. Nor does it require a manual or take years to get used to, because you're trained to use it from the moment you learn to speak. If you haven't already guessed, I'm talking about Alexa.

Amazon's voice assistant is already in more rooms in my house than any other computer – it's in our bedrooms, the living room, the kitchen and my office. And Amazon's latest round of Alexa gadgets prove one thing conclusively: Amazon wants you talking to Alexa absolutely everywhere.

Take the Alexa-powered microwave.

At first blush, it seems bonkers. Do you really need to issue a voice command to cook a jacket potato, rather than just press some buttons like we have done for the past 30 years?

It may seem like ludicrous overkill, but look at the bigger picture. Amazon doesn't only sell smart kitchen appliances, it sells the food that goes in them. You don't have to peer too hard into the crystal ball to imagine a scenario where you choose your evening meal from your smartphone on the train home from work, and an hour later the Amazon driver arrives at the front door with a prepared set of ingredients (this service is already available in London).

You take the box from the delivery guy and into your kitchen, where your Amazon Echo Show is already

> **" A home-cooked meal, ordered, fulfilled, managed and partly cooked — all courtesy of Alexa "**

displaying the cooking instructions on its screen – one of the new features of the upgraded Show released this month.

When it comes to cooking the rice for your meal, the microwave oven already knows how long you need to cook it for because it's following the same recipe you are. A home-cooked meal, ordered, fulfilled, managed and partly cooked – all courtesy of Alexa.

What if you drive home from work instead of taking the train? Not a problem. The newly announced Echo Auto can take your meal order by voice instead of swiping at the smartphone screen. And it will let you call your family to let them know you're on your way home and to keep an ear out for the Amazon delivery guy.

Not that they need to. The Amazon-owned Ring video doorbell will let you instruct the courier to leave the food parcel around the back if everyone's out walking the dog when the delivery arrives. You may even be able to remotely open the front door and let the Amazon courier leave the food in the safety of the porch if you've got one of those fancy doorbells with the ability to unlock the door remotely.

Amazon has rapidly built an operating system for our homes – and it's the easiest operating system we've ever used. Microsoft, Apple and Google are nowhere in this game. Absolutely nowhere.

Windows powered our PCs, Apple and Google powered our phones, but Alexa's running our homes and will soon control the world. It won't just be the next big operating system, it will be the biggest of them all.

Illustration: Andrew Torrens

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

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