

 **New Apple Watch features revealed!**

> Issue 410 > November 2024  
> macformat.com > @macformat

# Mac FORMAT



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**macOS Sequoia**  
82 essential tips & tricks

**ON TEST**

# iPhone 16 Pro

The definitive verdict on its features & performance

**PLUS**



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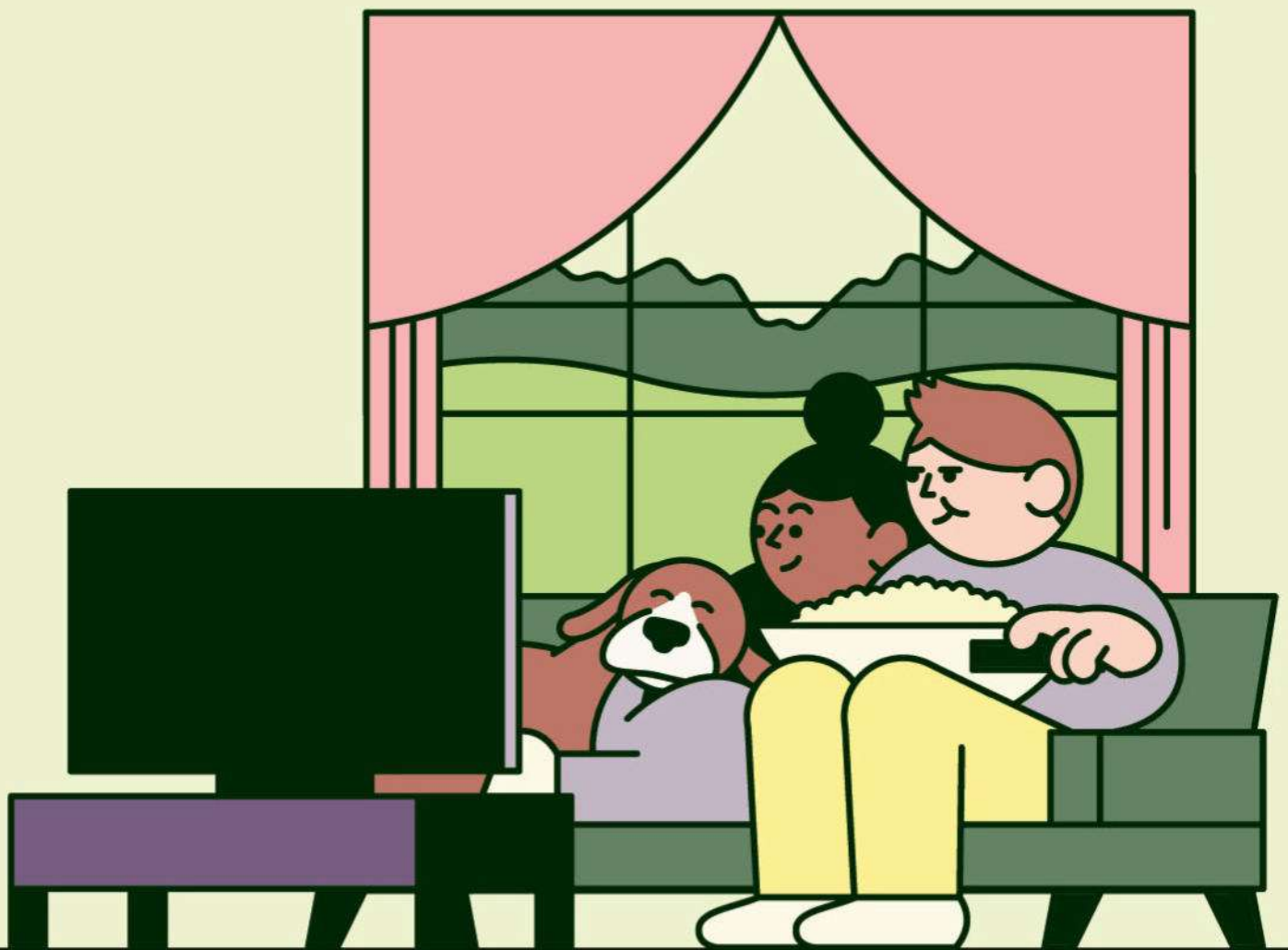


**AirPods 4**  
In-depth review



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Now the latest iPhones, AirPods and Apple Watch models have been bestowed upon the world, we're inevitably turning our attention to what might come next, including new Macs and iPads, powered by the latest Apple silicon. The new machines could well have been announced by time you read this, but you don't need to spend a penny to get many of their additions and enhancements - thanks to the arrival of macOS Sequoia and iPadOS 18, both of which we'll be looking at in-depth in this issue.

Turn to p20 and you'll discover many of the great ways in which Sequoia can make it easier and more fun to use your Mac; while on p62, we reveal how iPadOS 18 can do the same for your iPad - we're particular fans of all the new customisation options. You'll also find reviews of the new iPhone 16 Pro (p78) and AirPods 4 with ANC (p82).

Look further ahead and you may spot what could be Apple's Next Big Thing: home robots. On p70, we reveal what the company may be up to, why Apple could be eyeing its rivals' ambitions, what you can pay hard cash for now and what might happen next. Plus, we also investigate something that may be music to your ears. On p16, we take an in-depth look at the steps Apple is taking to improve everyone's hearing health and how AirPods Pro 2 can now help those with mild to moderate hearing loss with medically approved hearing tests and more. We'd love to know what you think!

Enjoy the issue and see you soon,

Rob

ROB MEAD-GREEN  
EDITOR  
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## Meet the team



**Jo Membery**  
Operations Editor

➤ Jo loves the Active Noise Cancellation feature on the new AirPods 4. The silence she enjoys while we're trying to get her attention is truly breathtaking.



**Paul Blachford**  
Art Editor

➤ Paul's thinks the Maths Notes feature in iPadOS 18 must be wrong. For no matter how many times he does the sums, he still can't afford an M4 iPad Pro.



**Ian Osborne**  
Contributor

➤ Ex-MacFormat staffer Ian's been rummaging around in the undergrowth surrounding macOS Sequoia. See what truffles he's dug up on p20.

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# APPLE CORE

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Apple Intelligence utilises many features in the new products, including the iPhone's Camera Control.

HOT TOPIC!

## It's Glowtime: everything Apple unveiled

iPhone 16 range, new Apple Watch models, AirPods updates

**T**his year's iPhone 16 launch event - dubbed 'Glowtime' by Apple - took place on 9 September, and it was absolutely jam-packed with new products: the iPhone 16 and iPhone 16 Pro ranges, a new Apple Watch Series 10 and an updated Apple Watch Ultra 2, fresh AirPods models, and new software features too. We'll cover all of the new products in more detail over the next few pages, but suffice it to say that all in all, there was a lot to get excited about.

Starting with the iPhone 16 and iPhone 16 Plus, there's good news for fans of Apple's more affordable phones. Instead of feeling second-best to the Pro models, this year the base-level iPhone 16 devices come loaded with a lot of features that were previously limited to the more expensive iPhones.

Instead of using an old chip, the iPhone 16 now has the same-generation A18 chip as the iPhone 16 Pro. It also now has the Action button, as well as improved cameras, a new Camera



Apple dubbing its most recent event 'It's Glowtime' was a definite nod to new Apple Intelligence powers.

Control button, a stronger front glass panel, plus Apple Intelligence capabilities. It's a really strong update that is sure to tempt a lot of prospective buyers.

On the Pro side of the equation, Apple has moved to make its flagship phones more appealing to professional users. They now feature frame-by-frame colour grading for recorded video, higher-resolution 48MP photos in the Ultra Wide camera, 4K videos at 120fps, and a new A18 Pro chip. On the screen, you'll find that the bezels have been

reduced and there's a tougher Ceramic Shield, while the new Camera Control also makes an appearance. There are also better cameras, improved audio and longer battery life.

### Watches and AirPods

As well as that, Apple launched the Apple Watch Series 10, which comes with a slimmer design and larger display, faster charging, water depth and temperature measurements, sleep apnoea sensing, plus new titanium and black aluminium finishes. The Apple Watch Ultra 2, meanwhile, saw a small update with fresh bands and a new satin black look.

Apple also launched AirPods 4, which now come in two models: one model with redesigned ear tips, improved audio and a USB-C charging case, and another with active noise cancellation and a wireless charging case. AirPods Pro 2 can now be used as hearing aids, while AirPods Max sport new colours and a USB-C charging port. These changes make the AirPods line a little more cohesive.





Check out our reviews  
 iPhone 16 Pro & AirPods 4  
 p78

# Phone 16 and iPhone 16 Pro

All the new features in Apple's latest phones

**K**icking things off with Apple's Pro phones, these now come with larger displays - 6.3 inches and 6.9 inches across - thanks to slimmer bezels and larger physical dimensions. On the front is a new Ceramic Shield glass display that Apple says is 50% tougher than the previous version and twice as strong as any other smartphone screen. There are new colours, too: a darker black, a brighter white, a new bronze Desert Titanium shade, plus a slightly lighter Natural Titanium tone.

You get three camera lenses: a 48MP Main camera, a higher-resolution 48MP Ultra Wide lens, and a 12MP 5x Telephoto lens. The first of these is what Apple calls a Fusion camera, which can take either 48MP 1x shots or 48MP 2x telephoto images. You can now record video footage at 4K resolution and 120fps in Dolby Vision and can take spatial photos for the Vision Pro headset. And there are



The iPhone 16 Pro and Pro Max come with a Fusion camera that can take both 1x and 2x photos.

professional-level tools for colour grading, audio mix editing, and more.

There's a powerful new A18 Pro chip with a 20% faster GPU and 15% quicker CPU compared to the A17 Pro. There's also the Camera Control (something that we'll discuss in more detail below), which is a feature that's shared with the entry-level iPhone 16 devices. All devices in the iPhone 16 range get improved battery life and better thermal management, too, which make for welcome changes.

Turning to the iPhone 16 and iPhone 16 Plus, unlike previous years, the iPhone 16 range shares several new features with the Pro iPhones. Aside from the Camera Control, it also gains the Action button and Apple Intelligence, the latter of which is due to a new A18 chip, which is the same generation as the iPhone 16 Pro's A18 Pro. Its CPU is 30% faster than the A16 Bionic, while its GPU runs up to 40% faster and is 35% more efficient.

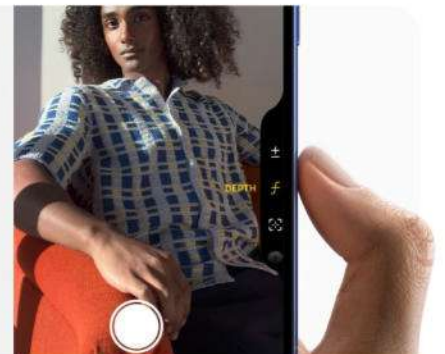
## iPhone 16 macro

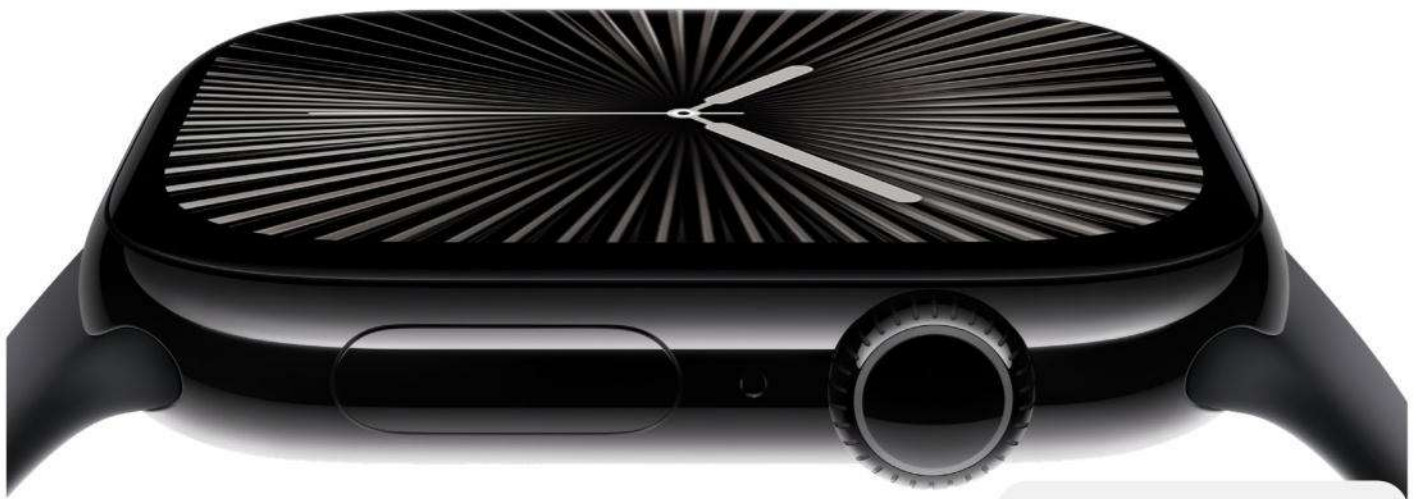
The iPhone 16 gets the same strengthened Ceramic Shield as the Pro phones and new colour options, too: Ultramarine, Teal and Pink, plus the previous White and Black colourways. It only has two lenses, but its main camera is one of Apple's new Fusion cameras that can take images as either 48MP 1x shots or 12MP 2x telephoto pictures. Its 12MP Ultra Wide lens now enables macro photography, too.

## Photography features

One of the most interesting additions to the iPhone 16 range is the **Camera Control**, a new touch-sensitive button on the phone's side for operating its cameras. You can press it firmly to take a photo or press it lightly to bring up a dial to change functions, such as zoom, exposure

and more. You can then slide your finger to swipe through the controls and adjust. And it combines with Apple Intelligence: press the Camera Control and point your iPhone at a restaurant, for example, and Apple Intelligence will bring up information like ratings, menu and opening hours.





# Apple Watch Series 10

A big – but thin – 10th anniversary update

**A**pple chose to mark the Apple Watch's 10th anniversary with a significant upgrade that saw the timepiece get an all-over makeover.

The case is now both thinner and lighter, and there's a new titanium option that replaces the previous stainless steel chassis. There's still the usual aluminium finish, which now has a Jet Black option too. As well as that, there's a larger display that now comes in 46mm and 42mm sizes, and this screen offers better viewing angles when seen from the side.

Juicing up the Watch is quicker than ever thanks to improved fast charging – 15 minutes of charging will get you eight hours of usage, while you'll get up to 80% battery life after 30 minutes on the charging puck.

Apple has added temperature sensing for water-based activities like surfing and

swimming, plus a depth gauge that can help when you want to dip beneath the waves. As well as that, there's a new Tides app to keep you abreast of changing conditions along the coast.

Audio can be played from the Watch's speakers, while the microphones can better isolate your voice to suppress background noise and wind. Both of those features should help when making phone calls. Much of this is thanks to the new S10 SiP (System-in-Package) and its improved four-core Neural Engine. Finally, the new Apple Watch features sleep apnoea alerts, which could be useful if you have trouble getting a full night's sleep and suspect that apnoea could be the cause.

The Apple Watch Ultra 2 was also updated, although only in a small way; like the Series 10, it now has a Black finish, as well as new bands from Apple and Hermès.

## Satellite services

**Apple's Roadside Assistance via Satellite feature, which enables you to get help after a car accident even if you didn't have a mobile signal, now works in the UK, as do Emergency SOS via Satellite and Find My via Satellite.**

Apple has also introduced Emergency SOS Live Video, which lets you send a video of your surroundings to first responders. And with Messages via Satellite, you can send texts using satellite connections. Neither of the last two features are available in the UK yet.

## AirPods hearing aid

**AirPods Pro 2 got a big new feature – they now protect your hearing.** Apple says they can help in three ways: prevention, awareness and assistance. For prevention, AirPods Pro 2 automatically reduce loud noises to protect hearing. Regarding awareness, the earphones offer a hearing test to check for problems. Finally, the assistance aspect means that AirPods Pro 2 now work as a set of hearing aids for mild to moderate hearing loss.

# All-new AirPods

Music to our ears

**A**pple has overhauled the AirPods range with updates across the board. In doing so, it launched the AirPods 4 in two variations and brought updates to the AirPods Pro 2 and the AirPods Max over-ear headphones.

Starting with AirPods 4, there's now an entry-level option and a higher-end model. The former has a new ear tip design to improve fit and compatibility, alongside a new acoustic architecture with richer bass and clearer highs. You get Personalised Spatial Audio, a USB-C charging case and 30 hours of battery life, all for £129. Stepping up to the other AirPods 4 model, this includes everything in the base model,



**With updates across the AirPods range, you're bound to find the right option for your listening needs.**

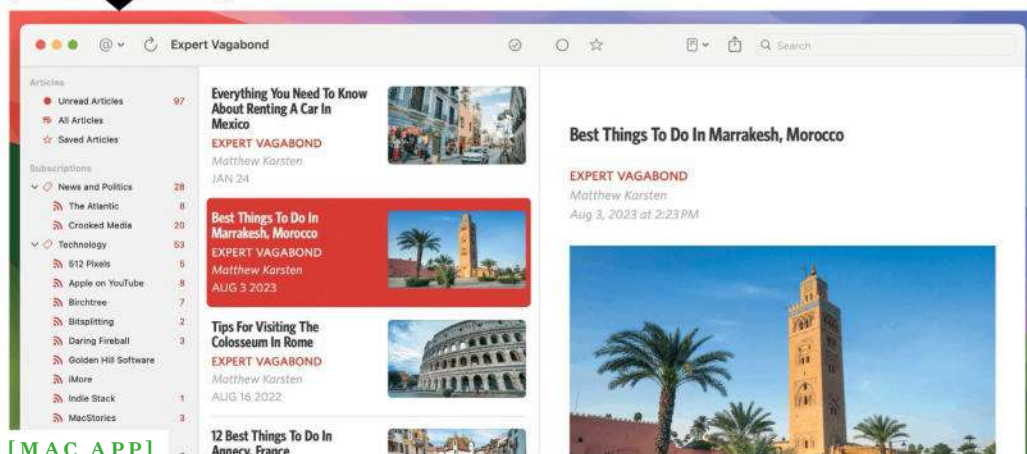
plus active noise cancellation, a wireless charging case, and a speaker for Find My sounds. It costs £179.

Both the AirPods Pro 2 and AirPods Max received updates. For the former, it can now serve as a set of hearing aids (for more, see 'AirPods hearing aid' on the right). For the latter, there are new colours (Midnight, Blue, Purple, Orange and Starlight), plus a USB-C charging port and Personalised Spatial Audio.





**APP OF THE MONTH**



[MAC APP]

## Unread: An RSS Reader Free (offers IAPs)

An RSS reader for the modern era



**RSS (Really Simple Syndication) readers may not be as popular as they once were, but this fourth version of Unread makes them feel as modern as can be.**

This sleek RSS reader blends beautiful design with top-notch features to give you a premium reading experience on your Mac, iPhone and iPad.

Add a feed to the app and its articles are perfectly rendered for easy consumption, with perfect images, typography, colour options

and more. You can add a feed directly from a web page, then sync everything to your other devices to read later. There are plenty of themes to choose from, alongside widgets and offline reading.

While many features are free, there's also a paid-for subscription with features like extra widget and sharing options, web page caching, custom Dock icons, and more. Whether or not you decide to pay, you'll get an excellent RSS app that elevates your reading experience.



### [iOS APP] Watch to 5K - Couch to 5K plan

£3.79



**The Couch to 5K plan is well known for making fitness accessible, and this app puts it right on your wrist.**

It helps you run a 5K in under 30 minutes after nine weeks, with Apple Health integration built in. Plus, you don't even need to take your phone with you when you run.

**Why you need it:** Get fit at your own pace.



### [iOS GAME] A Fragile Mind

£1.99



**The latest puzzler from Glitch Games sees you wake up in a courtyard to the sound of a mysterious voice and with no idea how you got there.** Chock-full of brain-twisting puzzles, you'll need to use the environment around you - and a good deal of lateral thinking - to escape your new prison.

**Why you need it:** A real test for your puzzling abilities.



### [MAC GAME] Total War: Pharaoh Dynasties

**FREE** Update (Requires £29.99 base game)



**The Total War series turns its eye to the Bronze Age collapse in this thrilling free expansion to the Total War: Pharaoh game.** Take charge of one of four factions, establish your dynasty and dominate the battlefield in your quest for glory.

**Why you need it:** Even more content for Total War.

## Media Picks

› What you should be playing and reading this month



### [ALBUM] The Forest Is The Path Snow Patrol £10.99

› Made at the second time of asking after an abortive first attempt, Snow Patrol's eighth album feels like the start of something new.



### [AUDIOBOOK] The Comfort of Crows: A Backyard Year Margaret Renkl £18.99

› Renkl traces the passing of seasons in her garden, crafting stories on the wonders of nature and the effects of time.



### [PODCAST] D-Day: The Tide Turns

› For D-Day's 80th anniversary, this podcast looks at the people involved in the Normandy landings: on the ground, in the air, out at sea and behind enemy lines.

# Crave

THE GEAR WE'RE LUSTING AFTER

Enjoy a night at the movies without leaving your sofa with the Loewe We. BEAM.



## Loewe We. BEAM

› £849 › From [loewe.tv/uk](https://loewe.tv/uk)

› **Whether you're binge watching *Slow Horses* on Apple TV+ or watching the latest blockbuster movies at home, this projector will soon have you beaming from ear to ear.** For not only is the We. BEAM from German TV and speaker maker Loewe stylish, it's also slim, portable and can splash HD images up to 120-inches across on your living room wall.

While it can easily be connected to an Apple TV 4K, Blu-ray player and soundbar via HDMI CEC and ARC, you may not need

to as it has support for Apple TV+, Disney+, Netflix, Amazon Prime Video and YouTube built-in. It also has two invisible speakers delivering up to 10W of music power, plus Bluetooth so you can play your favourite tunes wires-free. The only thing it lacks is a built-in battery, but you can hook up the projector to a power bank instead.



The projector boasts HDMI CEC and ARC for integration with Blu-ray players or soundbars.



# Ultimate Ears MINIROLL

> £69.99 > From [ultimateears.com](https://ultimateears.com)

> **All kids love tasty mini rolls, but kids big and small will love the Ultimate Ears version even more!** Available in Majestic Blue, Calming Pink, Gentle Black and Revive Grey flavours, this Bluetooth speaker delivers a surprisingly musical and robust sound despite its tiny 122.67x105mm size. Plus, it's dust- and waterproof to IP67 (so you can use it in the shower), and it'll survive drops of up to 1.2m. Other goodies include up to 12 hours of battery life with recharging via USB-C, and an integrated carry strap. The Ultimate Ears MINIROLL is planet-friendly too, being made from up to 40% post-consumer recycled plastic. Yum.



The PartyUp feature allows you to sync up an unlimited number of MINIROLL speakers with Auracast.



## Nanoleaf Blocks

> From £179.99 > From [nanoleaf.me](https://nanoleaf.me)

> **It's hip to be square, especially when those squares are as colourful as these.** Blocks are the latest smart lights from Nanoleaf and will brighten up any room (and how many squares can you say that about, daddio?). Blocks are available in two different Smarter Kits: one comprising six light squares and a controller for £179.99; and a Combo XL pack, containing nine squares for £229.99. The lights can be controlled using the Nanoleaf app and Apple Home. Plus you can add more big squares, little squares and even textured squares to make your space uniquely you.

## tado X

> From £59.99 > From [uk.shop.tado.com](https://uk.shop.tado.com)

> **Winter's here and with bills climbing, now might be a good time to update your home heating controls.** Enter tado's new X range of smart heating accessories, which comprise the Smart Thermostat X, Smart Radiator Thermostat X, Heat Pump Optimiser X, and a Bridge X border router that uses Matter and Thread to make the whole thing easy to control from your iPhone. With average energy savings of up to 19%, these accessories will not only make staying toasty easier and cheaper, they'll help cut your carbon footprint too. No, you're glowing!

## Logitech MX Creative Console

> £199.99 > From [logitech.com/en-gb](https://logitech.com/en-gb)

> **If you struggle to remember shortcuts in creative apps like Photoshop and Premiere Pro, Logitech's MX Creative Console can help.** Available in Pale Grey and Graphite, it comprises a Creative Keypad with nine customisable buttons, and a Creative Dialpad. Logitech's teamed up with Adobe to ensure the Console has some great action options right from the start, with more promised for other apps in due course. It's a fantastic way to speed up any workflow - whether you're a go-getting creative pro or not.



# John-Anthony Disotto...

THINKS THAT WHILE APPLE INTELLIGENCE SOUNDS PROMISING, IT'S GOT TO BE APPLE'S MOST CONFUSING PRODUCT LAUNCH EVER

**T**he Apple Intelligence launch is a bit of a mess, isn't it? Apple's artificial intelligence (AI) tools were plastered over all of the iPhone 16's marketing campaigns, but read the fine print and you'll notice none of these features were actually available on the smartphone's launch day. How many people purchased the iPhone 16 or iPhone 16 Pro for Apple Intelligence only to be disappointed that their shiny new device had none of the promised features? I bet there were a fair few.

As I write this column, Apple Intelligence is nothing more than a mere promise, set for release at a future date. Yes, there's a public beta of iOS 18.1 with access to some of the first AI-fuelled features like Writing Tools which proofreads and summarises;

Clean Up which removes objects from a photo, and the ability to make a Movie Memory from a prompt in Photos. Still, none of them are as groundbreaking as the features to come, all of which don't even have launch windows.

You see, Apple Intelligence is probably the most confusing

launch from Apple that I can remember, even some of my colleagues still haven't fully grasped how it's meant to work – and if tech journalists are scratching their heads then the average consumer is probably even more dumbfounded.

The first set of AI features, headlined by the ones mentioned above, are set to arrive in October. Next, Genmoji and Image Playground, along with ChatGPT integration in Siri are expected in iOS 18.2 later this year. Siri's glow-up with on-screen awareness and the ability to use personal context to reply to your prompts is due at some point in 2025. That's at least a five-month roll-out for the iPhone 16's most important features and even then we're not sure if they'll arrive by January.

Imagine buying an iPhone 16 Pro Max for Apple Intelligence, but needing to wait until March 2025 to actually be able to use the much-improved Siri you saw advertised. It's completely baffling and a sign that Apple was playing catch up with its competitors, so rushed AI implementation to not lag behind. Without Apple Intelligence, the new iPhones are some of the most incremental annual upgrades we've seen yet, so it's no surprise that analysts expect sales figures to dwindle.

The biggest concern, however, is the fact that no one outside of Apple has even seen these AI tools in the flesh;

It's a sign that Apple rushed AI implementation to not lag behind



Writing Tools can rewrite, proofread, and summarise text in various apps.



Siri's improved capabilities will include new features like summarising emails and messages.

they aren't even in beta testing yet as part of a Developer Beta. So, can Genmoji generate two emojis together as seamlessly as we saw on stage? Does Image Playground work as well as other AI image generators? No one has a clue, we're just putting blind faith in Apple based on the company's track record of delivering.

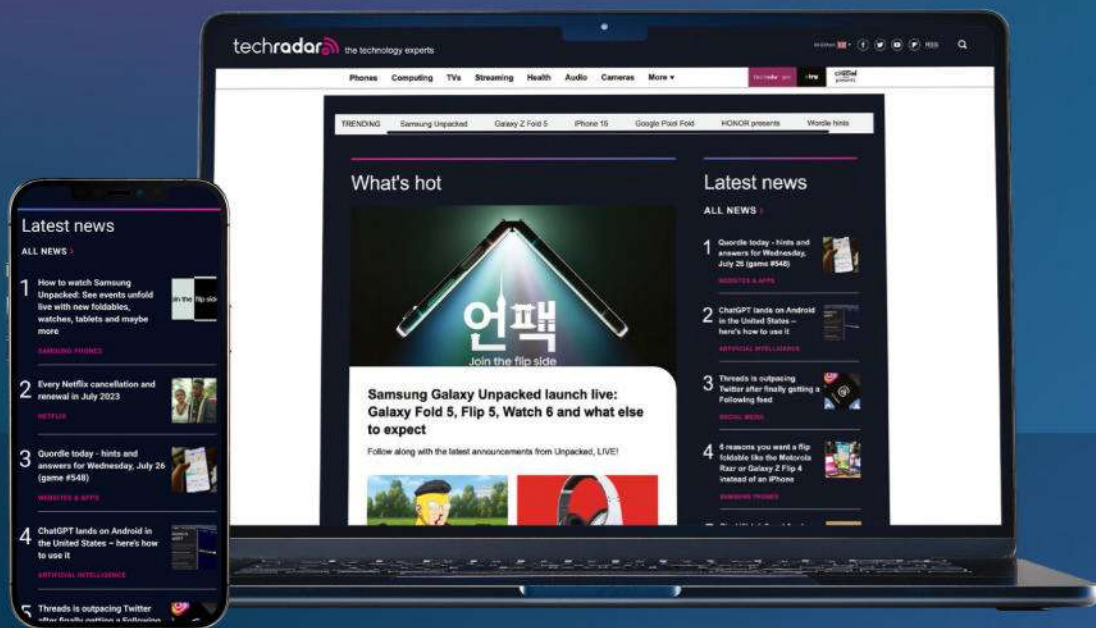
This wouldn't be the first time that Apple has launched a new iPhone with promises of future features (see Deep Fusion for low-light photography), but it is the first time such a major selling point is just absent from an iPhone's release. In a year, if all goes well, Apple Intelligence's muddled launch will be a thing of the distant past. But if Genmoji or Image Playground turns into a replica of the AirPower charging fiasco, then the iPhone 16 launch could be an absolute nightmare for Apple.

## ABOUT JOHN-ANTHONY DISOTTO

John-Anthony is the How To Editor at iMore.com and previously worked at Apple repairing iPhones at the Genius Bar. With words in TechRadar and iPad User Magazine, he prides himself on his ability to make tech easy to understand.



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# The iPhone 16 in NUMBERS

The key facts and stats behind Apple's latest super phone

## 128GB

> Amount of storage available on the entry-level iPhone 16 and iPhone 16 Plus. You can also opt to 256GB and 512GB of storage.

## 48MP

> Maximum resolution of the iPhone 16's Fusion camera, which includes a 2x Telephoto option.

## 4x

> Maximum optical zoom range of the iPhone 16's camera (2x zoom in, 2x zoom out).

## 3,013,524

> Total number of pixels on the iPhone 16's Super Retina XDR display, with a 2556x1179-pixel resolution at 460ppi (pixels per inch).

## 22 hours

> Maximum battery life of the iPhone 16 during video playback, that's two hours more than the iPhone 15. It also charges faster, reaching up to 50% charge in 30 minutes.

## 95%

> Amount of recycled lithium in the iPhone 16's battery. It also uses 100% recycled copper foil in its MagSafe charger.



## 5

> Number of colours available for the iPhone 16: Black, White, Pink, Teal and Ultramarine.



# ON SALE NOW!

**PERFECT 10: ALL-NEW APPLE WATCH REVEALED**

# T3

SMARTER LIVING

## THE HOT NEW iPhone 16 PRO

The future is here! Hands on with  
Apple's AI-powered super phone

**THE BEST  
HANDHELD  
GAMING  
TECH**



**REVIEWED**

### GOOGLE PIXEL 9 PRO

Not an Apple fan?  
Google's mega flagship  
has your back



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and feel a million dollars



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TECH UP**



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WILK**

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these l

**TESTED**

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Nobody would ever know if you're listening to music or using AirPods Pro 2 as a hearing aid.





Image credit: Apple Inc

# Mac FORMAT

## INVESTIGATES

# Apple, AirPods & your hearing health

Can AirPods Pro really be an effective alternative to traditional hearing aids?

WRITTEN BY **DAVID CROOKES** >

**H**undreds of millions of headphones and earphones are sold annually and, according to Statista, worldwide revenues have reached \$18 billion dollars with growth for the next five years projected to be 2.39%. That's music to the ears of manufacturers who know how much users love to get lost in personalised audio.

But, just as the popularity of these devices is also increasing because people are using them in virtual meetings or to cancel out external noise, they're also set to benefit people living with hearing loss like never before.

During Apple's 'Glowtime' event in September, Kate Bergeron, VP of hardware engineering, introduced what is being billed as the "world's first all-in-one hearing health experience". Firstly, in taking advantage of AirPods Pro 2's H2 chip, Apple has developed a feature called

Hearing Protection which prevents exposure to loud, potentially damaging environmental noise. It uses the AirPods Pro 2's ear tips to reduce passive noise and utilises machine learning on the H2 chip to actively reduce louder, more intermittent noise at 48,000 times per seconds. In doing so, it retains the sound signature of whatever is being listened to.

Secondly, and perhaps more intriguing, the AirPods Pro 2 is also being turned into a hearing aid. Take a five-minute, clinical-grade hearing test on an iPhone or iPad and your personalised hearing profile will be used to dynamically adjust your AirPods Pro 2's output. Surrounding environmental sound will be boosted in real time and there will be automatic adjustments to settings affecting phone calls, music, movies and games so that users are able to hear the audio with greater quality. There's every chance that this will positively disrupt

For our latest  
subscription offer  
see page 34!





As well as offering a hearing test and active hearing protection, the AirPods Pro 2 can be used as a clinical-grade hearing aid.



If they find their hearing loss is mild to moderate, Apple's offering will provide an effective solution. It will rival other over-the-counter devices aimed at people with less severe hearing loss yet have the advantage of connecting the sound output to a user's hearing test. Many over-the-counter hearing aids don't do this and run the risk of potentially causing further hearing damage from over-amplification.

Apple's solution is also inexpensive. People with hearing loss generally make use of behind the ear and mini-behind the ear; in the ear; in the canal; completely in the canal; middle ear implants, and bone-anchored hearing aid solutions. For these, you're looking at typical costs ranging from between £500 and £3,500 for a single hearing aid (unless you choose one on the NHS). AirPods cost just £229 for a pair yet this comparison is not quite so simple.

Although traditional devices require a consultation with an audiologist and come with the hassle of ongoing maintenance, for people with advanced hearing loss this will always be necessary. It's why Apple's solution is only for people with mild to moderate hearing loss.

"Devices such as middle-ear implants and bone conduction hearing implants are surgically implanted and can treat certain complex forms of hearing loss," Alistair Moore, technology lead at the Royal National Institute for Deaf People (RNID) in the UK, tells *MacFormat*, by way of example. "The diagnosis of these types of hearing loss requires specialist clinical input and cannot be replaced by AirPods Pro."

## Technologically advanced

Even so, there is no doubt that Apple's decision to roll out an end-to-end experience based on prevention, awareness and assistance addresses some wider issues surrounding hearing health.

the hearing aid industry and even, in some circumstances, even replace traditional devices. But will Apple's 'hearing health experience' be truly effective?

## Reducing costs

On the face of it, yes. In the US, for example, the American Speech-Language-Hearing Association says 80% of adults have not had their hearing checked in the last five years so, if nothing else, Apple's move will lead to more adults having their hearing analysed via their iPhone/iPad and AirPods Pro, even if it's out of mere curiosity.

## Turn it down a notch

You don't necessarily need AirPods Pro to take care of hearing health. With Apple Watch and the Noise app (for Series 4 devices onwards running watchOS 6 or later), you can receive alerts if the average environmental sound level reaches or exceeds a set decibel threshold. Adjust the level at which you'll be notified via Settings > Noise and consider using the Noise complication to view current noise levels from your wrist. The Hearing category of the Health app on your

iPhone also lets you monitor environmental sound levels and headphone audio levels over a seven-day period to help prevent permanent damage to your hearing. AirPods Pro 2 (and AirPods Max) are particularly beneficial here. Studies show high levels of noise can increase blood pressure and the risk of ischemic heart disease, and cause stress, anxiety and depression. Use active noise cancellation (ANC) on these devices and you can drown out background noise with anti-noise.



The Health app already amasses a lot of data about your hearing.



Chief among them is a reluctance to wear hearing aids - many potential wearers feel self-conscious and it's perhaps why Apple's Hearing Study found that 75% of people diagnosed with hearing loss go untreated. The AirPods Pro 2 are stylish and less obviously a 'medical device', making them a potential game-changer - at least for those with less challenging hearing loss.

AirPods Pro are also technologically advanced and it's good to stretch their potential. A study published in the journal *iScience* in 2022 found they met four of five electro-acoustic technology standards for a personal sound amplification product and they've long been seeking to go beyond simply providing an effective way to enjoy music. Features such as Conversation Boost allow AirPods Pro to focus on the person talking directly in front you when in noisy environments, for example, while active noise cancellation (ANC) reduces background sound and Transparency mode allows you to hear surrounding ambient sounds.

AirPods Pro are also clinically approved by the Food and Drug Administration (FDA) in the US - two years after the organisation allowed hearing aids to be sold without a prescription to over 18s. This followed a study with 118 people with mild to moderate hearing loss which showed the AirPods Pro 2 were just as good as professionally fitted aids.

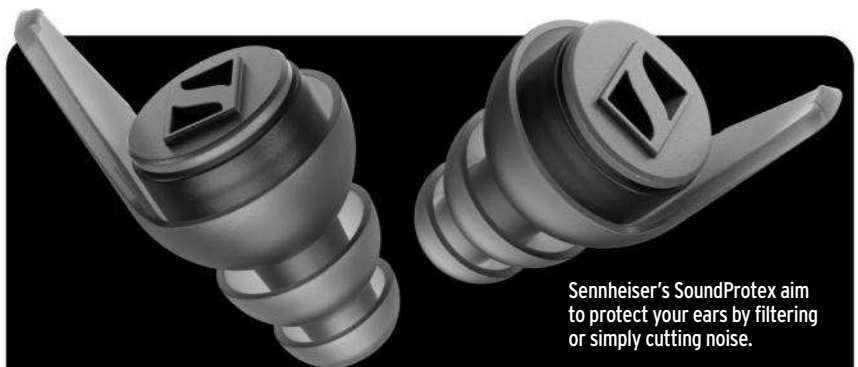
As Moore of the RNID says: "[AirPods Pro] has great potential in helping everyone see that using tech to help treat hearing loss is a positive move to be embraced."

## Testing times

There are still some unknowns, though. "There are questions about battery life and how they will perform in real-world hearing conditions rather than lab conditions," Moore said. And it's telling that AirPods battery life is measured in hours; hearing aids in days.

As retired internal medicine physician Alan Lidsky pointed out in a review by the National Council on Aging (NCoA), there is also a chance people would assume wearers are listening to music and refrain from engaging in conversation with them. But, at the very least, the Hearing Test available with the AirPods Pro 2 will flag up the extent of someone's hearing loss and show

## The move will lead to more adults having their hearing analysed

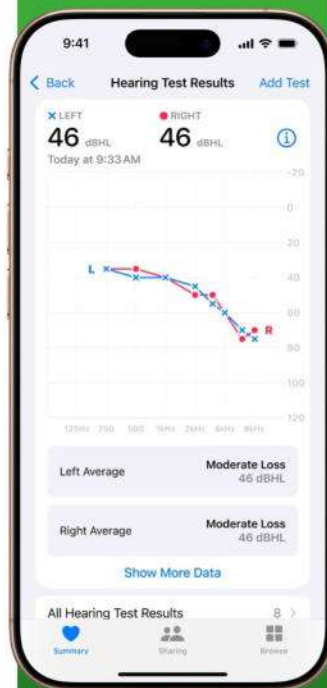


Sennheiser's SoundProtex aim to protect your ears by filtering or simply cutting noise.

## Listening to startling statistics

**The Apple Hearing Study, a partnership with the University of Michigan, has been looking at sound exposure and its impact on hearing since 2020.** By letting users contribute long-term hearing health data from their Apple Watch and iPhone, the study has found more than 50% of participants have worked in a loud environment and a quarter have been exposed to environmental sound such as traffic and public transport which exceeds the World Health Organisation's recommended limit.

More recently, it found 15% of participants experience tinnitus daily and 77.6% have experienced tinnitus in their life - those aged 55 and over are three times more likely to suffer than those between 18 and 34. A greater awareness of hearing health is perhaps why other tech companies have sought ways to improve lives. Google's Project Wolverine examined ways of isolating audio from a specific person in a noisy environment. Sennheiser, Jabra, Sony and HP have also launched over-the-counter hearing aids.



Take the hearing test on your iPhone or iPad and you will be able to check for hearing loss.

how an aid can make a difference. It will raise awareness of underlying issues and increase the chance of people consulting an audiologist.

"Seeing a licensed hearing care professional can help determine unique hearing health needs, ensure no underlying medical conditions or presence of ear wax that could be contributing to hearing difficulty," Bridget Sobek Dobyan, executive director of the Hearing Industries Association, told *MacFormat*. "Professionals can also provide guidance on effective and personalised solutions."

What's more, the whole "hearing health experience" could be a solution for even wider issues. Hearing impairment can be frustrating but it can also lead to social isolation, reduced confidence and an increased risk of developing dementia, particularly if problems begin between the age of 40 and 65.

"Anything that moves hearing health up the national conversation is to be welcomed and we look forward to a time when checking your hearing regularly is as natural as checking your sight or teeth," Moore added. "Assistive technology in all sorts of forms - including hearing aids - is valued and celebrated."





# Say hello to... macOS Sequoia

What's new in macOS 15? What is Apple Intelligence, and what can it do for you? Will my Mac be able to run it? We tell you all this and more

Written by Ian Osborne

**Y**our next free Mac operating system upgrade is here. To help you make the most of it, we walk you through its major new features, tweaks and enhancements and show you how to make the most of them. We also look at some of the features that haven't quite arrived yet, and take a deep dive into the more minor changes that help make your Mac easier, more fun and more productive to use.

macOS Sequoia was announced at the Worldwide Developers Conference (WWDC) in June 2024.

Once again, the name is taken from a geographical feature found in Apple's homeland, California. This time it's the Sequoia National Park, named after its giant trees.

The operating system is a similarly giant update, with Apple Intelligence features integrated throughout; improvements to Siri; iPhone Mirroring, which allows you to control your iPhone from your Mac; improved Window Tiling to make it easier to view multiple windows on a single desktop; and improvements to key Mac applications such as Safari, Messages, Maps, Notes and more.

## macOS Sequoia works with...

- ✓ iMac: 2019 and later
- ✓ Mac Studio: 2022 and later
- ✓ Mac mini: 2018 and later
- ✓ Mac Pro: 2019 and later
- ✓ iMac Pro: 2017 and later
- ✓ MacBook Air: 2020 and later
- ✓ MacBook Pro: 2018 and later

**NOTE:** Apple Intelligence features, which are to be rolled out throughout the year, require Macs with an M1 chip or above.



Apple Intelligence is integrated system-wide into all of Apple's gear, including the Mac, the iPad and the iPhone.

# Apple Intelligence

Exciting new features that are coming soon



**Although arguably the most important announcement to come out of this year's**

**Worldwide Developers Conference, Apple Intelligence won't be released in its entirety with macOS Sequoia.**

The new artificial intelligence platform that powers a series of new features and is integrated system-wide into the iPhone, iPad, Vision Pro and Mac, is to be released with later OS updates over the next year. So let's take a look at what we can expect...

Apple Intelligence is very focused on the user and what they need from their Apple devices. Drawing on your personal context, it's customised to be relevant to you and your wishes, and is privacy protected at every stage.

Writing Tools can not only proofread your writing, but can also rewrite it to make it more formal, personal or succinct. Available system-wide, you can use the tools when writing an email, updating your blog in Safari, making a note in Notes, or indeed almost anywhere that you write. Apple Intelligence can



Tell mum she's a hero, and send a picture of her wearing a cape, created in Messages using Apple Intelligence and her Contacts photo.

produce useful images too, making communications more fun. And again, this feature integrated throughout the system, and is also available in a forthcoming new app; Image Playground.



In Sequoia, Siri understands more natural language, lets you switch between speaking and typing, and is better integrated into the current context.

## Apple Intelligence in Siri



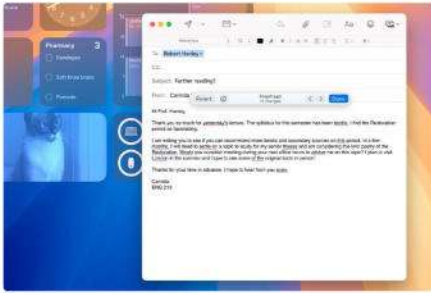
**From humble beginnings in 2011 with the iPhone 4s, Siri is featured across Apple's device range.** Users make over 1.5 billion

Siri requests per day. With the integration of Apple Intelligence, it becomes even more powerful, relevant and personal. You can speak to Siri more naturally. It even copes if you hesitate, stumble over your words or correct yourself mid-sentence.

An Apple Intelligence feature coming soon to Siri is Screen Awareness, whereby Siri knows what's on your screen. If, for example, someone texts you their address, you can tell Siri to add it to Contacts, and it happens.

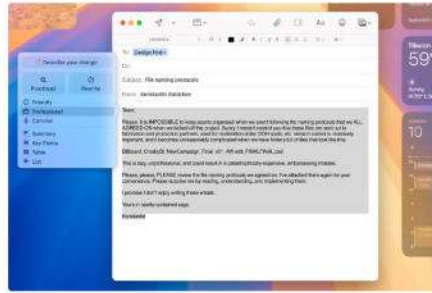


## HOW TO Use Writing Tools >



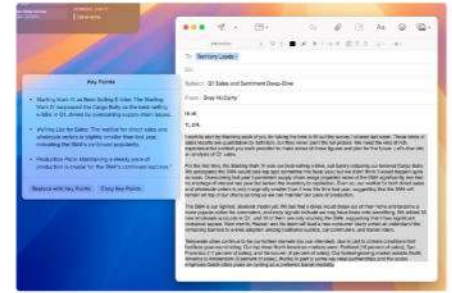
### 1 Proofreading

You can use Writing Tools to check your writing for grammar, syntax and spelling. Edits are suggested along the way, and reasons for those edits given. You can accept or reject a suggested change, and revert where needed.



### 2 Rewrite

With the powerful Rewrite function you can have Apple Intelligence redo your writing, changing the tone if needed. Make it more friendly if it sounds stuffy, more professional if it's too chatty or more succinct if too long.



### 3 Summarise

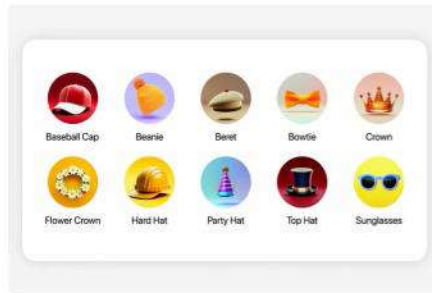
If you've written a long piece of text, you can have Writing Tools summarise it for you, into a short paragraph, bullet points, a list or a table. You can then replace or augment your text with this summary

## HOW TO Use Image Playground >



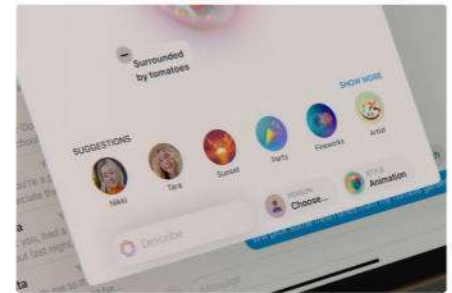
### 1 Create an image

Image Playground is an app that lets you play with Apple Intelligence's image-creating capabilities. It's coming soon, and its functionality will also be built into apps such as Messages, Keynote, Pages and more.



### 2 Choose a theme

The app offers numerous themes to start you off, including costumes, accessories, places and more. Choose a few of these themes, and Apple Intelligence produces art based on what you picked.



### 3 Be specific

When you have a more specific idea in mind, instead of choosing from the standard themes, type it in and have it added to your set. You can use Image Playground to create animations, sketches or illustrations.

## HOW TO Make Genmoji >



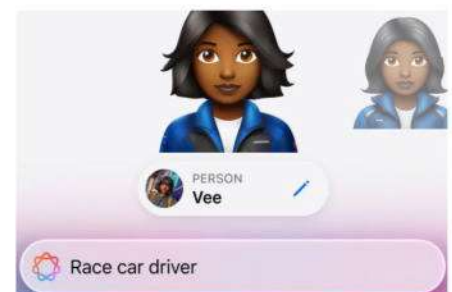
### 1 What's a Genmoji?

Ever sifted through hundreds of emoji, but still not found the right one to use? Genmoji harnesses Apple Intelligence to build exciting custom emoji that you can use just like regular emoticons. You simply need to type in a description.



### 2 Generating Genmoji

After typing the description - however imaginative or crazy - your Genmoji are quickly created. You get several to choose from. Swipe through them and find the one you most like, then you can use it in the usual way.



### 3 Uses of Genmoji

You can choose someone from your photos, and make a customised Genmoji that looks just like them. Genmoji can be added to inline messages in the Messages app, and even used as quick Tapback reactions.



# iPhone Mirroring & Window Tiling

What does Sequoia offer for getting things done?

## Window Tiling

Organising your desktop can be a pain, especially if you have several windows open at once.

That's where Sequoia's new, easier Window Tiling feature comes in. Drag a window - whether a Finder window or an open app - and a space is suggested for it. Let go and it resizes and moves to that space. If you drag it out of its given space, it automatically reverts to the size it was before you moved it to a tile space. It's a great way to tidy your screen.



Window Tiling makes it easier to keep several windows open on the same desktop.



Some very welcome new features have been added to Sequoia's video conferencing facilities.

Presenter Preview shows exactly what you're about to share before you broadcast it, whether it's a single app or your entire screen. Naturally, it works with Apple's own FaceTime app, but it's also good for third-party video chat software such as Zoom. During a video call, click the green video camera icon then, in the window, the Share Screen button, then choose what to share.

There's also a great new Backgrounds option, which uses Apple's



Why broadcast an untidy room during your video call, when you can use the new Background option?



The new Presenter Preview lets you see exactly what you're broadcasting on your screen.

industry-leading segmentation to cut out your image and place it on a backdrop of your choice instead of broadcasting the room from which you're calling. You can choose from a range of standard pictures and gradients, and also use your own photographs. Again, it's done from the green video camera icon in the menu bar. Click Backgrounds to turn the feature on, and the thumbnail to choose a picture to use. With a few clicks, you could be broadcasting from Apple's Cupertino HQ instead of your humble attic office.



# iPhone Mirroring

Control your iPhone, directly from your Mac!



**Ever get those times when you're on your Mac and you really need to reach for your iPhone but it's**

**in your pocket or in a bag in another room?** iPhone Mirroring lets you control your Apple smartphone directly from your computer - as long as they're running iOS 18 and macOS Sequoia.

iPhone Mirroring is a Continuity feature, which helps you use Apple devices together. If your iPhone is in range and connected to the same Apple Account as your Mac, you can open the feature and see your iPhone's screen on your Mac, controlling it using clicks instead of taps. You can swipe between pages on your Home Screen, and launch

your iPhone's apps, controlling them with your Mac's keyboard and mouse/trackpad. You can even transfer files between them in this way.

All the time you're using iPhone Mirroring your phone remains locked, so no one gets to see what you're doing. It's also compatible when you're in StandBy mode.

## HOW TO Use iPhone Mirroring >



### 1 Start mirroring

If your compatible iPhone is within range of your Sequoia Mac, you'll see the iPhone Mirroring icon in the Dock. Click on it and your two devices make a connection, with your iPhone appearing on your Mac's screen.



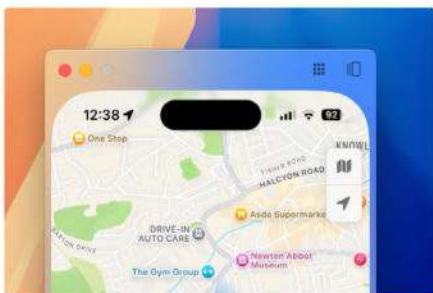
### 2 See your iPhone screen

When your iPhone appears on your Mac, it shows your iPhone's Home Screen. It's mirrored fully, showing your chosen wallpaper, and your app icons just as they're positioned on your iPhone. The entire process is wireless.



### 3 Use your apps

While iPhone Mirroring, you can use any of your iPhone's apps just by clicking on them with your mouse or trackpad (instead of tapping them with your finger). You can swipe screens left or right with your Mac's controller too.



### 4 Control your iPhone

Close an open app by clicking on the long line at the foot of the iPhone's screen. Alternatively, drag the pointer to the top of the iPhone screen and click the icons that appear for the Home screen or App Switcher.



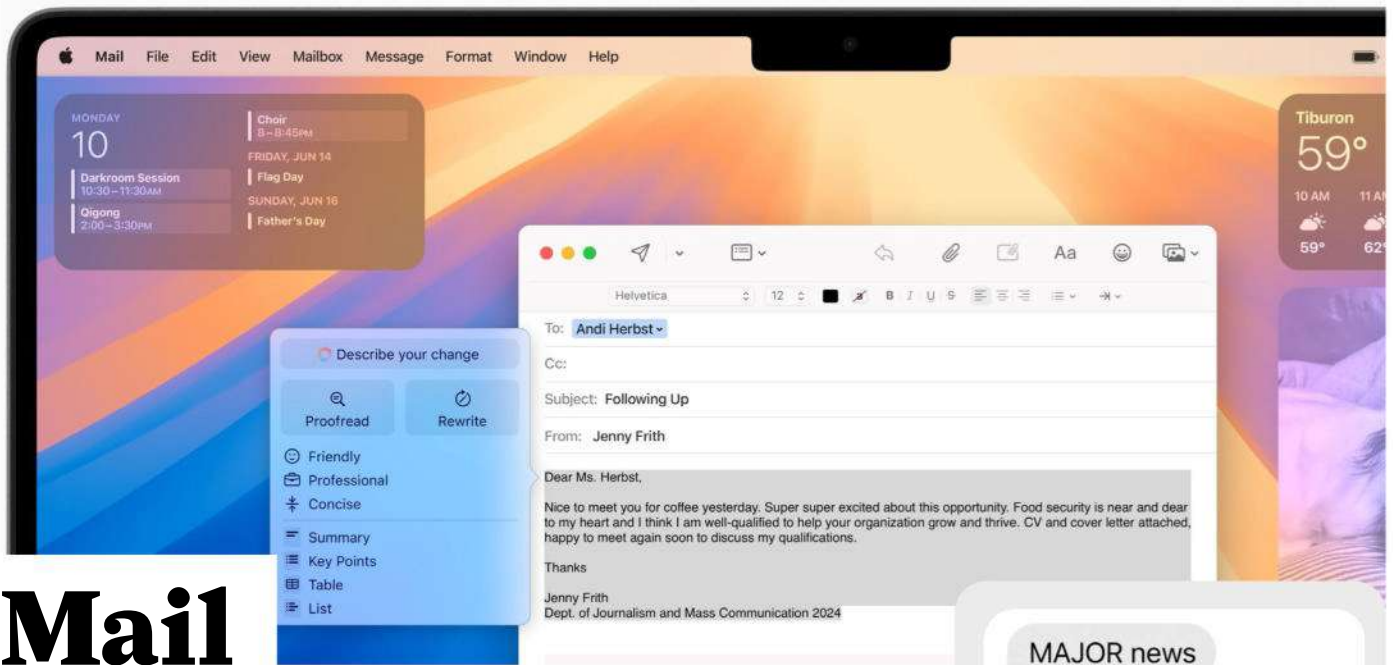
### 5 Get notifications

When using iPhone Mirroring, your iPhone's notifications appear alongside those sent by your Mac. Click on an iPhone notification and it opens in your on-screen iPhone, allowing you to interact as if on your phone.



### 6 Keep things private

When using iPhone Mirroring, your physical iPhone stays locked so no one else can access its contents. If your iPhone is in StandBy mode, it remains so, showing a clock or other StandBy widgets on the screen.



# Mail

## New features coming with later updates



**Apple Intelligence is set to work its magic over Apple Mail, making it easier to organise your**

**emails in the much-loved client.** Like most Apple Intelligence features, it isn't available in the first release of macOS Sequoia, but we look forward to getting it with a later update.

The big new feature, known as On Device Categorisation, was demoed on the iPhone during the June's Worldwide Developers Conference keynote, but it's expected on the Mac, iPad and Vision Pro too. It organises your emails into categories. The Primary section consists of emails from people you know and time-sensitive messages. The Transactions section is for receipts,

order confirmations and so on, while the Updates section stores newsletters, social media alerts and Promotions is for marketing and sales circulars. A new digest section lets you collate all the messages you've got from a business, which is great if your information is spread over several mails. Naturally, there's also an All Mail section whereby you can see all your emails in one place.

Collation is done for you by Apple Intelligence, and if you want to move a specific correspondent to a different category, you can. We're told On Device Categorisation will be available 'later this year', but of course, this could slip to early 2025. Given the amount of emails we receive these days, we can hardly wait to try it out.

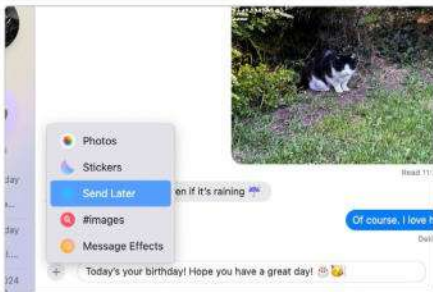


# Messages

**The Messages app offers new effects. In iMessage, you can add all sorts of fun animations to a word or phrase, or even individual letters.**

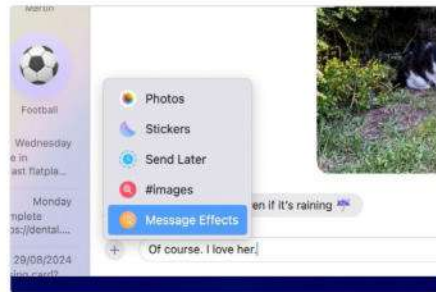
If you want to schedule a message (write it now but have it sent some time in the future), you can. And in macOS Sequoia, Tapbacks are more versatile. You can send a Tapback using emoji and stickers.

## HOW TO Use the new Messages features >



### 1 Type your message

Type your message in the usual way, and where applicable, highlight the text to which you want to add an effect; the whole message, a word or two or even a single letter. Now click on the '+' icon on the left of the text field.



### 2 Choose an effect

Choose Message Effects, then select an effect. Some of these effect the text you highlighted, others apply to the entire message. When you've chosen, click the blue up-pointing arrow icon to send the message.



### 3 Send it later

To schedule the sending of a message, instead of having it sent immediately, first type the message in the text field. Instead of clicking the Send icon, click the '+' icon for an options menu. Select Send Later.



# Whats new in Safari

## Apple Intelligence makes the browser even better



According to Apple, when using macOS Sequoia, Safari is the world's fastest web browser, and better for battery life when browsing on a notebook Mac. It's gained some new features with the new operating system too. The new Highlights feature uses machine learning to find relevant information on the website you're looking at, and presents it in a Highlights window accessed by clicking on the 'A' in the left-hand side of the website address. This information might include directions, summaries, quick links, phone numbers and more. It's much easier than



Safari Highlights detects pertinent information on a website and presents it in an easy-to-find way.



The new Video Viewer feature puts videos front and centre, making them easier to watch on the web.

searching an entire website when all you need (for example) is an address and phone number.

For watching videos on the web, there's a new distraction-free Video Viewer feature. Safari automatically detects a video on the page, and Video Viewer gives it priority regarding screen space, without losing the playback controls. Click away and it automatically moves into Picture-in-Picture mode. This makes watching videos embedded into websites easier to navigate. You can select Video Viewer mode by clicking on the 'A' to the left of the web address, and choosing it from the menu.

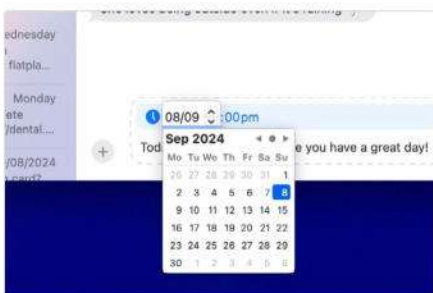
## Reader

A redesigned Reader is accessed through the 'A' icon on the left-hand side of the toolbar. It now offers a contents list and a summary next to the article, as well as presenting content in an easy-to-read way. Click the 'A' again and you can change the background colour, font and more, as well as turning Reader off.

A new option found in the same menu, Hide Distracting Items lets you get rid of things like adverts, illustrations, boxouts and other bits and pieces that might get in the way from reading an article. You select what you want to hide yourself, so the choice is yours.

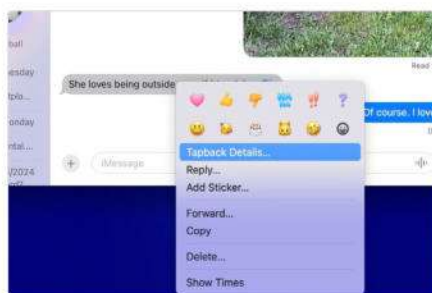


The Reader in Safari now offers summaries and contents lists.



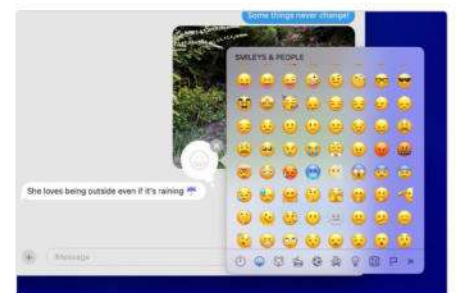
## 4 Schedule your text

A date and time appears. Click on the month, day, hour, minute or am/pm to change that particular value. Click the 'X' to change your mind and remove the scheduling, or click Return to send it according to the date and time chosen.



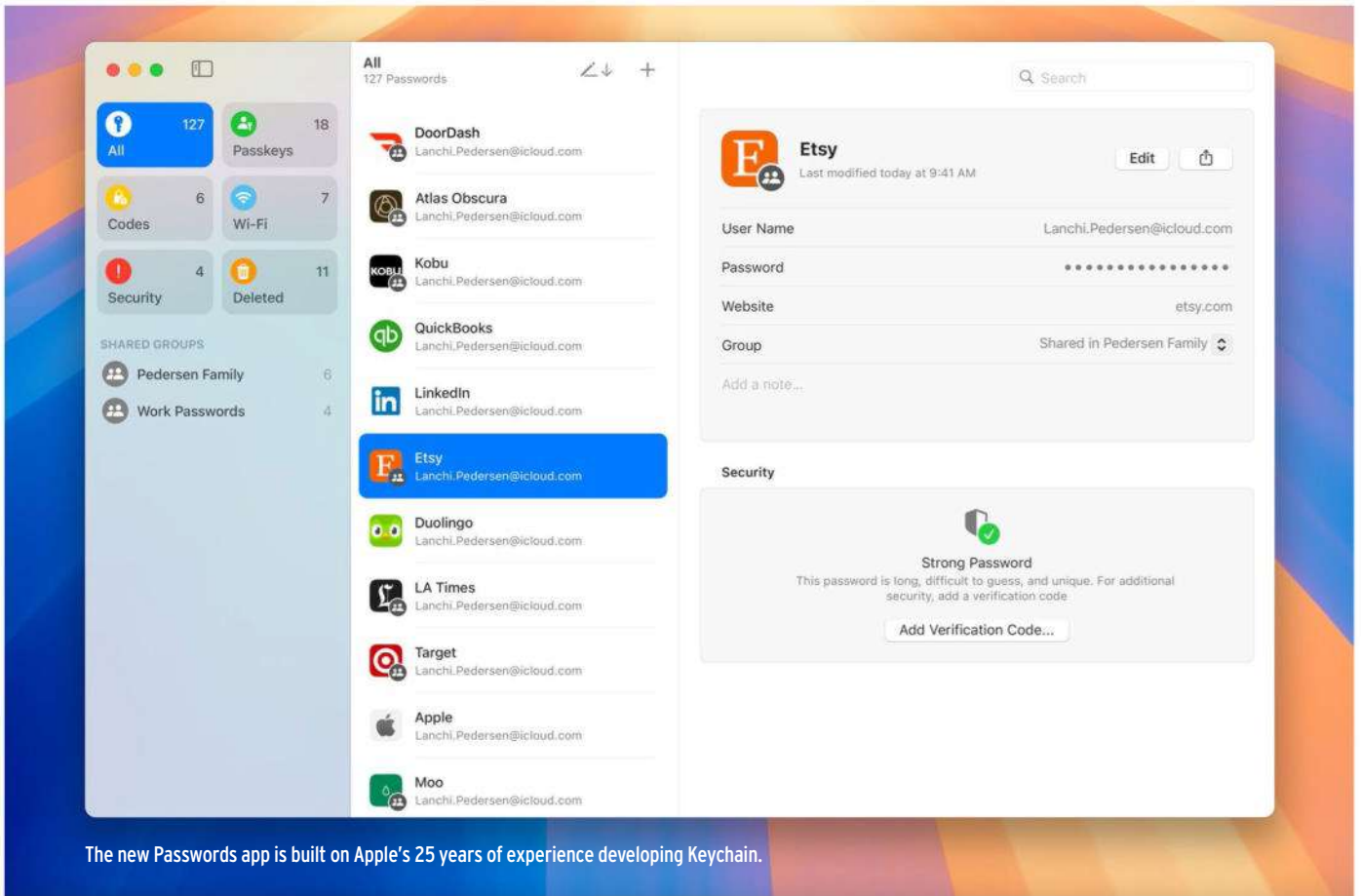
## 5 Respond quickly

A Tapback is an easy way to respond to an incoming message. Just Ctrl-click on the message you wish to react to, and a menu appears. Select an emoji from the menu, or choose Tapback Details or Add a Sticker.



## 6 Try new Tapbacks

Tapbacks are now in colour, and they can be any available emoji, or any sticker you've previously used. The Tapback appears next to the message, just like before. It's a great new way to express yourself, and great fun too.



The new Passwords app is built on Apple's 25 years of experience developing Keychain.

# Passwords & privacy

Keeping your data secure, the Apple way

## Privacy measures

**Most Apple Intelligence features in macOS Sequoia are on-device, that is, the information is processed on your Mac and never sent to external servers.** But for the rare occasions where this is necessary, there's Private Cloud Compute. This allows Apple Intelligence to contact specially created servers running on Apple silicon processors. The software they run has been created with transparency in mind. Only data relevant to the request is sent, and it's never stored or made accessible to others - including Apple. Independent experts can verify the server code to verify it's operating securely, and Apple devices refuse to talk to a server unless the code has been logged for inspection.



**Sequoia brings us a great new Mac app for storing passwords and login data.**

Called simply 'Passwords', it's built on the foundations of Apple's Keychain which has benefitted from a quarter of a century's development.

A handy password and login manager, Passwords can store information such as Wi-Fi, app and website passwords, verification codes, shared passwords, 'Sign in with Apple' information and passkeys.

It's well organised, with an outward appearance that closely resembles the Reminders app. Categories of codes are

indexed in the left-hand sidebar, along with options to view all your data and recently deleted codes, which are kept for 30 days before disappearing entirely. Shared groups are accessible in this sidebar too.

If a password has been compromised by a data leak, you get an in-app notification urging you to change it. Your compromised passwords are also collated into a Security option in the left-hand sidebar, so you can go through them all at once. New passwords are added as you produce them, and you can add them manually too. If you use AutoFill, they automatically populate in input fields when you want to log on; just confirm with your Mac's password, Touch ID or, on mobile devices, Face ID.

Like Keychain, the Passwords app syncs across all your Apple devices, including your Mac, iPhone, iPad and Vision Pro. It also syncs with Windows, using the iCloud for Windows app.



Your Passwords app syncs its data through iCloud, across your Mac, iPad, iPhone and Vision Pro.



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# New in Photos

Apple's photo manager and editor has had an overhaul



The new-look Photos app is based on Collections, automatically curated albums based on popular

themes. The idea behind this redesign is to help you find photos quickly, something that's increasingly essential as your photo library grows ever larger.

The application's left-hand sidebar has been greatly simplified. Under Photos, there are now just three



The new-look Photos app is easier to navigate, collating pictures in whole new ways.

categories; Photos, Favourites and Map, which shows your pictures according to where they were taken. In the new Collections section, you'll find familiar categories such as Memories, People & Pets and Albums, but also new sections offering new collations. These include Days, so you can find pictures you took on a certain day, Trips for when you were away from home and Featured Photos, where you can admire the best

photographs from your library. But these days, taking photos isn't just for holiday snaps and family events. If you use your iPhone to take pictures of documents, receipts, handwritten notes and more, the new Utilities section makes it easier to find them on your Mac.

Clean Up, an Apple Intelligence feature that's coming soon, lets you erase distracting background objects from your pictures too.

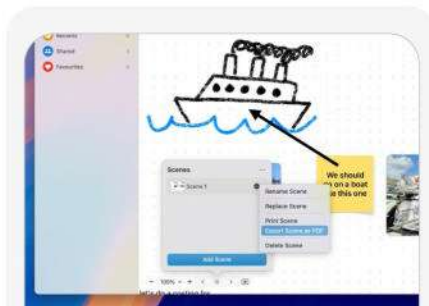
## Calculator



The Calculator has been updated. Switching between Basic, Scientific and Programmer calculators is now done with an on-screen button instead of the View menu, and you can access the Notes app's Maths Notes feature and (when using Basic or Scientific calculators) conversions through this button too. There's also a hideable History sidebar that shows previous calculations, and you can see expressions as you type them when using the scientific calculator. It all makes for an easier, more streamlined experience.



Expressions are shown when you type, and a new button lets you switch calculators.



The new Scenes option makes it easier to navigate your way around a Freeform board.

## Freeform



Under View in the menu bar, there's a new option: Scenes. This lets you add a Scene to your list, or navigate Scenes that are already there. But what is a 'Scene' we hear you ask?

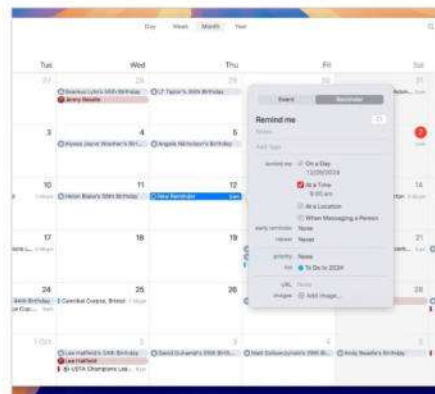
When a Freeform board gets a bit packed, it might be difficult to navigate. Making a Scene focuses on the part of the board currently in view, allowing you to move back to it by selecting it from a menu in the control bar at the foot of the window. You can also export scenes as PDFs, rename them and more. Other improvements include snapping items to grid, panning around the board by holding the Space bar, and improved diagramming.

## Calendar



Calendar now integrates with Reminders. If you schedule a Reminder that is set for completion on a specific day, it appears in Calendar too. You can view and edit reminders, and also mark them as complete, directly from Calendar. You don't have to open the Reminders app.

You can even create a new Reminder in Calendar; Ctrl-click, and the option is there in the contextual menu. When you create a reminder in Calendar, it's placed in the Reminders app as a scheduled reminder too.



Scheduled reminders now sync with the Calendar app, making them visible for the date and time you scheduled them.





# The future of gaming?



**Gaming announcements at keynotes about new operating systems always seem to offer more than they deliver...**

But with the last two releases, the Mac seems to be becoming a more capable - if not more popular - platform for video games.

We've some high-profile titles on the way. Look out for Prince of Persia: The Lost Crown and Assassin's Creed Shadows, and Capcom's Resident Evil 7: Biohazard and Resident Evil 2, coming soon. Later this year, expect Warcraft: The War Within, Frostpunk 2, Palworld, Sniper Elite 4 and RoboCop: Rogue City.

Game Porting Toolkit 2, the second release of the developer's tools that make it easier to port PC games to the Mac and Mac games to mobile devices, delivers some of the most-requested features. Windows compatibility is improved, and there are better shader debugging tools.

## Home



**There's a few new features for the Home app, mostly to do with smart locks.**

You can set guest access, allowing a visitor to enter your home at certain times and on certain days. If a carer or cleaner visits every Tuesday at midday, you can give them guest access, allowing them entry at these times.

Going forwards, Apple is planning to introduce support for robot vacuum cleaners to the Home app later this year, including for automations, scenes and Siri requests. The company also plans on integrating electricity consumption.



The Home app boasts new features for smart locks, and there's more to come later in the year.



Apple's AirPods offer an even better in-game experience on the Mac, especially if you have AirPods Pro 2.

## AirPods

**There's a few new features coming to Apple's recently updated AirPods.**

If you've invested in the new AirPods Pro 2, you can respond to Siri simply with a head shake for 'no' or a nod for 'yes', without actually speaking. Personalised Spatial Audio for gaming means you can tell from which direction an in-game sound is coming, and there's voice improvements for in-game chat and streaming. The new AirPods Pro 2 also boast reduced audio latency, for even better immersion into the gaming experience of your choice.

## What's new in Weather?



**The wind chill factor is already featured in the Weather app, but in macOS Sequoia, when there's a significant difference between the actual temperature and the Feels Like temperature, the latter appears far more prominently, next to the actual temperature.**

Also, if you've added Home and/or Work addresses to your Contacts card, you can add them as Weather locations too. Click the Search field and they're offered as suggestions, which you can open immediately from the menu that appears.



In Sequoia's Weather app, you can quickly check what the weather's like at your Home or Work address.

# Take a hike with Maps

Keeping your data secure, the Apple way!



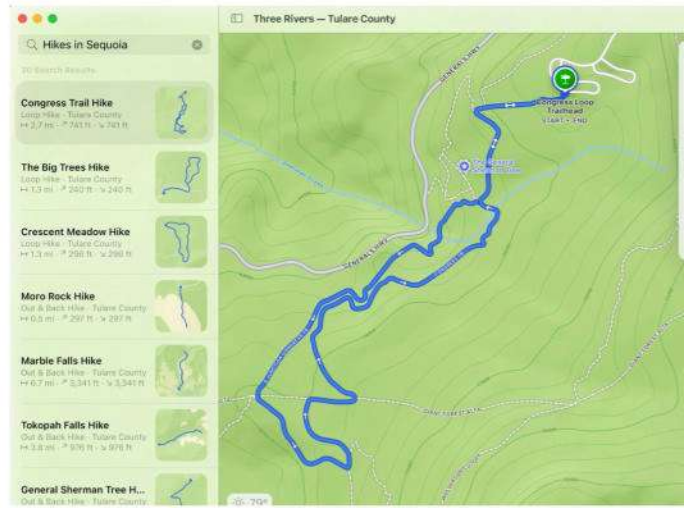
Apple's Maps app has long been a useful tool for finding your way around in towns and cities, planning

a travel route or locating local amenities such as cafés, petrol stations and more. With macOS Sequoia, it gains another great feature that helps you explore the world; but only if you're in the United States.

To date, GPS tools such as the Maps app have been at their weakest when you're in open land, with few if any nearby markers such as buildings or roads. Not only do many GPS systems offer no indication of elevation, that is,

hills and valleys, there's also patchy, if any, mobile coverage in the countryside or desert. This changes with Sequoia, and also the maps apps in iOS 18 and iPadOS 18.

Thousands of hiking routes across all 63 national parks in the United States are included, such as Bryce Canyon, the Everglades, Yosemite and, of course, Sequoia. You can download the routes for offline use too, and also create and save custom walking and hiking routes. When you visit a national park, you can filter the routes according to length, elevation



The Maps app now includes hiking routes for all 63 US national parks, hopefully details of footpath routes in the UK will follow.

and route type, making it easier to find a trek that suits.

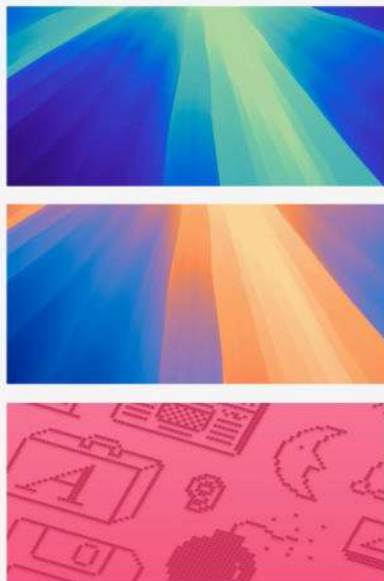
To date, only US national parks are included, but we hope the feature turns out in more countries as time goes on. We'd love to hike through the Brecon Beacons or Dartmoor, without having to carry a paper map with us.

## Developer tools

Apple has released some new APIs (Application Programming Interfaces) for developers to use, enabling them to integrate Apple Intelligence features into their own apps. Developers can add Image Playground's graphical creation capabilities into their own apps with just a few lines of code, and Writing Tools automatically becomes available in apps that use the standard editable text view, without any intervention on the part of the developers. If an app uses SiriKit, it benefits from Siri's new capabilities too.



Third-party apps like Craft can integrate Apple Intelligence features such as Image Playground.



The light and dark versions of the standard wallpaper. Can you spot the inspiration?

## Wallpapers

These are the light and dark versions of the standard Sequoia wallpapers. Can you see what they represent? The Sequoia national park takes its name from the giant trees that grow there, and that's what's depicted here. Imagine being in a forest and looking up. Another wallpaper has classic Mac OS icons.

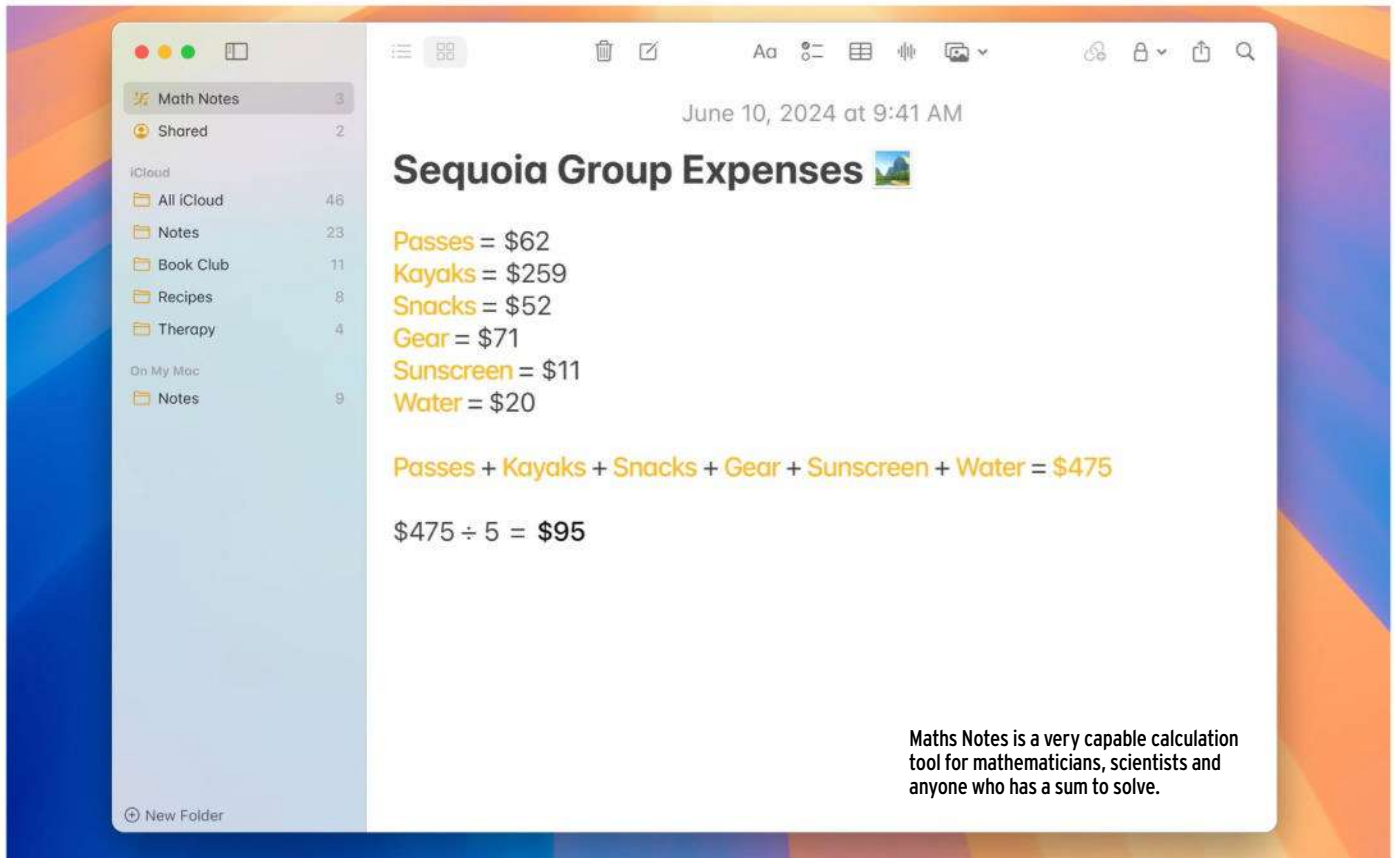
## ChatGPT

Apple has done a deal with artificial intelligence research organisation OpenAI. Apple is incorporating the capabilities of Open AI's chatbot and virtual assistant ChatGPT into its operating systems. This means you can benefit from ChatGPT's broad world knowledge and specialised resources without having to close your Apple app and open a dedicated ChatGPT app. For example, Siri can tap into ChatGPT's expertise when answering a question. The Apple service asks your permission to tap into ChatGPT before doing so.



Apple Intelligence can harness the power of artificial intelligence pioneer ChatGPT, making it even more capable.





Maths Notes is a very capable calculation tool for mathematicians, scientists and anyone who has a sum to solve.

# Maths Notes, Highlights & collapsible sections

The Notes app is getting smarter and more useful in macOS Sequoia



**With macOS Sequoia, the Notes app is even more capable.** If you find yourself writing a very long, text-

heavy note, you can divide it into sections with collapsible section headers. Just identify a line as a subheader in the formatting menu and, when you hover your pointer over it, you'll see that a chevron appears. Click this to collapse and expand that section of text.

Maths Notes allows you to work out mathematical equations in the Notes app. Just type it in, and as soon as you enter the '=' symbol, the answer appears. It's not just for the basic four functions either. The Maths Notes feature offers the same capabilities as a scientific calculator, which is great news for those who need more advanced mathematical capabilities. You can assign variables and use them in equations, and then adjust their

values to see how it effects your results. Maths Notes can be saved just like normal notes too.

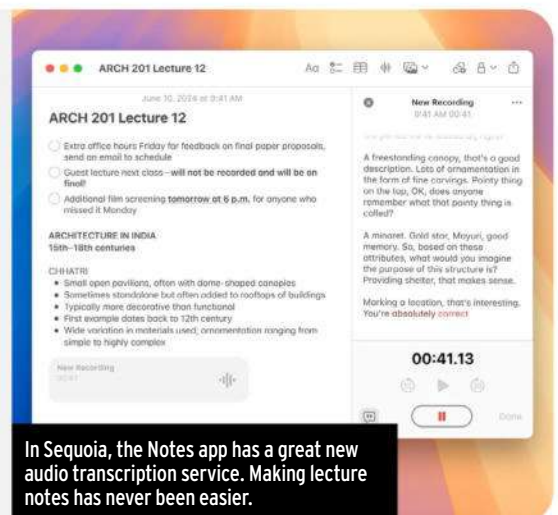
Finally, there's a great Highlights feature added to the formatting tools. Highlight the text you want to mark, click on 'Aa' and click the highlighter button in the top-right of the window. The text you chose is highlighted, just like if you'd gone over a piece of printed text with a highlighter pen. Click the coloured dot to change colours.

## Live Audio Transcription

**A new Apple Intelligence feature available on Macs with an M1 chip or better is Live Audio Transcription.** First of all, decide where on an existing note you want your transcription to appear, or open a new one for the purpose. Click the new waveform button in the Notes app's tools, and a recording box appears. In a right-hand sidebar are the recording tools, which allow you

to record audio, and have it transcribed in real time. You can then copy and paste the transcribed text, and play back the audio recording too. It's great for lectures, interviews, meetings and numerous other tasks.

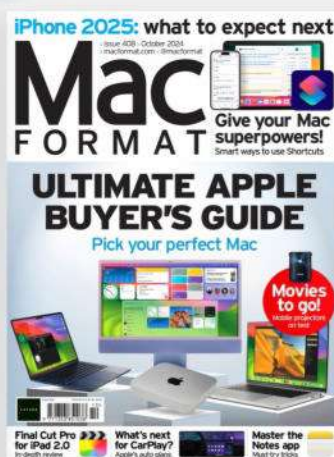
The feature is currently only available in English, but UK, Australian, Canadian, Irish, New Zealand, South African and American English are catered for.



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# APPLE SKILLS

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**NEW IDEAS**

Your in-depth guide to getting more from your Apple kit



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## > Master Apple shortcuts

### macOS

- > *Cmd* is the Command key.
- > *Alt* or *Opt* is the Option key.
- > *Ctrl* is the Control key, also shown as '^' in shortcuts in the menu bar.
- > The thick, outlined up arrow is the Shift key.
- > The thin, left arrow or outlined pointer with 'X' inside is the Delete key, which deletes to the left. Pressing the Function key (Fn) and the Delete key deletes to the right.
- > The thin, right arrow key with a small vertical line at the end is the Tab key, which shifts the focus between *some* controls.

### iOS

- > A *tap* is a brief contact of (usually) one finger on your device's screen.
- > To *drag* is to move a finger across the screen to scroll or pan around content.
- > *Swipe* means move one or more fingers across an item or the screen, then let go.
- > A *flick* is like swiping, but it's quicker, and is often used to scroll content more quickly.
- > *Pinch* means move two fingers together or apart, usually to zoom in or out.
- > *Touch and hold* means lightly rest your finger on an item and wait for a reaction.



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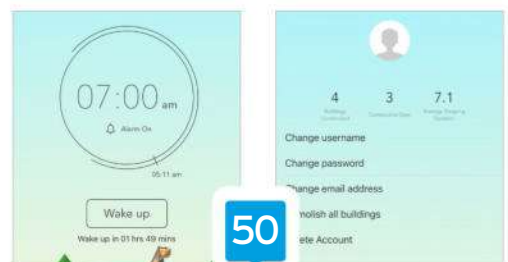
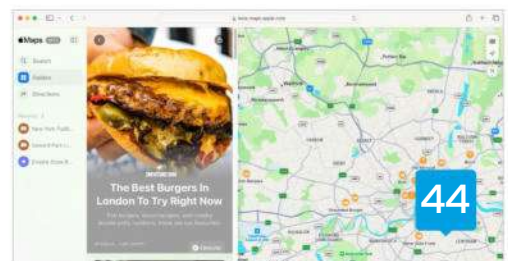
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# Customise your slideshows

How to create a customisable and shareable slideshow in Photos

**IT WILL TAKE**

> 15 minutes

**YOU WILL LEARN**

> How to make a great slideshow by adding a theme and soundtrack. Plus how to export a shareable slideshow

**YOU'LL NEED**

> Apple Photos



**A slideshow is an entertaining way to share holiday highlights with friends and family.** And the

Photos app can help present your images in eye-catching ways using a variety of visual themes. For example, the 'Vintage Prints' theme places a colour image on top of a scattered pile of monochrome shots and uses 'Ken Burns' style pans and zooms to add motion and energy.

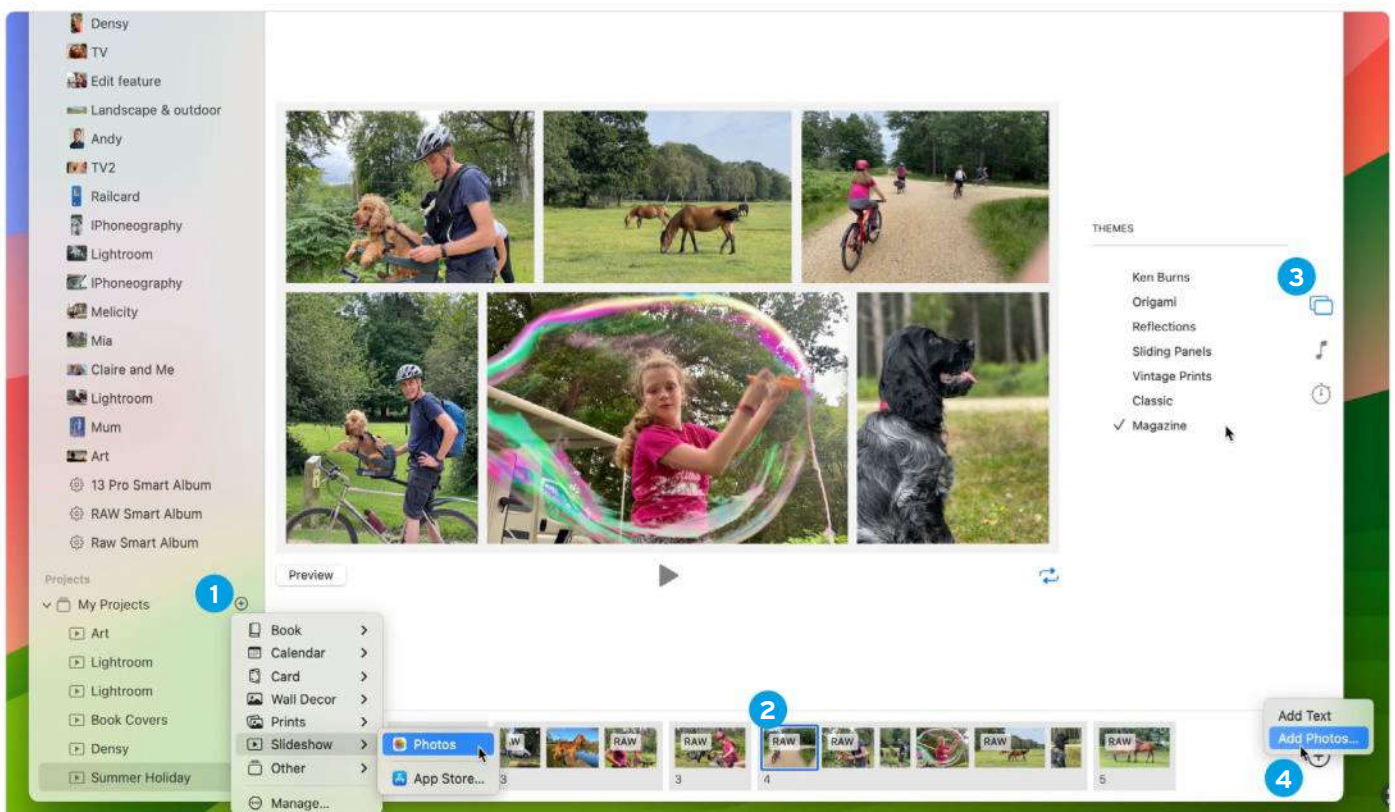
There are seven visual themes to choose from, and each one has its own accompanying theme song. The movement and music of each

theme helps hold the viewer's attention while watching your images.

Simply select a slideshow from any album you've created in Photos, choose a visual theme and the corresponding music will be added automatically. If you're happy, click Play Slideshow to present it on your Mac's display.

Alternatively, if you want more control over the content, layout and music, you can customise it in Photos' Projects. You can also export your project as a slick slideshow movie to share on social media sites, such as YouTube or Facebook. **George Cairns**

## EXPLAINED... The Project window >



**1 New project**

> Click here to create a new slideshow from scratch, or to turn an existing album into an exportable slideshow movie.

**2 Filmstrip**

> Drag the thumbnail images in the filmstrip around to change the running order of your slideshow.

**3 Theme picker**

> Click here to choose a theme for your slideshow. You'll find a range of layouts, moves and transitions.

**4 Add images**

> Click '+' to add additional photos from your Library. You can also add editable text to a photo in the filmstrip.



## HOW TO Use the different project tools >



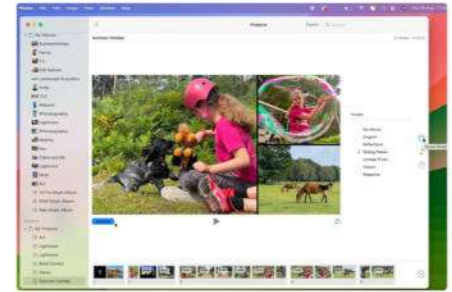
### 1 Create an album

Choose File > New Album. Label the album. Drag shots from the Library into the album. Click on the album to view its contents. Open Projects in the sidebar and click the '+' next to My Projects. Choose Slideshow > Photos.



### 2 Preview slideshow

If necessary, Photos will download the album's full-size shots and add them to your new slideshow. Click Preview to view the slideshow. By default, Photos uses the Classic Theme which mixes between consecutive shots.



### 3 Choose a theme

For a more visually interesting slideshow, click the Themes icon (overlapping rectangles). Click on a theme option and then click Preview to see how it presents your photos. The corresponding theme music will also play.



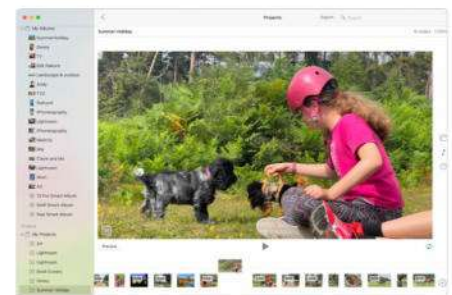
### 4 Customise Ken Burns

Click the Ken Burns icon in the slideshow window. Click the start icon and drag the slider to choose a photo's start size. Choose an end size and position for a shot. The image will then zoom between the two key frames.



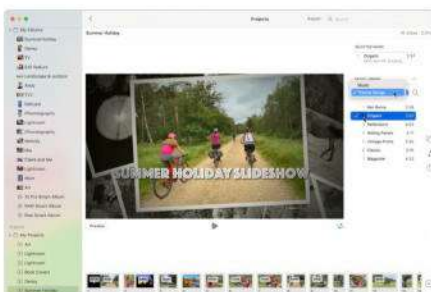
### 5 Choose a title

Each theme has a title page to introduce your slideshow. The title is taken from the name of the album used to create the slideshow. You can edit this copy by clicking in the text field in the slideshow's Preview window.



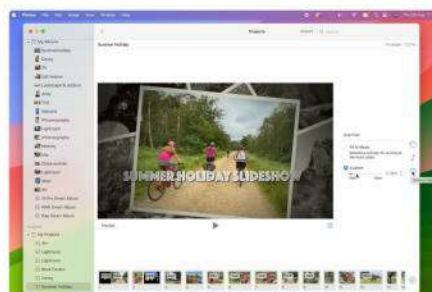
### 6 Reorder your shots

Photos play according to the order that they appear in the album. You can rearrange the slideshow's running order by dragging images from one slideshow page to another in the filmstrip at the bottom of the Projects pane.



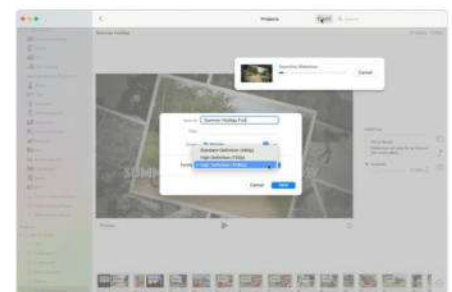
### 7 Change the music

Click on the musical note icon, then click the down arrow. Choose Theme Songs (or choose Music to select from your own library). You can preview each song using the adjacent Play button. Click on a song to add it to your slideshow.



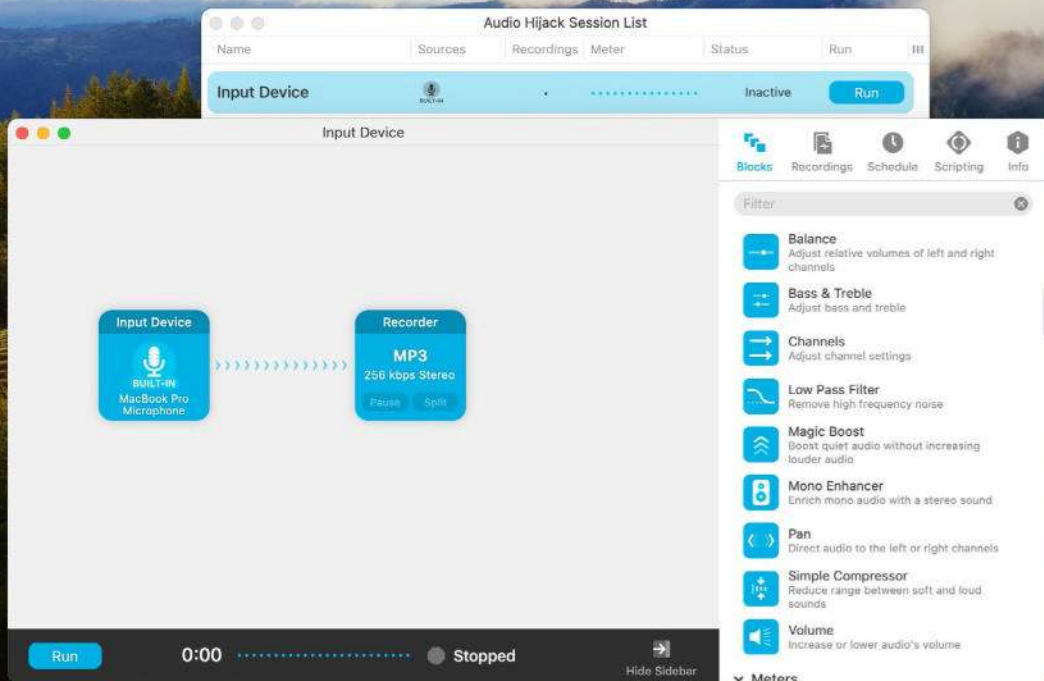
### 8 Choose duration

Click on the Duration Settings icon. If you tick 'Fit to Music', the slideshow will play (and loop) until the music finishes playing. If you plan to share the slideshow online, drag the Custom slider to choose a specific duration.



### 9 Share slideshow

When you've customised the look of your slideshow, click Export. Choose a format. High Definition (1080p) will look great on a widescreen TV; Standard Definition will be easier to upload and share via social media.



# Record sounds on Mac

Record different sound sources with QuickTime Player and Audio Hijack

## IT WILL TAKE

> 15 minutes

## YOU WILL LEARN

> How to capture any audio on your Mac

## YOU'LL NEED

> Audio Hijack, macOS 14.4 or later



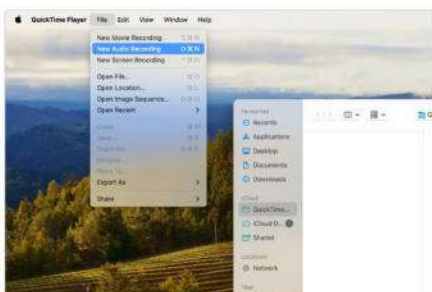
**Your Mac can play all kinds of sounds from all kinds of sources, but how do you record and store them for personal use?** For things

plugged into your Mac, such as microphones and audio interfaces, you can use QuickTime Player or, if you want to adjust the sound, GarageBand. But to record from apps, online audio, or even from multiple sound sources at once, Audio Hijack (\$77, about £70, [rogueamoeba.com](http://rogueamoeba.com)) is even better. We use it for all kinds of things, such as recording

phone and FaceTime interviews; saving audio from videos we need to refer to later, and for recording from all kinds of apps.

Audio Hijack can also do something very clever - it can transcribe audio files and turn them into text you can edit, copy and paste. If you want transcription but don't need Audio Hijack's power, there's a more affordable transcription app: MacWhisper ([goodsnooze.gumroad.com](http://goodsnooze.gumroad.com)), which is free and works really well with recorded audio from apps such as QuickTime Player. **Carrie Marshall**

## HOW TO Record different audio types >



### 1 Do it QuickTime

Launch QuickTime Player from Spotlight or your Applications folder, then select File > New Audio Recording to create a new recording. In this case, we'll use our MacBook's built-in mic but any connected audio device will work.



### 2 Start recording

To adjust the recording quality, click the down arrow to the right of QuickTime's Record button. This lets you choose from connected inputs, for example our laptop's microphone, and to choose high or maximum quality.



### 3 Capture your audio

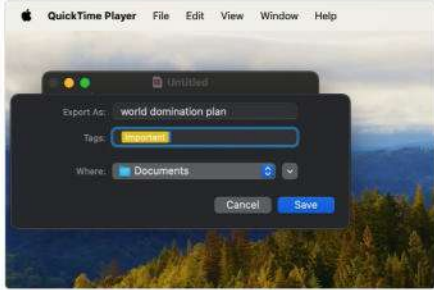
Now it's just a matter of clicking the Record button (and again when you want to stop). As you record, the indicator bar at the top of the window will pulse to show you how loud your sounds are. It will also display a file size.



# CONTINUED... Record different audio types >



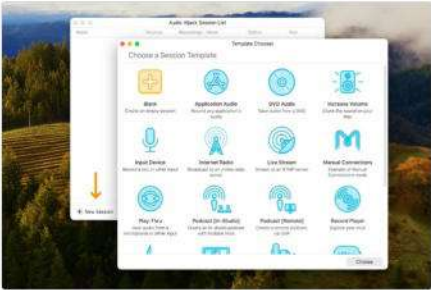
**4 Listen back**  
When you click to stop recording, the window will change to the playback window shown here. You'll see a central play/pause control, forward and back controls, sliders for volume and playback progress, and an AirPlay button.



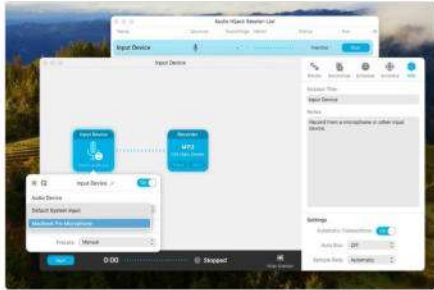
**5 Save your sound**  
Go to File > Save, and you can decide where you want your sound recording to be saved and what you want it to call it. You can add tags to your recording by choosing from the existing ones or typing a new tag and selecting a tag colour.



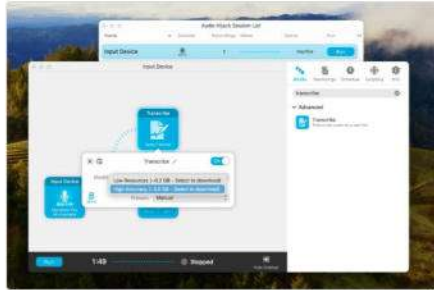
**6 Record anything**  
If you need to bring in the big guns for more options, Audio Hijack can record literally anything that makes noise on your Mac - from websites and apps to internet radio and record players. Open the app and click New Sessions.



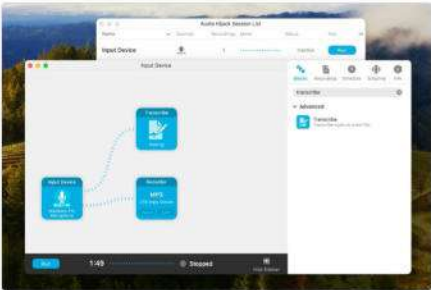
**7 Pick your playback**  
As you can see, there's a big list of audio types, such as recording from an internet radio station. Let's go for Input Device, which enables you to record from sound sources connected to your Mac such as microphones or your built-in mic.



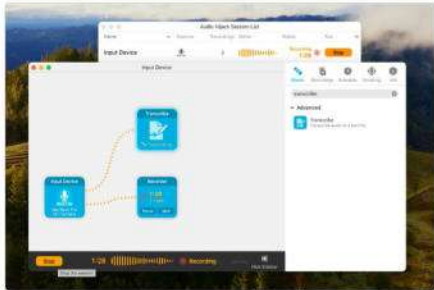
**8 Choose your source**  
Audio Hijack uses flowchart-style diagrams to show what's connecting to what. Things can get complex, but this one is simple. Our input device is our Mac's mic connected to an MP3 recorder. That'll save the sound as an MP3.



**9 Turn it to text**  
One of our favourite features is currently in beta. Select Blocks from the sidebar and search for Transcribe; drag that into the window so it connects to Input Device. You'll need to choose how big a dictionary you want to download.



**10 Wait a while**  
We're downloading the bigger High Accuracy dictionary. It'll take a couple of minutes to download and install. While you wait, check out the other draggable tools - they include de-noise tools and audio improvers.



**11 Let it listen**  
No matter what settings you've used and what you're recording, all Audio Hijack live recordings work the same way; click Run and it'll start recording. In this case, it'll also transcribe what it hears, so you'll have an MP3 and a transcript too.



**12 Open it up**  
By default, your transcript is a text file saved to Documents > Audio Hijack on your Mac. The example here is an unedited transcript; the transcription block adds punctuation and product capitalisation automatically.



Current Document

Done

Restore

Today, 12:04

Today, 12:04

# Work with Versions in Keynote

Revert to previously saved versions of documents in iWork apps

## IT WILL TAKE

>10 minutes

## YOU WILL LEARN

> To switch between versions and copy elements

## YOU'LL NEED

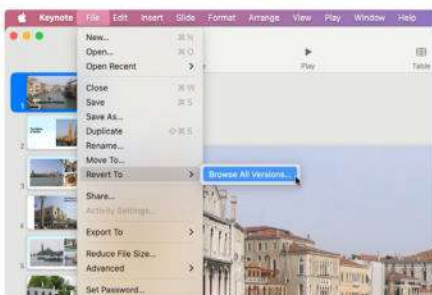
> macOS 10.7 or later



**Versions has been a long-standing, but often overlooked, feature within the Pages, Numbers, Preview and Keynote apps, enabling you to easily go back to previous versions of a document.** That's great for all kinds of reasons as it means you can either revert back to an earlier iteration of a doc (when you mess up) or use it to recover items (such as images and charts) that you accidentally lost during your creative frenzy.

Triggering the feature brings up a Time Machine-like interface where you can browse a stack of all the previously saved versions of your current document. You can bring up a preview of a selected version and copy elements from it, whether you then opt to restore it or not. By harnessing the power of Versions, you can get creative and experiment with your documents, safe in the knowledge that you can always revert to an earlier iteration. **Phil King**

## HOW TO Revert to a previous version >



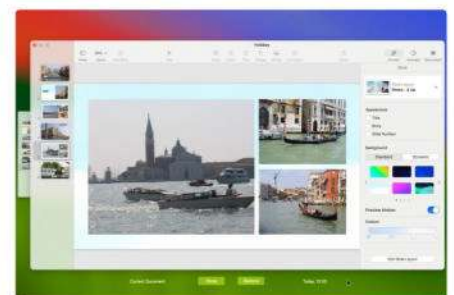
### 1 Start reverting

If you want to revert to a previously saved version of your presentation in Keynote, select File > Revert To. You may see an option for Last Saved (with a day and time) version. Otherwise select Browse All Versions.



### 2 Browse versions

The view will shift to show a thumbnail of the current version on the left and a stack of previous ones on the right. You can browse through the latter by using the up and down arrow icons or the timeline on the right-hand edge.



### 3 Restore a version

Before deciding whether to restore it, get a large preview of a version, and see its slides, by clicking its thumbnail. Click the Restore button to revert to that version. You'll then be back in the Keynote interface where you can edit it.



## CONTINUED... Revert to a previous version >

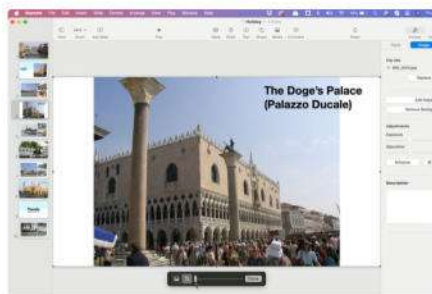


**4** Or restore a copy  
Alternatively, while on the Browse All Versions screen, hold the Opt key and then select 'Restore a Copy'. This will open a copy of the selected version in Keynote, alongside the 'current' one you were working on, which can prove useful.

**5** Restore lost slides  
If your restored copy of the older version is missing any slides you added later, copy them from the open 'current' document. Select the thumbnails in the left sidebar, Ctrl-click and choose Copy. Then paste them into the other version.

**6** Copy between versions  
Alternatively, on the Browse All Versions screen, you can copy slides, items or text from a selected version from the stack and paste them into the current document. (To view the Keynote menu, move the pointer to the top.)

## HOW TO Recover a lost image >



**1** Find the image  
If you've lost the file for an image, you may be able to retrieve it from a Keynote presentation. If it's not in the current version, select File > Revert To > Browse All Versions, then preview the stacked versions to find the image and Restore.

**2** Copy full image  
If you simply Ctrl-click and Copy the image, you may get a cropped version of it. To get the full picture, Ctrl-click and select Edit Mask, then move the crop bar all the way to the left and click Done. Now Ctrl-click again and Copy the full image.

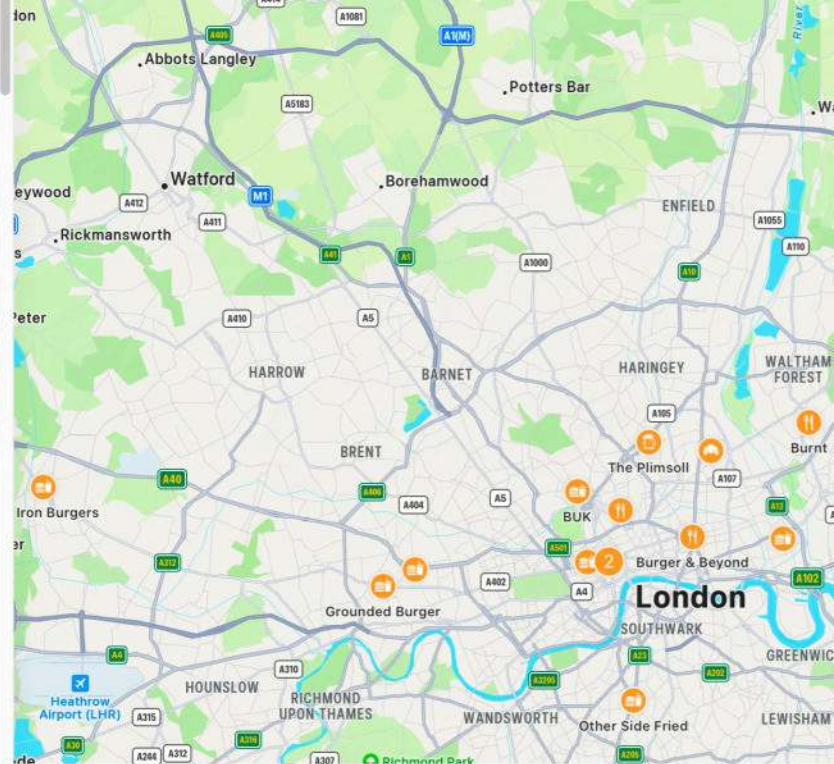
**3** Save image  
Open the Preview app and press Cmd+N to create a new document from the clipboard. This will open a window with the lost image that you copied from your presentation. You can then save the image by pressing Cmd+S.



## More versions of Versions

### Working with Versions in other apps >

You can also access the Versions feature in the Pages, Numbers and Preview apps. The concept is the same; every time you save a document, a version is stored. You can then select File > Revert To > Browse All Versions to view a similar version browser interface to that in Keynote, with a stack of previous versions shown on the right. Again, you can preview a version by clicking on it and copy items from it to your current document on the left if you want. Or just restore the older version, or a copy of it by holding the Opt key.



# Use the Apple Maps website

Apple Maps is finally available as a website – albeit in beta form

## IT WILL TAKE

> 5 minutes

## YOU WILL LEARN

> A Mac or iPad running Safari or Chrome, or a PC running Chrome or Edge

## YOU'LL NEED

> How to familiarise yourself with the Apple Maps website



**In a move that intensifies the rivalry with Google Maps, a public beta version of Apple Maps has been made available**

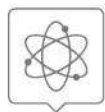
**on the web.** It lets you search for and discover places to visit while getting driving and walking directions. You can also find information about businesses, perform actions direct from the Maps Place Card – and check out what other people think by sharing it – all without using the Maps app on your computer.

Go to [beta.maps.apple.com](https://beta.maps.apple.com) on a Mac or iPad running Safari or Chrome, or a Windows PC running Chrome or Edge and you'll be presented with the Maps interface. It's not as comprehensive as the apps but it looks familiar, letting you quickly find what you need.

We'd like to see a sign-in option so your web activity can be synced with the apps and it'd be great to include multi-stop directions and options for public transport and bikes, but we're sure they'll be added in due course.

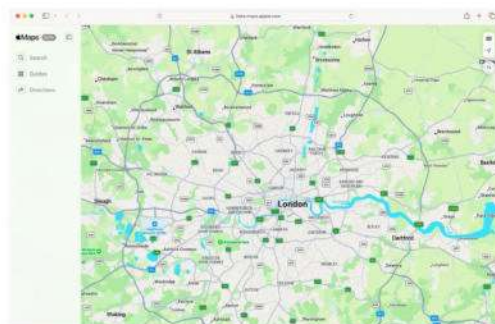
**David Crookes**

## HOW TO Use Maps in a browser >



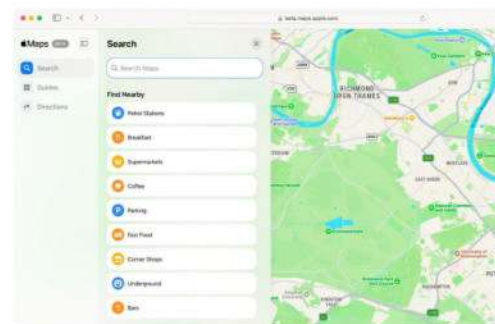
### Genius tip

> Places you've recently looked for can be viewed in the sidebar and when you search but remember this history will disappear when you close the tab.



### 1 Orientate yourself

Launch the website and it'll show your location. If it doesn't, click the navigation pointer (top right). If Location Services is off, go to Apple menu > System Settings > Privacy & Security > Location Services.



### 2 Find a location

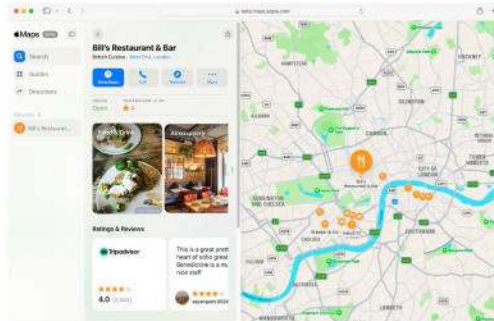
Click and hold on the map to move around, using your mouse scroll or trackpad to zoom in and out. Use the Compass icon to alter the geographic orientation and select Search to quickly find a specific location.



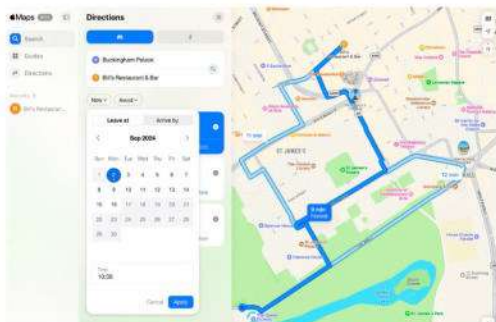
## CONTINUED... Use Maps in a browser >



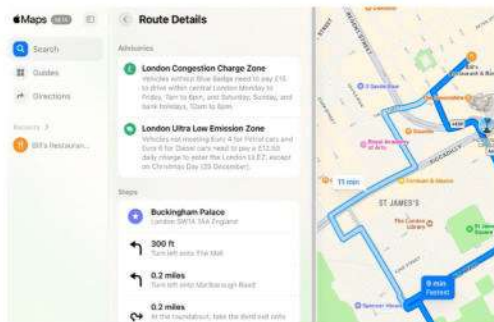
**3 Look for amenities**  
When you click Search, you'll also see links to amenities such as nearby stores, parking and fuel stations. Clicking one will plot the locations on the map while letting you select the exact amenity you wish to visit.



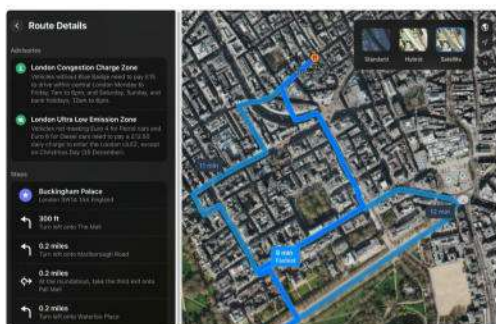
**4 Check out details**  
Select a place or click a place label on the map to access a card that, in many cases, lets you find directions, call, visit the website, view ratings and reviews, see photos, and more. Share places via the Share menu.



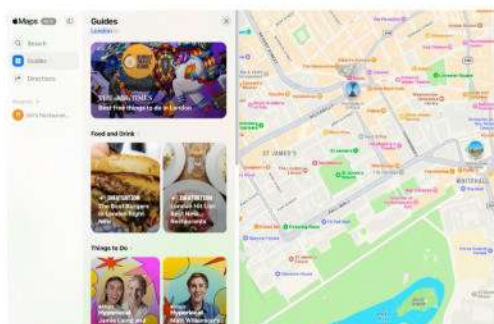
**5 Get directions**  
Choose Directions via a card or main menu. Check the start and end points and, for drivers, maybe input when you want to set off. Drivers can avoid tolls and motorways. Walkers can avoid stairs, hills and busy roads.



**6 Select a route**  
You'll often get a choice of routes. Click 'i' next to a route for step-by-step directions and any advisories. You can view the route on the map to see if there are potential delays (look for red and orange stretches).



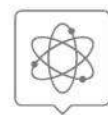
**7 Alter the view**  
You don't need to stick to the standard view. You may gain a better sense of a location by selecting the Layers button (top right) and choosing the Satellite view. You can mix Standard and Satellite views using Hybrid.



**8 Use the guides**  
Need inspiration? Select Guides and use the menu to find a city. Discover places to eat and things to do and see the locations mentioned plotted on the map, letting you find more details and get directions.



**Jargon buster**  
> Apple's **Look Around** feature offers a 360° street level view of the immediate environment. It is coming soon to the Apple Maps website.



**Genius tip**  
> You can't share the directions to another device but you can print them, which could be useful if you're travelling in a remote area.





# Learn new creative skills

Get creative and have fun in your spare time with Skillshare

## IT WILL TAKE

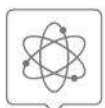
> 1 hour

## YOU WILL LEARN

> How to find interesting courses and learn new things

## YOU'LL NEED

> Skillshare (iOS/iPadOS 15 or later, or tvOS 10 or later)



## Genius tip

> It's easy to fall out of the learning habit but the app's settings lets you manage learning reminders, creating a time for a weekly nudge.



It's true to say that learning is a lifelong process but, while nurturing new skills can be a heap of fun, you may find that

you're often pressed for time. Engage with Skillshare, however, and you're unlikely to feel pressured. The app provides thousands of creative classes across art, photography and design and breaks them down into



When you look at a course's information page, you can scroll down the screen and see related classes.

very manageable chunks. Importantly, you can also learn at your own pace.

Available for iPhone, iPad and Apple TV, the lessons are taught by creative professionals and industry icons, and you're sure to find something of interest whether you're looking for success on YouTube, wanting to create your own unique sound, seeking to create animation, write fiction, and more. You can receive certificates, engage with teachers and other classmates and share end projects for all to see. You're also able to access as many or as few classes as you wish.

## Keep learning

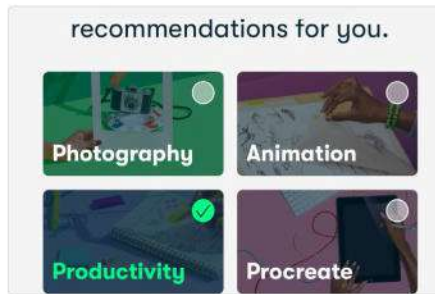
To gain access, you'll need a subscription which can be paid monthly (£24.99) or, to save money, annually (£79). The good news is that you don't need to pay straight away. There's a free one-month trial available when you first use the app and it's easily cancellable via Settings > Apple Account > Subscriptions.

It's certainly worth checking out given the sheer breadth of content available so let's take a look at how you can get the most out of it.

**David Crookes**

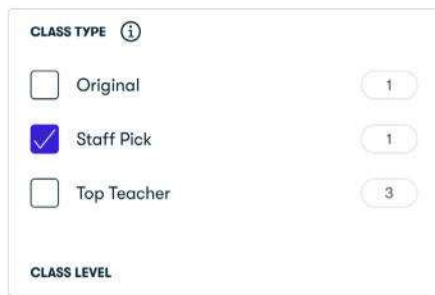


## HOW TO Find and follow the perfect Skillshare course >



### 1 Pick subjects

After signing up to Skillshare, you're asked to pick some subjects of interest so that the app can make course recommendations. Select 'Let's get Started' when you're done and a relevant dashboard will be created for your tastes.



### 4 Discover courses

The search filter also lets you look for classes produced by Skillshare or those produced by its community. Narrow down by class level (Beginner, Intermediate or Advanced), ratings, length and those with resources.



### 7 Watch the videos

Ready? Tap a lesson to start a video. You can toggle Download All to work offline and select the '...' button on videos to change the playback speed, turn on subtitles or listen to the audio when using other apps.



### 2 Find a course

Browse through the Watch tab, checking out staff picks, suggestions and new and trending courses. You can see how many lessons a course consists of and its overall length. You can also bookmark any you like the look of.



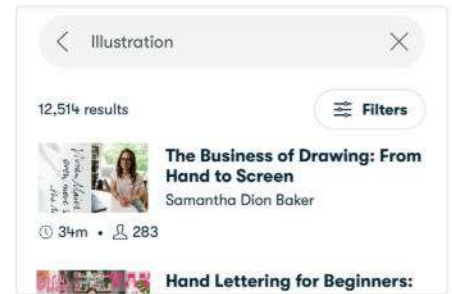
### 5 Be inspired

Not sure what to go for? Each day, the Inspiration tab shows a different set of trending student projects which you can like or share. As well as seeing details of a project, you can tap through to the relevant course.



### 8 Complete a class

To continue a course, tap Save - so it's easy to pick up where you left off in the My Classes tab. To engage, tap 'Start a Discussion' and start or continue a chat. Your projects can be uploaded via Projects > 'Submit a Project'.



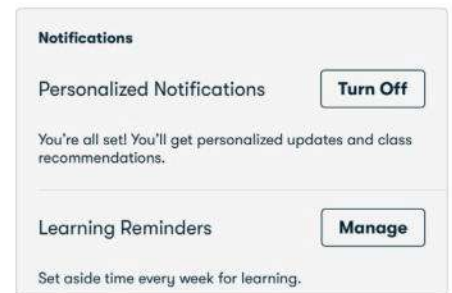
### 3 Use search terms

To widen your scope, tap the Search button and either choose a popular course topic or enter keywords. When you see the results, you can tap Filters and sort them by relevance, number of students or the newest classes.



### 6 Start learning

See a course you like the look of? Select it and learn more by reading a synopsis of what's involved, checking out the teacher's profile and looking through the lesson titles. Resources and key tasks are under Projects.



### 9 Find another class

You can manually look for another class, allow suggestion notifications via My Classes > Settings or embark on a learning path - sets of curated classes that build knowledge (discover recommendations on the dashboard).

# Enter podcast paradise with Overcast

Perfect your podcast listening with this app

**IT WILL TAKE**

> 5 minutes

**YOU WILL LEARN**

> How to love podcasts again with Overcast

**YOU'LL NEED**

> Overcast (Free, offers IAPs), iOS 17 or later

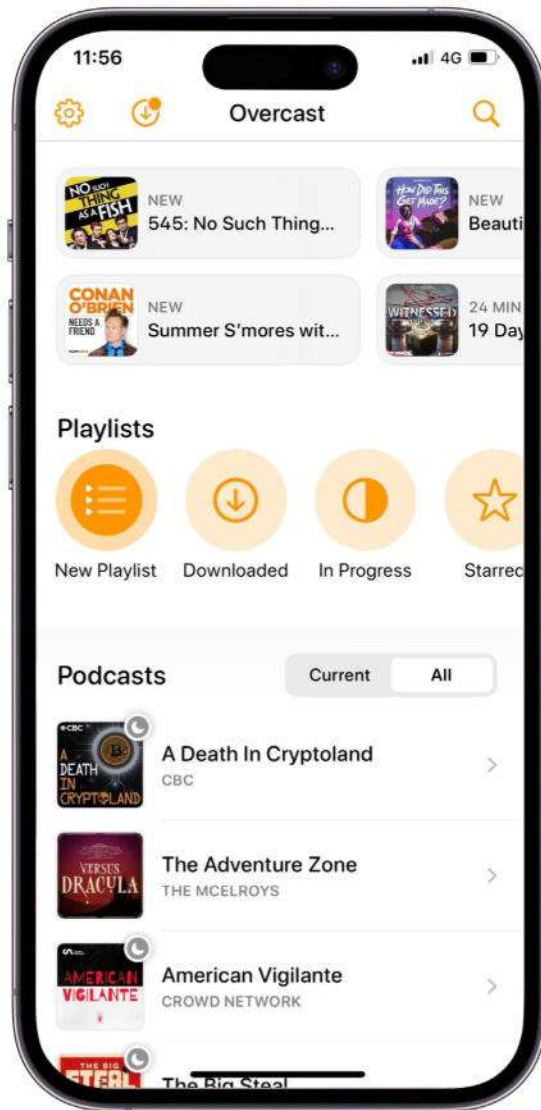


**If you enjoy listening to podcasts, chances are that you use Apple's eponymous Podcasts app.** But there's

actually a better way to consume your favourite shows - with Overcast. This brilliant little app is chock-full of clever controls that are tailor-made to enhance your listening sessions far beyond what Apple's rival can offer. Once you use it, you'll wonder how you ever managed without it.

As you'll soon see, one of Overcast's key strengths is its customisation options. You don't have to settle for the developer's way of doing things - you can adjust audio playback controls, tweak notification settings on a per-show basis, and even redesign the app's home screen to your own taste.

Here, we'll show you how to use Overcast, from mastering its intuitive playback controls



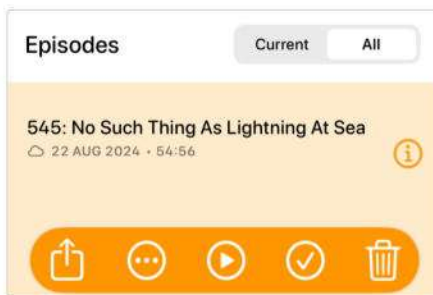
to going in-depth with its extensive personalisation tweaks. So, let's revamp our podcast experience and see what all the fuss is about. **Alex Blake**

## HOW TO Start listening >



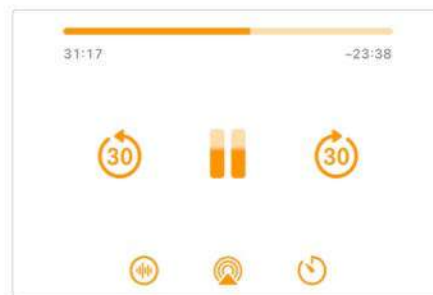
### 1 Add podcasts

Tap the magnifying glass in the top-right corner to add some podcasts to your library. You can enter a podcast name or use the categories to browse. When you've found one you like, tap its name, then tap Add Podcast.



### 2 Start listening

Added podcasts live on Overcast's main page. Tap one to view its episode list; Current shows new episodes, All lists everything. Tap an episode to share, star, delete it and more. Tap the Play button to start listening.

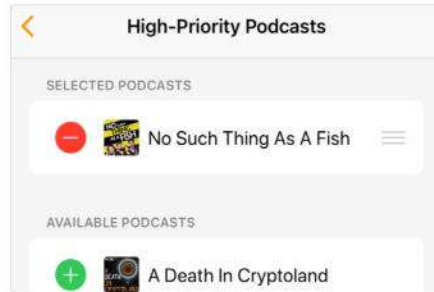
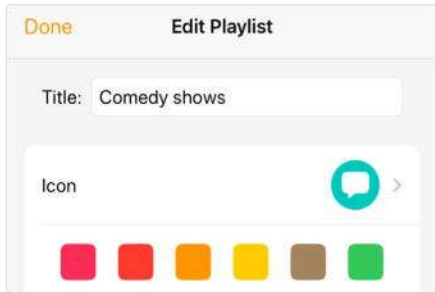


### 3 Control playback

On the Now Playing screen, you'll see play progress; you can skip forward or back. The Stopwatch button sets a sleep timer, while the Waveform button adjusts playback speed and enables extra features (see next page).



## HOW TO Manage playlists >



### 1 Create a custom playlist

At the top of Overcast's home page, you'll find a Playlists section. Swipe all the way to the right here and tap the '+', then tap Custom Playlist to add a new playlist. Give it a name, icon and colour to get started.

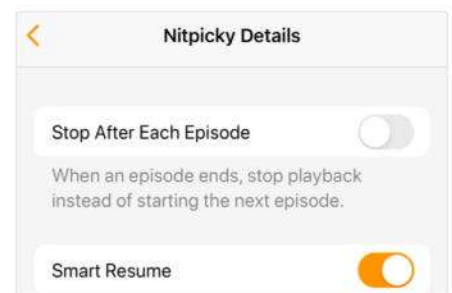
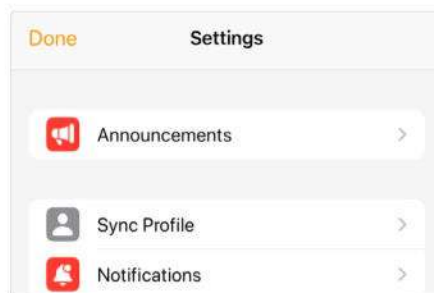
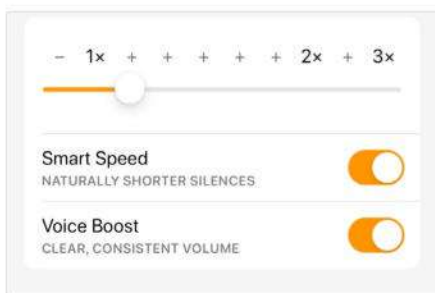
### 2 Use smart controls

Now, you can set rules, exclude or add specific podcasts and episodes, and more. Playlists can also be marked as high or low priority, so that they automatically get ranked higher or lower in your playlist.

### 3 Add to playlist

On a show's episode list, tap an episode to show its options. Tap the More button ('...'), then select Add To. You'll see a list of playlists it can be added to. Or pick Move To and it will be moved rather than copied across.

## HOW TO Customise Overcast >



### 1 Try Smart Speed

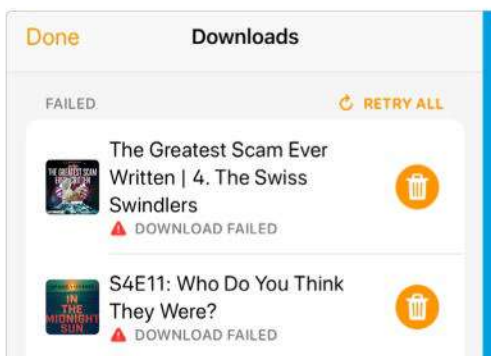
On a show's Now Playing screen, tap the Waveform button to enable Smart Speed and Voice Boost. Smart Speed shortens silences for a better listening experience. Voice Boost equalises all speakers' voices to the same level.

### 2 Change settings

On Overcast's home page, tap the gear icon. Here, you can change forward and rewind button strength or entirely redesign the home screen. There are per-show notifications and download options, new themes to try, and more.

### 3 Sort nitpicky details

In settings, tap Nitpicky Details for in-depth customisation. There are extra playback controls, options for which episodes play next after your current episode ends, plus gesture controls for headphones and cars.



## Managing downloads and more

Get new episodes and stash old ones >

Tap the downward arrow at the top of Overcast to see episode downloads. You'll see any that have failed - you can delete them or retry the download here - and queue up episodes to download next. When you've finished an episode, tap its name in the episode list, then tap the tick. This marks it as completed and hides it from the Current tab for a cleaner view. You can still find the episode in the All tab - tap its name, then tap the tick again to mark it as unlistened to and move it back to the Current tab.

# Improve your sleep routine

Tackle the urge to use your iPhone in the dead of night by building healthy sleep habits

**IT WILL TAKE**

› Many nights

**YOU WILL LEARN**

› How to get into a regular sleep schedule by gamifying your night time routine

**YOU'LL NEED**

› SleepTown app (£1.99), iOS/iPadOS 11 or later



**We've all been there. It's 3am, your eyes have begun to open and your mind begins to whir.**

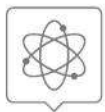
Then your hand reaches out from beneath the duvet, grabs your iPhone and, an hour later, you're still awake having spent an hour mindlessly scrolling with no real chance of getting any more kip.

It's annoying and counterproductive yet the problem could be resolved by installing the SleepTown app. It lets you set healthy sleep goals and routines by building a cutesy town containing more than 70 different kinds of cartoony buildings while serving up numerous surprises while you sleep. Touch your iPhone during the night, however, and constructions can turn to dust.

Aside from effectively turning your sleep into a game, complete with holiday themes, the app also doubles as a smarter alarm clock, offers ambient sound during sleep and allows you to store your data in Apple Health. You can also export your data. Sleep well. **David Crookes**

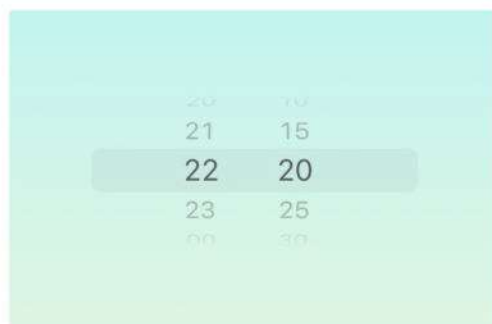


## HOW TO Set a sleep routine >



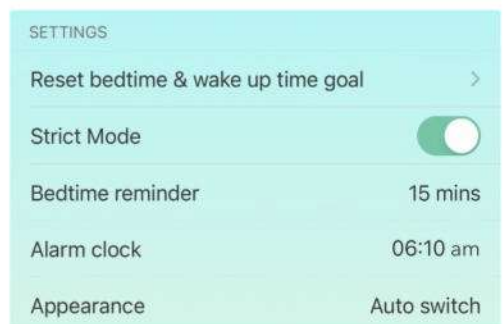
**Genius tip**

› Register a free account for maximum benefits including a daily coin rewards, a ticket for seven successful days and cloud backup of your data.



### 1 Set a sleep time

When setting up SleepTown, you'll be asked to indicate the time you'd like to go to bed. It's not going to be set in stone. You'll be able to change it later on the app's home screen by simply tapping Bedtime Goal.



### 2 Create a reminder

To use the app effectively, you may want to set a bedtime reminder. Click OK when prompted. Later, you can dive into the app's settings to choose how many minutes' warning you need prior to your bedtime.

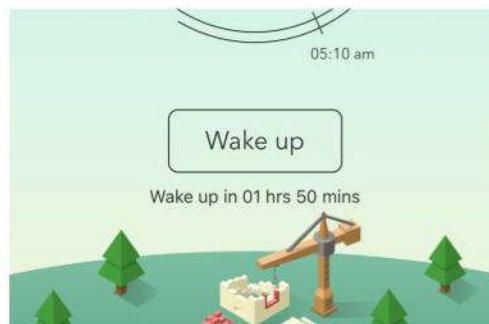
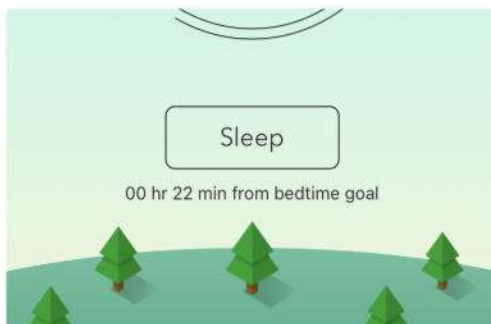


## CONTINUED... Set a sleep routine >



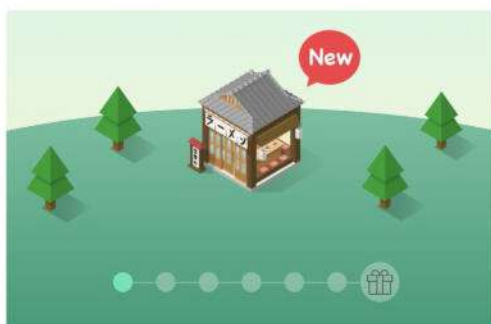
**3 Set a wake-up time**  
 You also need to indicate when you want to wake up. Again, you can alter this later by tapping Wake-Up Time Goal on the app's home screen. You can take up to two days off, allowing for later nights and lie-ins.

**4 Turn on the alarm**  
 SleepTown wants you to stir before your wake-up goal so it offers an alarm to prevent you going over your time. Tap Alarm Off to activate and it will sound if you haven't already started using your iPhone that morning.



**5 Get ready for bed**  
 The idea is you hit the pillow before your bedtime goal and stir before your wake-up goal. When you're ready for bed, either tap Sleep or leave the app open and it'll go into sleep mode at your designated sleep time.

**6 Wake up**  
 Keep the app open when you go to bed but don't worry if the iPhone locks. Now resist the temptation to use your iPhone. When you stir, and assuming you're within two hours of your wake-up time, tap the 'Wake up' button.

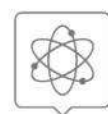


**7 Check your reward**  
 While you sleep, the app constructs a building. You should be able to view it when you wake. The building will have collapsed if you slept in or used your iPhone and left the SleepTown app during your sleep hours.

**8 Keep going**  
 The aim is to create a town full of buildings. You'll earn coins along the way which can be spent on unlocking new buildings and there are many other rewards to be had for enjoying consecutive days of successful sleep.



**Jargon buster**  
 > The app has a **Strict Mode** which you can access in its settings. Turning it off means leaving the app at night won't cause buildings to collapse.



**Genius tip**  
 > Having an account also enables you to form a circle with friends and create 'wonders'. Give the circle a name, set goals then invite members.



# Master accessibility on Apple Watch

Your Apple Watch is packed with features to make everything easier

**IT WILL TAKE**

>10 minutes

**YOU WILL LEARN**

>How your Apple Watch can be more accessible

**YOU'LL NEED**

>Apple Watch Series 4 or later

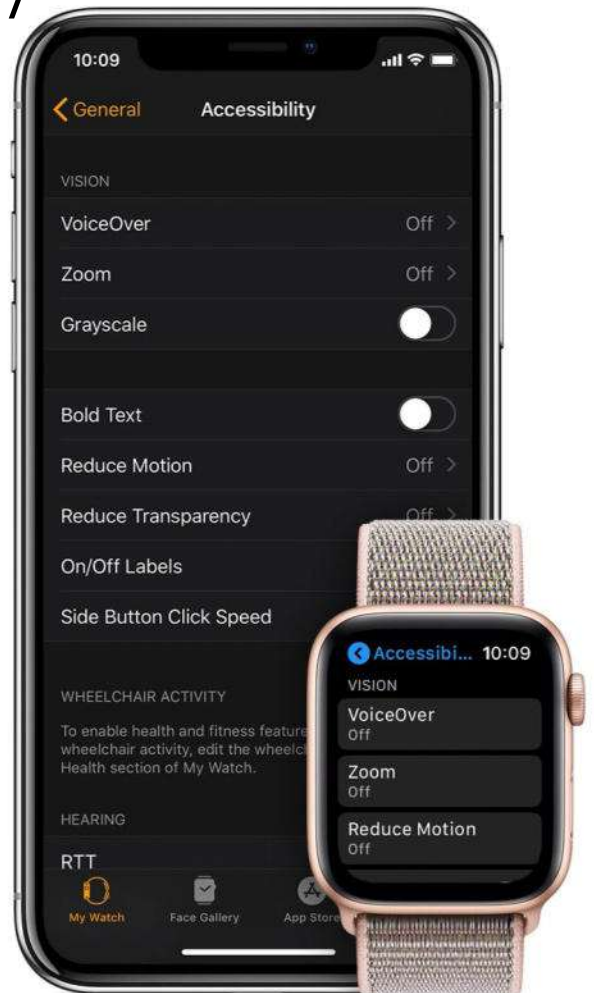


**One of the things we love about Apple devices is how accessible you can make them, and your Apple Watch is no exception:**

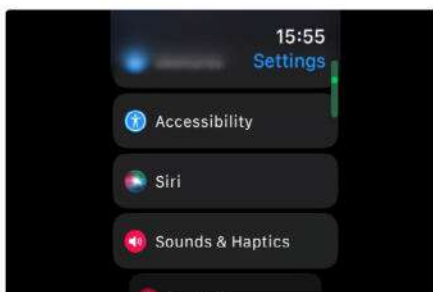
Apple has put a lot of effort into making its smallest device usable by as many people as possible, including those of us with sight, hearing or mobility issues. Whether you find it hard to see certain colours, need a bit more time adjusting your connected AirPods, or would like a friendly voice to guide you through the on-screen options, you'll find lots of really useful features and settings under Settings > Accessibility.

In this tutorial, we're going to concentrate on the specific features underneath the Accessibility section, but there are other Apple Watch things made with inclusivity in mind; for example, the X-Large watch face was made for maximum readability, and the Taptic Engine delivers feedback you can feel.

Let's find out how you can make your Apple Watch even more accessible. **Carrie Marshall**

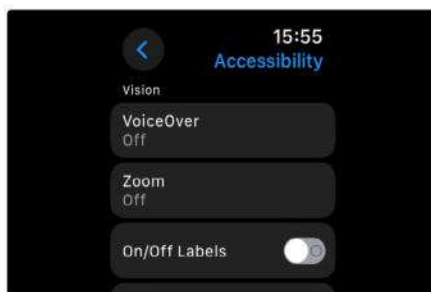


## HOW TO Improve Apple Watch accessibility >



### 1 Swoop into Settings

All the accessibility features in your Apple Watch are organised in the same place, under Settings > Accessibility. You can also access and adjust them from the Watch app on your iPhone; there, you'll find them under My Watch > Accessibility.



### 2 Start with sight

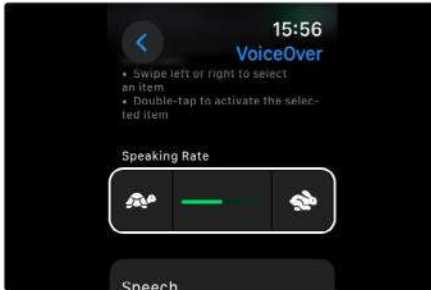
All of the features you need are here, organised by categories ranging from vision helpers to features for wheelchair users. The vision features are up top, and you can scroll through them by swiping or by using the Digital Crown.



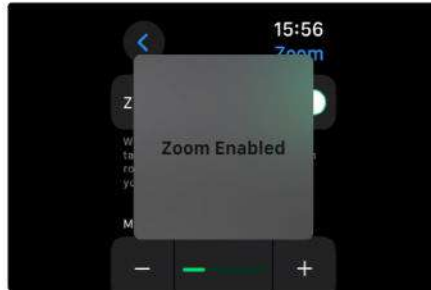
### 3 Hear, don't see

If you have low or poor vision, try VoiceOver. Switch it on and tap what's on screen to have Apple Watch tell you what it is, whether it's a weather complication or a system control. With the latter, it'll also tell you what the control is set to.



**CONTINUED...** Improve Apple Watch accessibility >

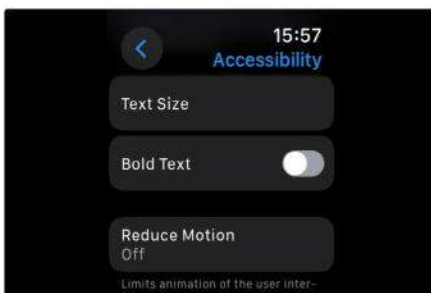
**4 Go faster or slower**  
If VoiceOver is too fast or slow, adjust the speed with this slider - more tortoise makes it slower; the hare makes it faster. The difference between the fastest and slowest rates is dramatic so there's lots of room to get it just right.



**5 Make it bigger**  
The Apple Watch's screen can be hard to read sometimes, but the zoom option solves that; once you've turned it on, double-tap with two fingers to zoom in or drag with two fingers to pan. You can use the Digital Crown if you prefer.



**6 Filter the colours**  
If you find it hard to see certain colours, you can use the Colour Filters option to change the display colours to make them easier to read. You can choose between greyscale and a red/green filter.



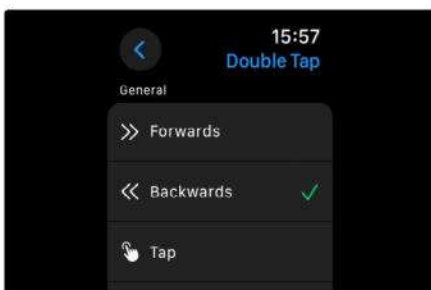
**7 Get rid of the motion**  
Some people find animated interface elements difficult to process, and that's why you'll find a Reduce Motion toggle just underneath the text options here. This also makes Grid View icons the same size for easier viewing.



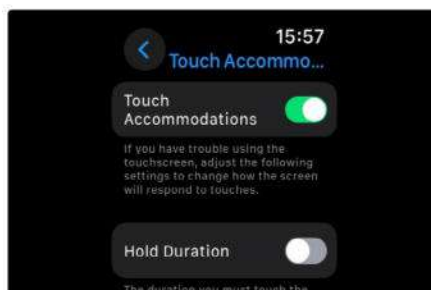
**8 Use Assistive Touch**  
If you have difficulty touching the screen or pressing the buttons, Assistive Touch uses built-in sensors to carry out key tasks such as answering calls, controlling an on-screen pointer and launching an action menu.



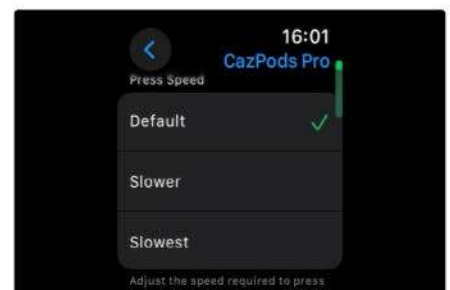
**9 Get gesture controls**  
Gesture controls are so useful that Apple made one of them, bringing two fingers together to tap, part of the main Watch interface. By enabling this feature, you can use a variety of gestures to control your Apple Watch.



**10 Transform your taps**  
You don't have to stick with the default controls. You can change what each gesture does by selecting it, then choosing what function it should serve. For example, you can change a Double Tap to do a Digital Crown activity.



**11 Get more touchy**  
Under Touch Accommodations, you can change how the touchscreen works to assist with mobility issues. You can get it to ignore multiple taps, wait before recognising a tap, and choose to use the start or end location of a touch as input.



**12 Accessible accessories**  
You can also adjust the settings of your AirPods, AirPods Pro or AirPods Max by adjusting the sensitivity of their touch controls, for example by slowing down the amount of time they require for a touch or swipe.

Ray tracing can create highly realistic lighting effects, including reflections and shadows in games.

## HOW IT WORKS

# Mesh shaders & ray tracing

The key technologies for the future of games on Apple devices

### YOU WILL LEARN

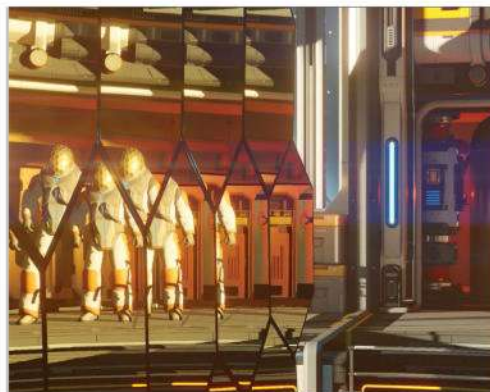
► About mesh shaders and ray tracing, and their use in games and computer graphics

### Key fact

► Most PCs designed for playing games have a main computer chip, known as the CPU (central processing unit), and a separate graphics card or GPU (graphics processing unit) that handles demanding graphics work. In contrast, Apple's M-series of processors use a design known as SoC - System on a Chip - that combines multiple CPU and GPU cores in a single piece of silicon.

**A**pple's recent investment in gaming has surprised many people, including old timers like yours truly who have been disappointed by Apple's historic lack of interest in games. Cynics might suggest that this sudden enthusiasm for gaming has arrived just as Apple is looking for ways to boost sales of its expensive Vision Pro headset, but whatever the reason we should probably just make the most of it and hope that we can look forward to seeing more triple-A games arriving on the Mac at last.

In fact, it's partly due to the success of games on the iPhone - and later the iPad - that the Mac is finally starting to play catch-up here. When the mobile gaming scene took off around a decade ago, Apple was forced to develop more powerful processors that could handle demanding 3D graphics so that the



You can see how well your Apple devices handle ray tracing using the 3DMark app for Mac and iOS.

iPhone and iPad could compete with Android smartphones and tablets in that rapidly growing - and very lucrative - market. And when Apple announced in 2020 that the Mac would ditch Intel processors and switch to homegrown Apple silicon, it was able to use that experience with the iPhone and iPad to produce the new M-series of chips, which combine both CPU cores (central processing unit) and GPU cores (graphical processing unit) within a single chip. The result was vastly improved graphical performance for the Mac, which took another step forward last year when the M3 processor introduced support for two important new graphics technologies.

### Ray of light

Ray tracing is a technique that simulates the realistic appearance of light and shadows, both in computer games and in computer-generated imagery (CGI) effects in Hollywood movies. It's been used in computer games for a few years now, but it was only introduced to the Mac with the arrival of Apple's M3 processor in 2023 (and the A17 Pro chip used in the iPhone 15 Pro and Max).

As the name suggests, ray tracing calculates the path of rays of light as they move around within a 3D scene, following the light as it is reflected off various surfaces, or creating shadows if the light is blocked by an object. This can create amazingly realistic and dramatic effects, especially in creepy games like Alan Wake 2 (only available on PC,



## Metal guru

**Apple's M3 and M4 processors both support ray tracing and mesh shading, but that doesn't mean that games written for Windows PCs will automatically be able to run on the Mac.**

The graphics card in a PC, or an M3/M4 processor in a Mac, still needs to be controlled by the software that is running on your computer. On a PC, this is generally a piece of software called DirectX, which is part of the Windows operating system, while the macOS includes similar graphics software called Metal. Developers therefore have to find

a way of converting their games that were written for DirectX and Windows so that they can run on the macOS using Metal to control all those fancy graphics.

At last year's Worldwide Developers Conference (WWDC), Apple launched its Game Porting Toolkit (GPT), which was designed specifically to help developers with that process (known as 'porting'). The recently updated GPT 2.0 includes features that focus on ray tracing and mesh shaders so developers can 'port' their latest games on to the Mac without the long delays we've seen in the past.



Apple's Game Porting Toolkit helps developers to 'port' games with state-of-the-art graphics so that they run on the Mac.

unfortunately), where the hero wanders around in the dark using a ray-traced torch to scatter light and shadow all around. It's a very demanding technique, though, so the graphics gurus at Nvidia - who make some of the most powerful graphics cards for Windows PCs - introduced an entirely new range of graphics cards, called RTX, in 2018 to encourage the adoption of this new technology. Clearly, Apple is still playing catch-up here, as ray tracing is now widely used in PC games, but the fact that all future Macs will be able to handle ray tracing - without the need to buy a big, expensive graphics card - is good news for Mac gamers.

### Making a mesh

The other leading-edge graphics technology introduced to the Mac with the M3 is called 'mesh shaders', or 'mesh shading'. This is a spectacularly complex technology, full of jargon and techno-babble, but the bottom line is that mesh shaders provide a more efficient method of creating 3D graphics that display wide open spaces with lots of different objects moving around within them.

Early computer games like Doom kept things simple by mostly taking place within enclosed spaces - lots of narrow corridors, and a bunch of monsters conveniently lined up in front of you so that you could mow them all down with your rocket launcher. Modern games are much more complex and

broader in scope - the narrow corridors have gone, and we've stepped out into wide open worlds with rolling landscapes, trees and grass wafting in the breeze (and the occasional dragon flying overhead). And, of course, there are monsters and bad guys all over the place, each with their own appearance, costumes and weapons, adding even more to the complexity of the scene.

That graphical complexity puts a real strain on even the most powerful graphics cards, and mesh shading is still relatively rare even in the latest games for Windows PCs. It was first demonstrated by Nvidia in 2018, but it was only in 2021 that mesh shading was used in a Chinese PC game called Justice, and it didn't really make a splash in the Western games industry until Alan Wake 2 in 2023. Even now, mesh shading is still something of a rarity in PC games, and we're not currently aware of any games that use the technology on Macs right now.

So Apple still has some work to do in order to convince developers that they should spend the time and money required to bring their PC games to the Mac. However, supporting technologies such as ray tracing and mesh shading is an important first step as it proves that Macs really can handle the latest games with the most demanding 3D graphics. And, with new tools like Apple's Game Porting Toolkit also available, let's hope that games developers start to take the Mac seriously at last. **Cliff Joseph**



Windows PCs need an expensive graphics card to handle ray tracing and mesh shaders, but these technologies are built into Apple's M3 and M4 chips.

### Key fact

▶ Ray tracing and mesh shaders only arrived on the Mac with Apple's M3 processor. However, many games do allow you to turn ray tracing off, so that you can still play the game on older Macs or PCs that doesn't support it. Mesh shaders are more complex, though, and games like Alan Wake 2 will only run on PCs with graphics cards that specifically support that technology.

Supporting technologies such as ray tracing and mesh shading is an important first step

# GENIUS TIPS

EDITED BY **HOWARD OAKLEY** >



**EXPERT  
ADVICE**

Our resident genius solves your Mac and iOS problems



Contact us

Email your queries and your questions to [genius@macformat.com](mailto:genius@macformat.com)

## Sequoia for the notarised

**D**evelopers were asked to notarise their apps six years ago, so they'd be more secure when distributed outside the App Store. Until macOS Sequoia there was no pressure for them to do so, as you can always launch a new app that isn't notarised using the Finder's Open command.

Sequoia changes that: any app downloaded from outside the App Store that isn't notarised now requires a trip to System > Privacy & Security to authorise it individually. This only applies to apps you've downloaded ready-built; any you build yourself can still be signed locally, although moving them via AirDrop puts them into quarantine the same as if they'd been downloaded.

What might seem another added nuisance brings better protection against malware, as macOS checks notarised apps more robustly before they're run.

## Restore archives to a new drive

**Q** The old USB hard drive with my archives on it is failing. How can I recover the contents of its last backup to a new disk when the Time Machine app is playing up?

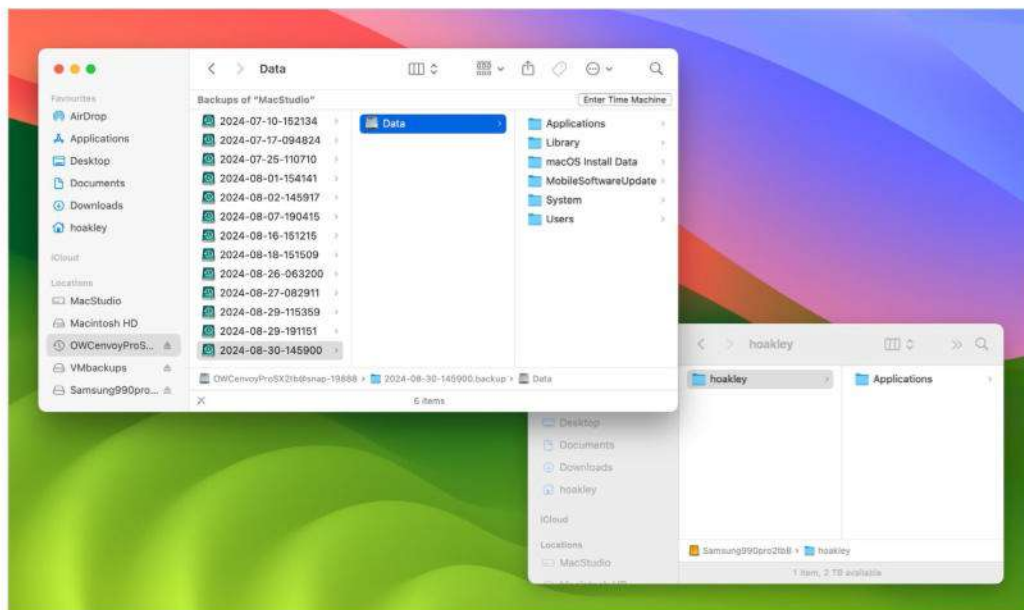
by GEOFF MOORE

**A** Some prefer the Time Machine app's whizzy interface, but when you need to restore large backups to a different location it's too inflexible and can disappoint. You're better off using the Finder, if necessary copying from your backup in stages.

Format the new drive ready to store your archives. Browse the backups on their storage in the Finder, and locate the most recent, from

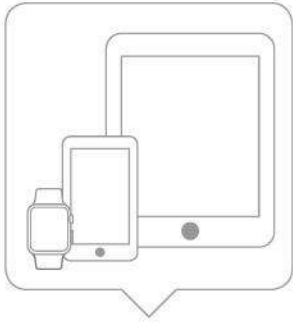
which to restore the files. In older backups on HFS+ volumes, and their new-style replacements on APFS, backup names include the date stamp of creation.

Inside that you'll find a complete image of your original archive volume, ready to drag and drop its contents straight into their place on your new drive. Try this first with each of its top-level folders. If any of those stutter or fail, drop down a level to smaller folders within those. Although this takes time and a bit more effort, it should result in a complete restore without error. The only worrying sign is if your Mac has a kernel panic while restoring, as that's a likely indication of a hardware problem with one of the drives.



Restoring from a Time Machine backup is most flexible in the Finder, as you can copy to a different volume.





# iOS software >

Swipe away your touchscreen troubles and rekindle your love of Apple's mobile devices

## Quick-fire questions >

### Is a Lightning port more waterproof than USB-C?

> Both meet the same standard of IP68, for resistance to ingress of water when immersed six metres deep in water for 30 minutes, so in practice there's little or no difference. As the Lightning port is slightly thinner, it may prove less likely to accumulate dust or debris inside it.

### Is MagSafe charging as rapid as using a cable?

> As both wired and MagSafe charging can be performed using a 20W power adaptor, they should be similar in speed. However, MagSafe isn't quite as efficient, and will only reach 15W at most on older iPhones. MagSafe on iPhone 16 can charge faster, with up to 25W of charging possible.



## How long will my battery last?

**Q** How long should I expect my iPhone's battery to last before it needs to be replaced?

by PHIL JUKES

**A** The lifespan of a Lithium-ion battery is normally measured in charge cycles, where each full cycle represents discharge of 100% of the battery capacity and a full recharge. If your iPhone normally discharges to about 50% over two days use, and you then recharge it to 100%, it completes a charge cycle every four days. Apple expects iPhone 14 and earlier models to be able to complete 500 charge cycles and still retain at least 80% of their original capacity. For iPhone 15 and later (and all iPad, Apple Watch and Mac notebook models), that should extend to 1,000 cycles.

Newer iPhones display their current Cycle Count in Settings > Battery > Battery Health. Keep a monthly record of that to estimate how many years it will take for your iPhone's charge cycles to reach 500 or 1,000, when it's likely to need battery replacement. With four-day cycles, that should take five or ten years, by which time you'll probably want to upgrade your iPhone anyway.

Being kinder to the battery by avoiding leaving it charged above 80% for too long can usefully extend its lifespan, but reducing its rate of discharge is probably the more important. Settings > Battery shows which apps and activities draw most power, and limiting the worst offenders there should extend the time it takes to



Recent iPhones may display charge cycle count in Settings > Battery, or you can keep a manual record of charge levels.

complete each charge cycle, so extending the battery lifespan significantly. The trade-off, though, is how important those power-hungry apps are to you.



# Peripherals >

Thinking inside the box to refresh the parts other tips can't reach

## Quick-fire questions >

### How to update the firmware in my Studio Display?

> This display runs a stripped-down, modified version of iOS that's updated infrequently using Software Update. Ensure it's connected to a Mac with its Thunderbolt 3 cable, start the update in those settings and follow the instructions. Don't disconnect the display until the update has fully completed.

### How to enable accessory security on my Mac mini?

> This feature detects when you connect a new peripheral, other than a charger, to your Apple silicon Mac, and checks with you whether it's safe to allow it. This can prevent malicious attack using specially crafted devices. However, it's only available on Apple silicon notebook models, and not on desktop Macs like the Mac mini.



## Keep your SSD in Trim

**Q** Should I buy an external SSD with SATA or NVMe for use with my M2 MacBook Pro?

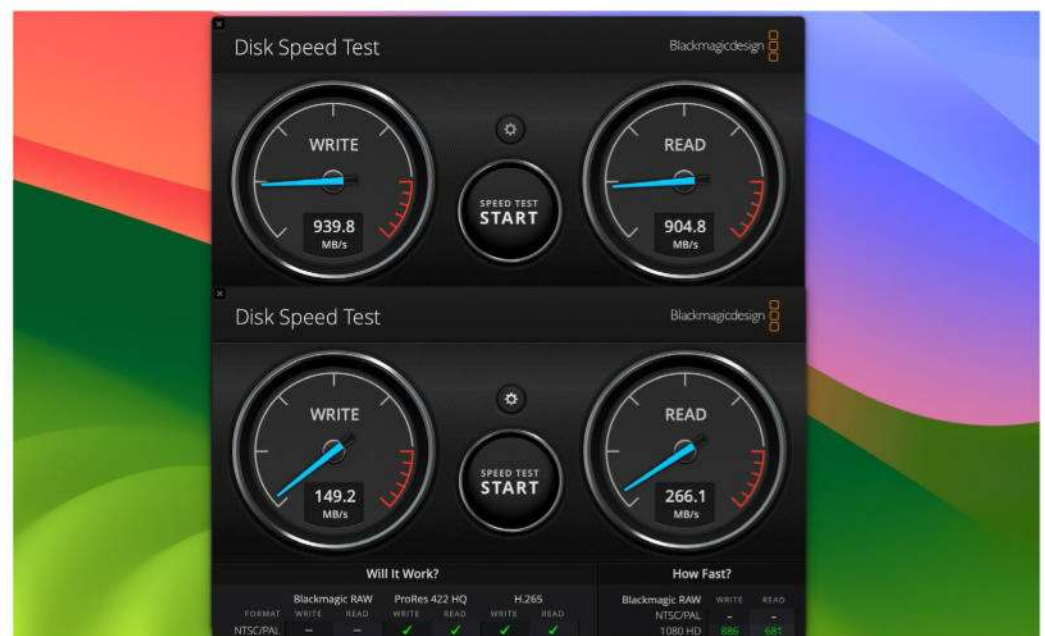
by KEITH MULLINS

**A** An SSD's internal and external interfaces determine its three key features of speed, Trim and SMART health indicator support. A SATA internal interface is slowest of all, unlikely to deliver more than about 500MB/sec read or write speeds, with no inherent support for Trim or SMART indicators. An NVMe interface should be able to reach the physical limit of 1,000MB/sec over a USB 3.2 Gen 2 connection, has Trim support, but not SMART unless it's connected by Thunderbolt, or by USB 4 to an Apple silicon Mac.

Trimming is an important feature that ensures storage blocks in the SSD that are

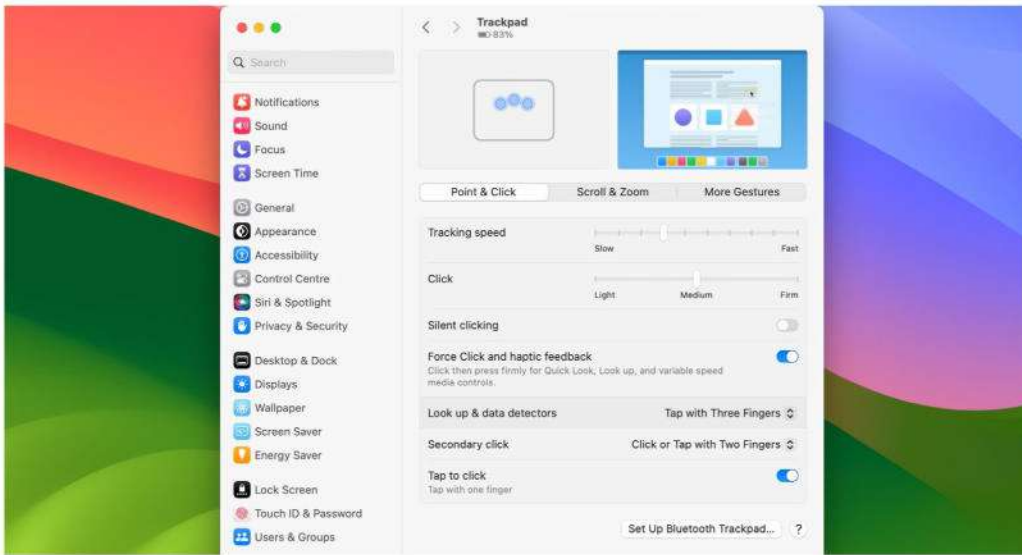
no longer required by the file system are reported to the SSD's firmware so they can be marked as unused. They can then be erased and returned ready to use again. If Trimming isn't performed as usual by APFS when it mounts the volumes on that SSD, those storage blocks should normally be reclaimed during the SSD's routine housekeeping, but that may be delayed or unreliable. If those blocks aren't released, write speed falls noticeably, and in the worst case blocks need to be erased immediately before writing.

Although it might be possible to use the `trimforce` command to enable Trim for external SSDs, NVMe SSDs should avoid this completely, and get trimmed when they're mounted by APFS (or HFS+). With their better speed, they should always be preferred over SATA, particularly when used with a fast Apple silicon Mac.



The uppermost dials show NVMe at >900MB/sec; those below are from a SATA drive needing Trimming at <300MB/sec.





If your trackpad loses Force click, go to System Settings > Trackpad and toggle the controls there, in case they restore it.

## A clickless Magic Trackpad

**Q** My six year-old Magic Trackpad 2 has lost its Force click and won't last more than a couple of days without recharging. Does it need a replacement battery?

by HARRY OFFORD

**A** Force click is a distinctive haptic effect generated by software, although it requires the upper surface of the trackpad to be able to move downwards towards its base. This can be obstructed mechanically by grit in the fine groove running around the side of the trackpad, and you can

clean that out using the edge of a sheet of paper. If you haven't done so already, it's worth toggling the controls in Trackpad settings, which could turn Force click back on.

More commonly it results from the rechargeable battery inside becoming swollen with age, and that's implied by a short interval between recharging. As yours is now six years old, that's the most likely cause. Although you can, with care, dismantle a trackpad, genuine replacement batteries appear to be unavailable. The best solution is to replace it with a new one, and send the old trackpad for recycling.

## Can a MacBook Pro M3 14-inch drive two displays?

> A MacBook Pro 14-inch model with a basic M3 chip can support two 5K resolution external displays over USB-C or Thunderbolt 3 if it's running macOS Sonoma 14.6 or later. However, the second display only works when the lid is closed, in clamshell mode.

## Should I use Thunderbolt 3 or 4 cables?

> Although you can use either for USB 4 and Thunderbolt peripherals, Thunderbolt 4 should be preferred because



it supports full speed data transfer over lengths of up to two metres, and works best with USB 4 as well.

## Size up your next backup drive

**Q** How large should my Mac's Time Machine backup storage be?

by JULIAN STOKES

**A** The basic formula to work this out is that the storage should be large enough to contain all the files copied in its first full backup, plus the average amount of data backed up every month multiplied by the number of months you want the backups to cover.

For example, if your Mac has a 1TB internal SSD with about 500GB on its Data volume to be backed up in the first instance, and each month Time Machine adds another 50GB in new backups, for the storage to last for two years, you'll need  $500 + (24 \times 50) = 1700\text{GB}$ , so a 2TB disk should be fine

for a few months longer than that. One catch in working out how large the first backup will be is that should exclude the space taken up by any snapshots on your Data volume.

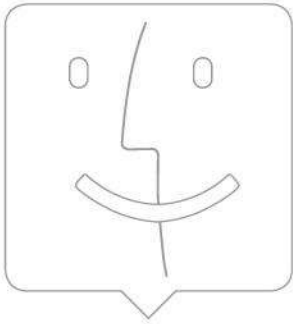
Check their size using Disk Utility, with Show APFS Snapshots enabled in its View menu, which lists all

snapshots on your current Data volume with their sizes listed.

Time Machine does remove or 'thin' old backups each time it runs, so it should prove more efficient in its use of space. You can estimate sizes from your existing backups with my free utility T2M2 from [bit.ly/mac409t2m2](https://bit.ly/mac409t2m2).



T2M2 reports how much was copied to each backup made over the last 48 hours, from which you can estimate space needed for what storage capacity to go for.



# macOS >

Shine a spotlight on the solutions to your most irritating Mac problems

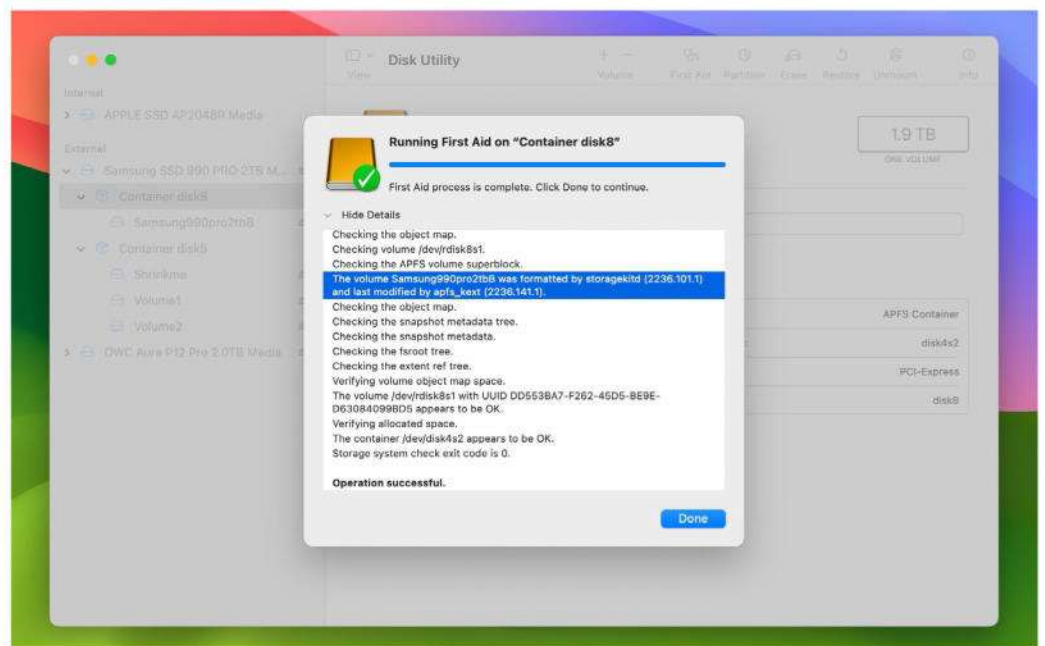
## Quick-fire questions >

### How long does Apple support a Mac's firmware?

> For most Intel models, firmware updates are provided for a period of 8-10 years after its release, although in a few cases that has been shorter. It may change in those models with T2 chips, as they all use the same firmware, as do all Apple silicon Macs.

### How can I change my user UUID in Users & Groups?

> In the days of System Preferences, the Users & Groups pane offered advanced options to change a user's UUID. Apple has now removed that feature, as changing it is almost certain to cause complete chaos. If you know what you're doing, you can still use Directory Utility to change almost anything about a user.



Disk Utility's First Aid reports APFS version numbers so you can identify any disparity that might lead to problems.

## Mix multiple APFS versions safely

**Q** My Mac normally starts up in Sonoma on an external SSD, but has Mojave installed on its internal drive.

**Why I do see warnings about the external drive being incompatible? Would reformatting and reinstalling them help?**

by KEVIN OLSON

**A** These arise because those two versions of macOS use very different versions of the APFS file system.

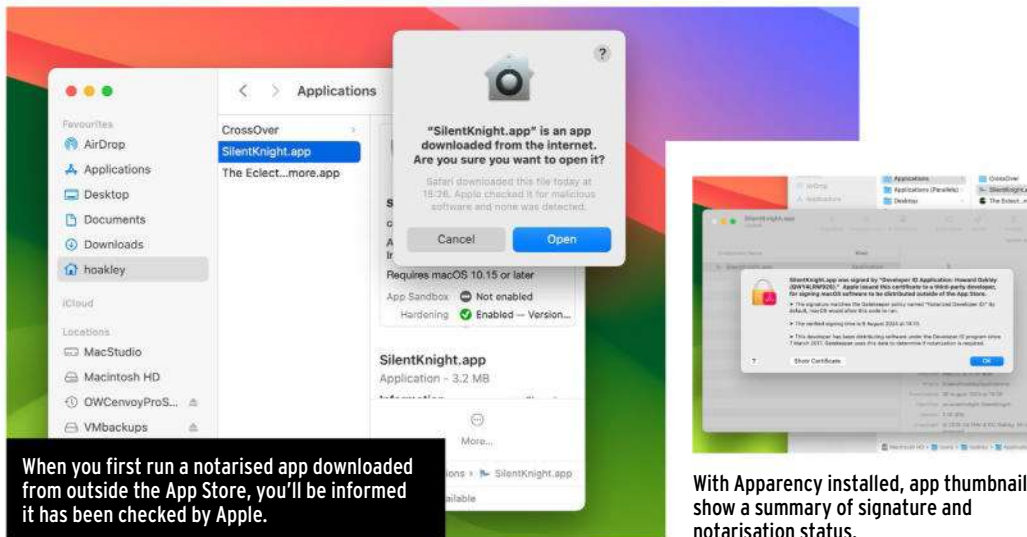
Although that supplied with Sonoma (APFS 2235 and 2236) understands the version in Mojave (APFS 945), the reverse isn't true, as Mojave can't understand the boot volume group and Signed System Volume in Sonoma. So every time you start your Mac up from its internal drive, if the external SSD is connected, you can expect it to warn you that it's incompatible.

Those are only warning messages, but there is the potential for disaster here, something you've got to be careful to avoid: running Disk Utility's First Aid or its command tool equivalent `fsck_apfs` from Mojave on your Sonoma disk. Although First Aid will inform you of the conflicting APFS versions, if it were to attempt to make a repair, it could cause damage to the newer file system.

One way to work around this is to eject and disconnect your external SSD when your Mac is running Mojave. It gets more difficult, though, if you need to perform a repair in recovery mode, when you must be diligent to ensure it's booted from the correct version before using Disk Utility.

Provided that you're aware and careful, though, there's no reason that the two different versions of APFS can't run alongside one another.





When you first run a notarised app downloaded from outside the App Store, you'll be informed it has been checked by Apple.

With Apparency installed, app thumbnails show a summary of signature and notarisation status.

## Has that app been notarised?

**Q** How can I tell whether an app has been properly notarised?  
by MIKE ROBERTSON

**A** If you've just downloaded it, double-click to launch it. If it's notarised, you'll then see the standard dialog informing you it has been checked for malware. Sequoia is more awkward, and only lets you run apps that haven't been notarised or delivered through the App Store after

giving permission in Privacy & Security settings. It's more difficult to discover once an app has gone through that process, and the best way is then to inspect it using the free app Apparency from [bit.ly/mac410apparency](https://bit.ly/mac410apparency).

Once installed, select the app's icon in a Finder window, and its Quick Look thumbnail tells you whether it's sandboxed, hardened, notarised, and offers to open it using the Apparency app, where you can see full details including its entitlements and more.

## Why are macOS updates so large on Apple silicon?

> The size of macOS updates has fallen steadily from Big Sur, and in Sonoma the minimum was about 400MB for Intel Macs, and 820MB for Apple silicon. That largely reflects the size of their firmware and the software required to update it.

## Does macOS support FAT32 partitions of 2TB?

> Yes, it always has done.

This restriction only existed in Windows, where size was arbitrarily limited to 32GB by Microsoft. You may find exFAT better as it can store files greater than 4GB in size, unlike FAT32.

## Clear out old containers

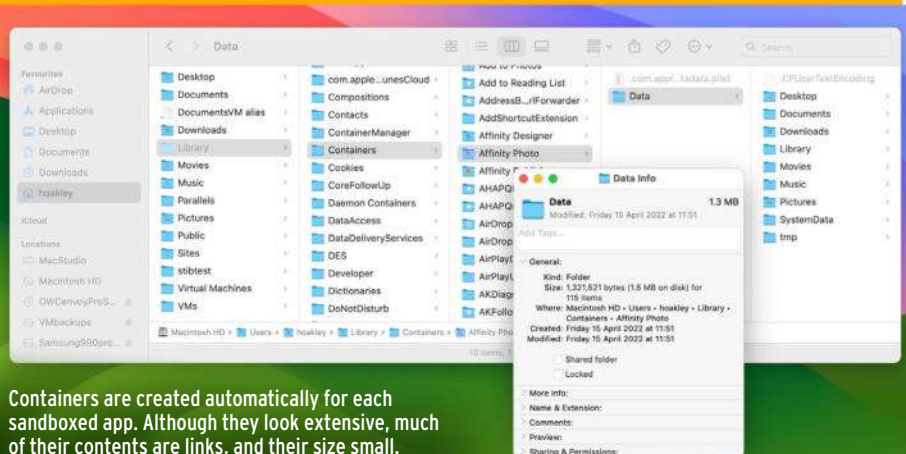
**Q** Can I remove old Containers folders from my home Library folder for apps I no longer have installed?  
by ALEX RUSHTON

**A** Yes, provided that you're careful and absolutely certain that you don't need anything left in those containers. When you first launch an app that runs in a sandbox, including all those from the App Store, macOS creates for that app its own private folder in the Containers folder in your home Library. Each of those looks like its own miniature file system, with its private Documents and Library folders, but most of them are just links to those already in your home folder.

They form that app's sandbox. Many are far smaller than they appear, with only a few MB of data like the app's preferences file, but sometimes they contain a great deal more, such as most of your data saved by the app.

Once removed, the only place that will remain is in your backups. If you then reinstall that app, a fresh container

will be created without those old contents. If you're certain the container doesn't contain anything you'll want again, it should be safe to remove. But be more cautious about the folders in the Group Containers folder, as those contain settings and data used across several different apps, and their loss could well affect others still in use.



Containers are created automatically for each sandboxed app. Although they look extensive, much of their contents are links, and their size small.

# iPadOS 18

## tips, tricks & secrets

**iPadOS 18 makes your iPad smarter, smoother and even more you. Here's what's new**

Written by Carrie Marshall

**T**hought iPadOS 17 was pretty great? Then you're going to love what happens next. iPadOS 18 takes the power and personalisation of iPadOS 17 much further, enabling you to make your iPad truly yours - and if your iPad could handle iPadOS 17 then it'll work with iPadOS 18 too.

iPadOS 18 comes with a host of new features that will turbo-charge your texting, power up your photos, make your gaming experiences even more

## Which devices will work with iPadOS 18?

**iPad Pro** (all models)  
**iPad Air** (3rd generation or later)  
**iPad** (7th generation or later)  
**iPad mini** (5th generation or later)

awesome and make your smart home more helpful. Again and again you'll discover - in ways big and small - that iPadOS 18 takes everything you like about using your iPad and makes it even better.

There are actually two iPadOSes. The initial iPadOS 18 release in September 2024 didn't include Apple Intelligence, which is coming to the UK in December as a work-in-progress beta in iPadOS 18.2. Unfortunately, if you're in the EU you'll need to wait a little longer.

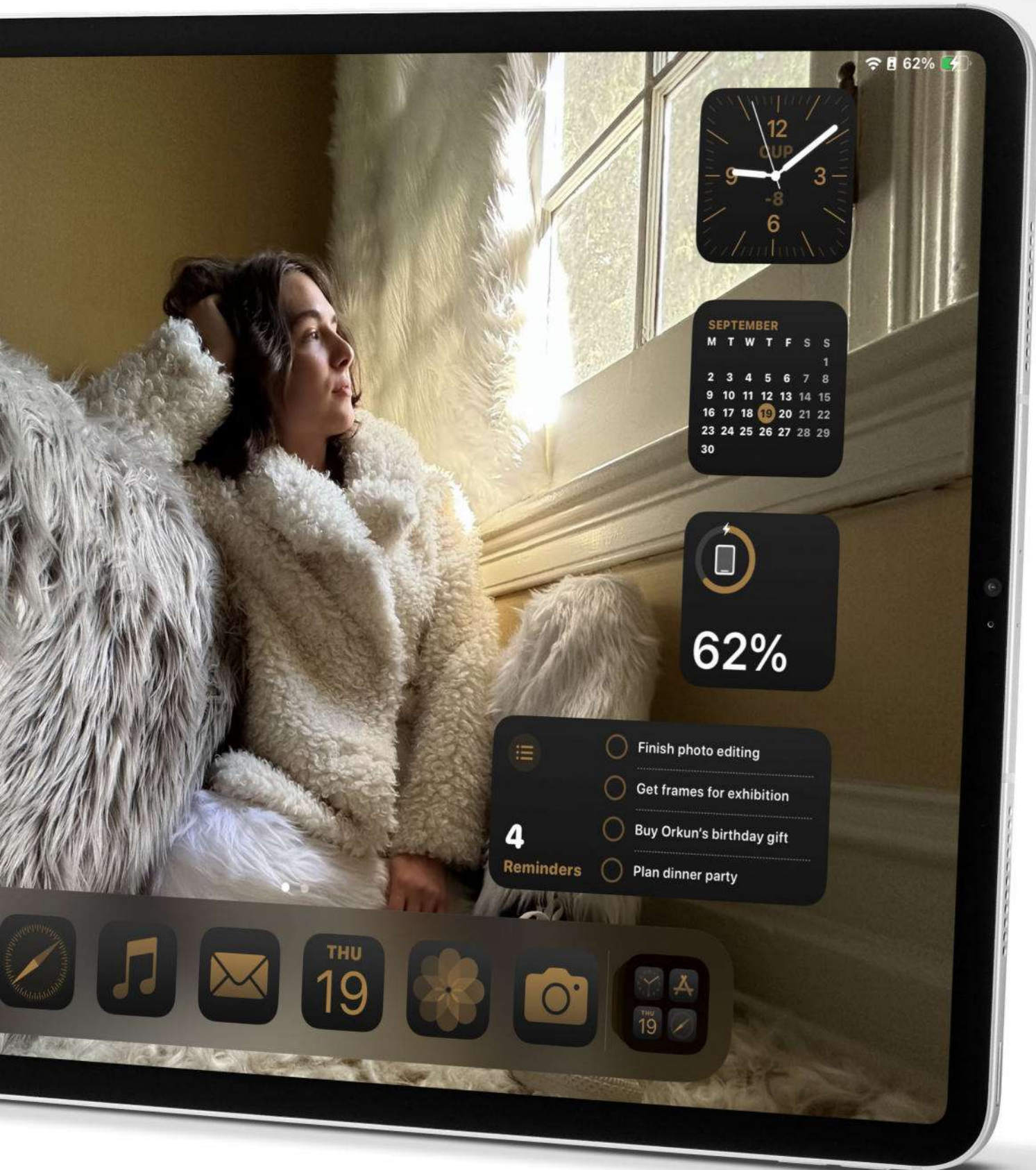
Apple Intelligence is Apple's take on artificial intelligence and it makes Siri smarter, adds cool new tools and makes iPadOS even more fun. You'll be able to get Apple Intelligence to summarise Messages and Mail, to create illustrations and even help your writing in apps such as Pages.

In this tutorial, we'll focus on the finished features in iPadOS 18: the useful improvements, the really handy new features, the more powerful personalisation and the improved accessibility. Let's discover what iPadOS 18 can do for you.



iPadOS 18 brings new ways to customise the Home Screen and Control Centre.





62%



SEPTEMBER

M	T	W	T	F	S	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
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23	24	25	26	27	28	29
30						

62%

- Finish photo editing
  - Get frames for exhibition
  - Buy Orkun's birthday gift
  - Plan dinner party
- 4 Reminders



# The smart stuff

iPadOS 18 is the cleverest, most customisable iPadOS yet

**A**pple Intelligence is Apple's take on the artificial intelligence (AI) advances that are currently dominating the tech world. When it arrives it will deliver impressive new features: writing tools in Pages, summarisation tools in Mail, image creation in Messages, and a much smarter Siri that's more knowledgeable and capable of handling more kinds of requests.

Apple Intelligence isn't the same thing as ChatGPT, although access to that is also coming to iPadOS 18. Apple is clearly wary of giving people unfettered access to the full generative AI features that have led to faked photos and all kinds of copyright infringement. So, for example, the picture generation in the forthcoming Image Playground app won't let you generate anything dodgy. However, you will be able to use ChatGPT to create and illustrate on your behalf, for example by helping you write a letter or story or illustrating an idea.

Scheduled for release with iPadOS 18.2, in December 2024, Apple Intelligence won't work on iPads with Apple's A-series processors. The hefty hardware demands of Apple Intelligence require an M1, M2, M3 or M4 processor.

While we wait for Apple Intelligence-enhanced Siri, there are still plenty of customisation options on offer. One of the most



Apple Intelligence's smart summaries, image generation and other useful features are coming in iPadOS 18.2.

useful ones for shared iPads is the ability to lock and/or hide apps. The former means they can't be opened without Face ID or Touch ID, and the latter hides them from your Home Screen, from search results and from your notifications.

## Controls and customisation

The Control Centre has had a massive upgrade that will be particularly welcome if you have a lot of HomeKit devices, and it's more customisable. The Home Screen now enables you to organise your apps and widgets with more flexibility, including the ability to leave free space wherever you want it, and you can add coloured tints to your app icons too.

1

### Control Centre

> You can reorganise the Control Centre layout, remove controls or drag new controls across from the Gallery. Icons and widgets work just like Home Screen ones.

2

### More pages

> You can now have more than one Control Centre page, so you can customise the controls for the media playback page, the smart home page, or your own custom page.

3

### Available controls

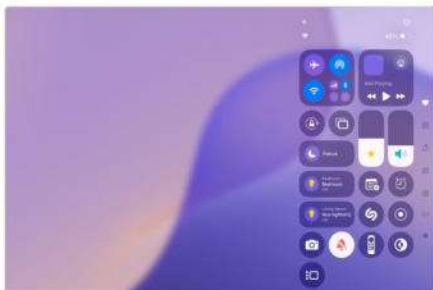
> When you tap on 'Add a Control', you now have a cornucopia of controls to choose from, including app launchers and hardware controls.

4

### Customisable controls

> Some icons are widgets that you can customise. So, for example, we can get this widget to control a particular room or smart home device.

## HOW TO Personalise the Control Centre >



### 1 Bring it down

Bring down the Control Centre by swiping down from the top right of the screen. In iPadOS 18, this whole section is customisable; simply press and hold on any empty bit of it or tap the '+' in its top-left corner to go into editing mode.



### 2 Move it around

Rearranging the layout works just like it does with your Home Screen icons; tap and drag to move icons around and the other controls will move out of the way. You can exit this mode by tapping at the top or bottom of the screen.

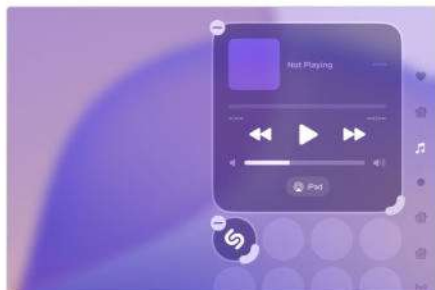


### 3 Make it bigger

One handy new feature appears as a curve in the bottom-right corner of some controls, allowing you to make it bigger or smaller by dragging it. Options depend on the particular control but most offer one, two, or four icon options.



# EXPLAINED... Controls gallery >



**4 Add more options** Tap 'Add a Control' and you can add new controls to any of the Control Centre pages by dragging them from the Gallery over the appropriate part of Control Centre. You can also resize controls, such as the music player control.



**5 Tidy your home** We like the option for one or more smart home control screens - the Home controls in the previous Control Centre design felt a little cluttered. The redesign means you can get a much clearer and set-up for your smart stuff.



**6 Customise it more** The final Control Centre page is a blank slate for you to add whatever controls you wish. Apple has opened up Control Centre to third-party apps too - so you'll be able to add controls for other apps, not just Apple ones.

# Everyday essentials

Useful upgrades that make every day easier

**S**ome of our favourite new features in iPadOS 18 aren't necessarily headline-grabbing ones - but they're improvements that make every day better.

For example, with iPadOS 18, Apple has finally brought the Calendar and Reminders apps together, turning them into a powerful productivity tool whether you're herding kids or managing projects. Being able to see your day

and to-dos in a single app rather than needing two is a big time-saver.

Notes is hugely improved too. You can now add a voice memo to your notes and get your iPad to transcribe it and turn it into editable text, and the improved handwriting support can transcribe your handwritten text just as easily. There are new formatting features with new highlight colours and more importantly, collapsible lists. That makes it much easier to organise lots of different things without making it intimidating, and in conjunction with the existing tagging and linking in Notes the new features make it an even more useful app for organising everything.

## More messaging >

 **The Messages app in iPadOS 18 supports RCS messaging via your iPhone, which means better communication with Android users.** RCS is the successor to the SMS we've long used for texting, and it adds key features including read receipts, file attachments, photo messaging without extra costs, better emoji responses... There are also new Text Effects which you can access with a tap and hold in your message.



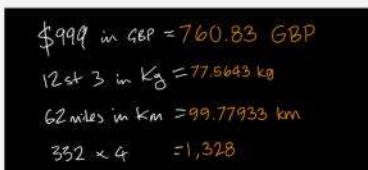
New text effects in Messages enable you to add a bit of pizzazz to even the plainest text.

## Smarter sums >



**The Calculator app introduces a new feature called Maths**

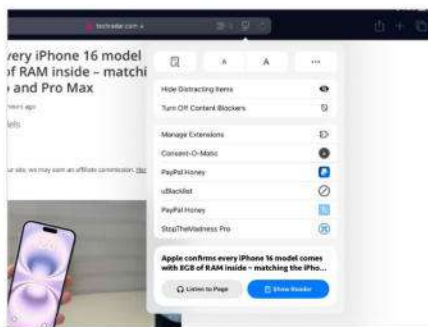
**Notes, and it's at its best on iPad.** That's because it enables you to use the Apple Pencil. Simply draw your equation on screen and your iPad will solve it, whether that's a simple sum or something considerably more complex. The same feature is also available via the Notes app. Calculator now also does unit conversions for weight, distance and volume.



Like magic: write sums with your finger or Apple Pencil and Calculator completes them.

## Visual improvements

If you're more of a visual person, the Freeform app has been updated with improved diagramming tools and a new feature called Scenes that enables you to add shortcuts to specific sections, which is really useful for shared boards



The redesigned Safari makes it a lot easier to access key features and to enable or turn off extensions.

where you've got lots of things to organise or communicate.

Another big visual upgrade is in Messages, which has added new text effects and animations as well as support for the RCS (Rich Communication Services) messaging standard to make plain texts (green bubbles) behave more like iMessages (blue bubbles). There's a new Send Later feature for scheduling your messages - useful for those late-night ideas you don't want to wake friends or colleagues up with - and Mail gets Gmail-style tabs to sort messages by category, such as shopping, promotions and the most important messages. Apple Intelligence

## Easier reading >



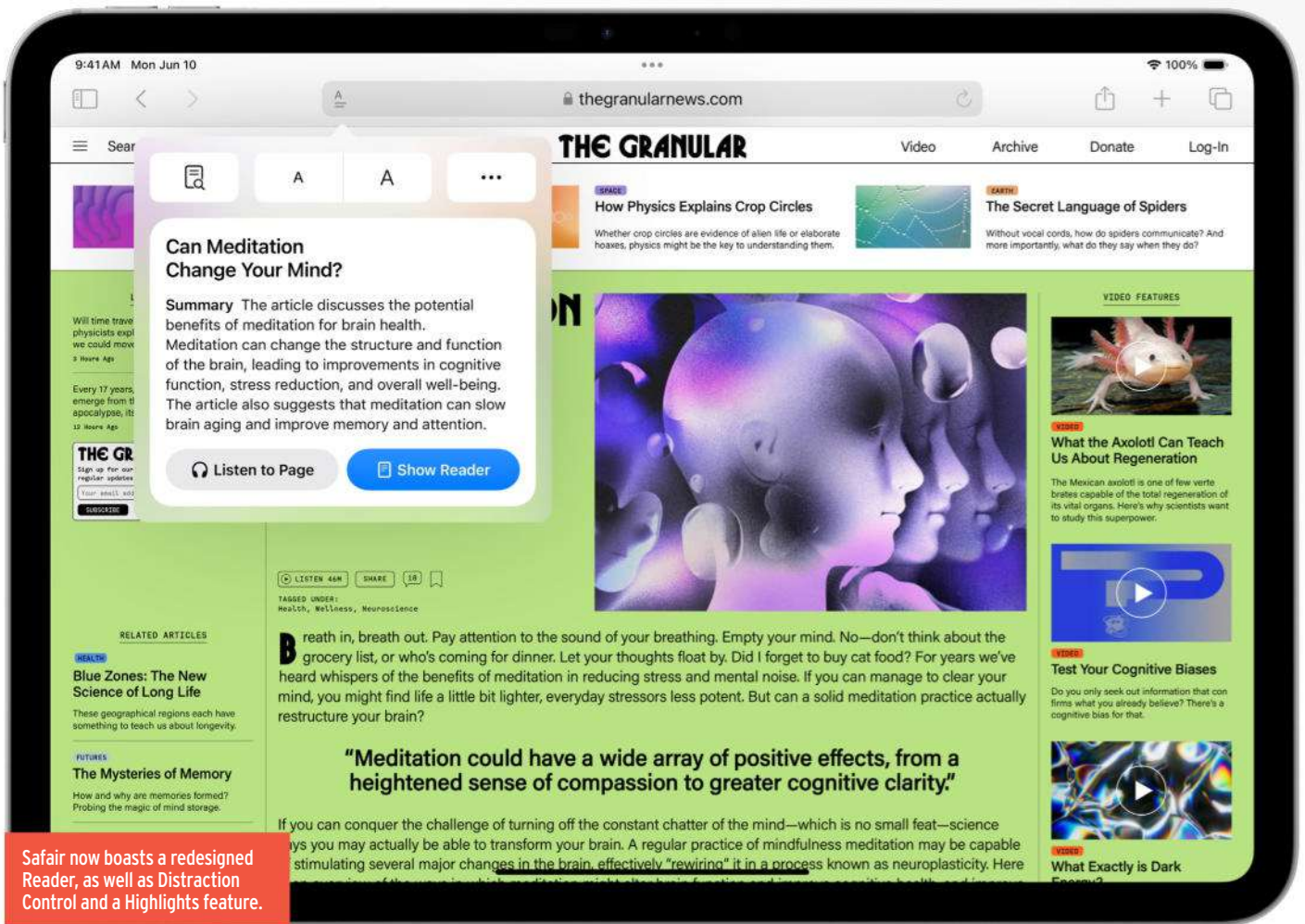
**Safari in iPadOS 18 makes the web better!** Thanks to Apple Intelligence, the Highlights feature will help you quickly find and jump to key info, such as a shop or venue's opening hours, and the revised Reader makes it easier to find specific parts of an article via a table of contents. But perhaps the

best feature is Distraction Control, which can remove elements of web pages. It's not an ad blocker - you'll need Safari extensions for those - and it can't get rid of parts of pages that constantly change. But you can use it to block cookie banners, 'subscribe to our newsletter' messages and many other things that get in the way.



Distraction Control enables you to remove annoying bits of web pages.





promises to automate that when it's added to iPadOS, and it will also be able to automatically create automatic summaries and replies.

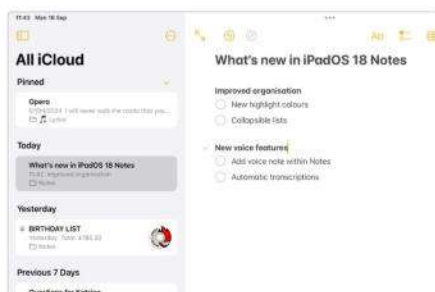
You'll notice that Safari looks a little different. The address bar has been redesigned to provide faster access to the most commonly used tools such as Reader and Translate, and if you tap on

the '...' at the bottom you'll get access to the full toolkit, which now includes options that were previously tucked away in Safari's Share menu. Reader has been redesigned to make it clearer and there are new features to reduce on-screen clutter and highlight key info. And Safari is one of the apps you can lock behind Face ID or Touch ID, which

is useful if your iPad is shared with younger family members.

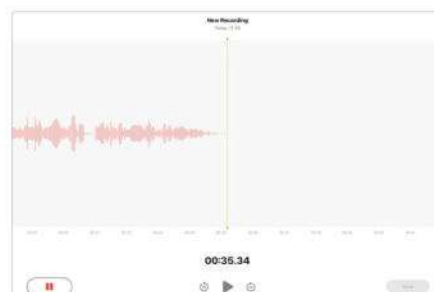
Last but not least, Apple has finally delivered on its promise that it would bring Calculator to the iPad - it's only taken 14 years. But the new app is very smart and makes particularly good use of the Apple Pencil with its new Maths Notes feature (see below).

## HOW TO Get nicer Notes >



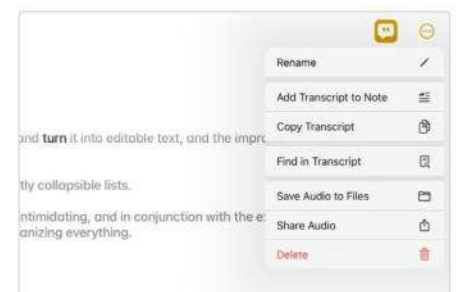
### 1 Set structures

The new collapsible sections are subtle but superb. Just organise your notes using the formatting tools to create headings, subtitles and so on, and those subtitles then get a little drop-down arrow to show or hide them.



### 2 Use your voice

Tap on the paperclip icon and you can add a voice note to your current note. You can also get your iPad to automatically transcribe your voice note - just tap on the speech icon, the first of the two icons at the top right.



### 3 See what you said

Once recorded, you'll see a preview in the note, including the first few words. Tap on it to see the whole transcript. Tapping on a word plays the audio from that point onwards; the usual copy text, look-up and share tools work here.

# Everything else

iPadOS isn't just more customisable...

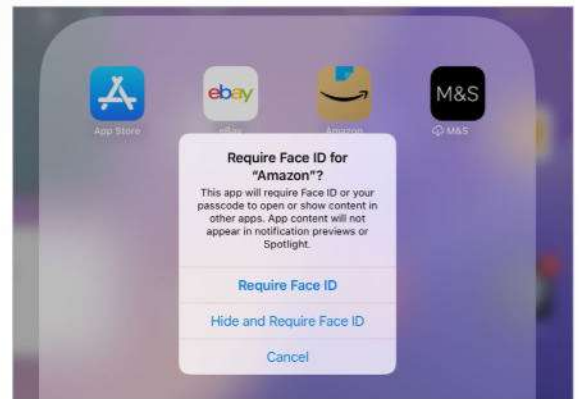
**A**longside the app upgrades, you'll find two important security improvements: the new Passwords app and the ability to lock apps behind Touch ID and Face ID. That latter is useful for shared iPads in particular; you can use it to keep the kids from ordering in your shopping apps.

## One-stop Passwords app

Before iPadOS 18 Apple's password and login management was getting pretty messy. It also differed from mobile to Mac, so for example website passwords had their own spot in the iPadOS

Settings app but lived in Safari's settings on Mac. Now there's the one app for everything - and it's not just for passwords but for Wi-Fi logins, temporary verification codes and for passkeys, an alternative to passwords that use your face or finger as your login. You can also use the app to share passwords or passkeys, for example if you're giving a group access to a shared building.

As before, you can save time by using AutoFill to automatically fill in website



Press and hold on an app icon to choose to require Face ID or Touch ID to open it. You can also hide the app from your Home Screen.

and app passwords, and you should check the Security section frequently to make sure you're not re-using passwords or using passwords that have been leaked.

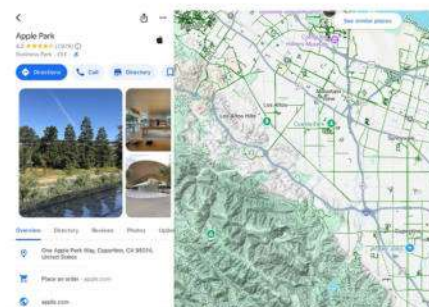
## Take your pics >



The Photos app has had the biggest redesign in its entire history and now organises your library not just by date and album but by topics such as Recent Days, and People & Pets. You can also pin collections for quick access to your favourites. One of our favourite features is the new Wallpapers section, which scans your Photos library for suitably scenic shots that it thinks would make great wallpapers for your Home Screen or Lock Screen.



Photos has been extensively designed with much more customisation and better organisation features.



Some Maps features aren't available in the UK yet, but improvements include multi-stop routes.

## Make your Maps >



One of the biggest improvements to Maps in recent years was the addition of ultra-detailed topographic maps for walkers and hikers. That feature came to the Apple Watch last year and it's now coming to the Maps app on other devices too, with one important caveat: for now it's only coming to US and Japanese users. However, the new Custom Routes feature is coming to everybody everywhere. It enables you to plan your trips in advance with multiple points to travel to, and you can then save it for later and/or share it with others.

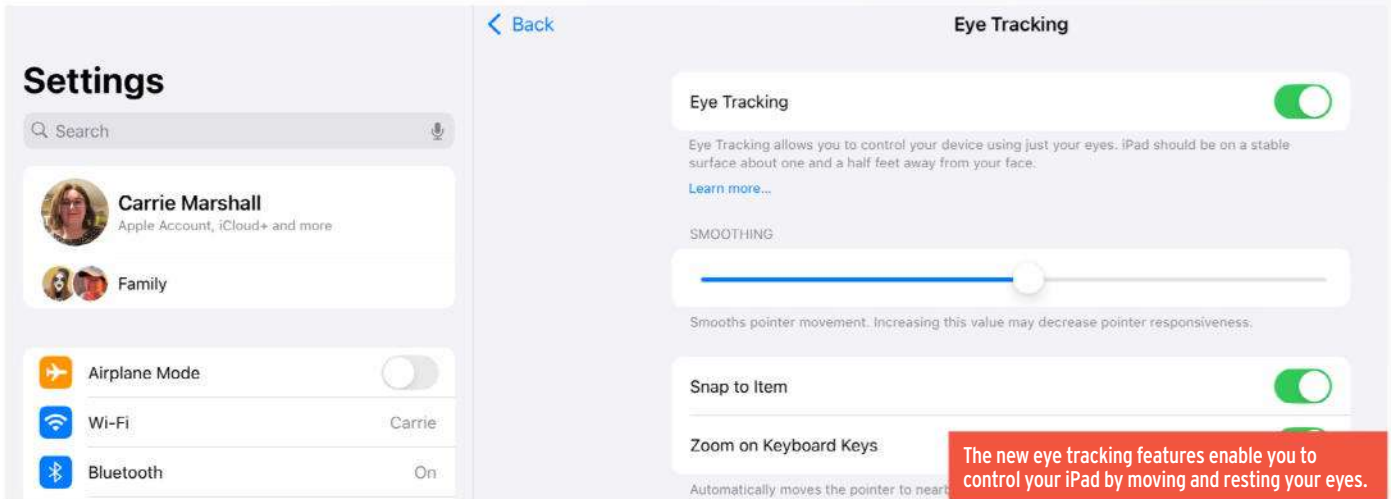
## You've got game >

iPads, and recent iPads particularly, are very powerful gaming devices. Apple's taking that further with iPadOS 18, which introduces a new Game Mode. That does two important things. First of all, it cracks down on any apps that are running in the background that might reduce the smoothness and speed of your game. And it also reduces latency, the slight delay that affects wireless devices such as Bluetooth controllers and AirPods. Game Mode fixes that to keep your sound in sync and your controller responses smooth.




Game Mode detects when you're playing a game and reduces background activities for smoother gaming.






## Accessibility improvements >

 **iPadOS 18's Eye Tracking uses the front-facing camera to watch your eye movements and activate elements that your eyes pause on, enabling you to replicate physical button taps, swipes and other gestures.**

There's also a new Vocal Shortcuts feature, which enables you to record custom voice shortcuts, and 'Listen for Atypical Speech', which is designed to assist people who have progressive conditions that affect their speech. That latter feature uses on-device

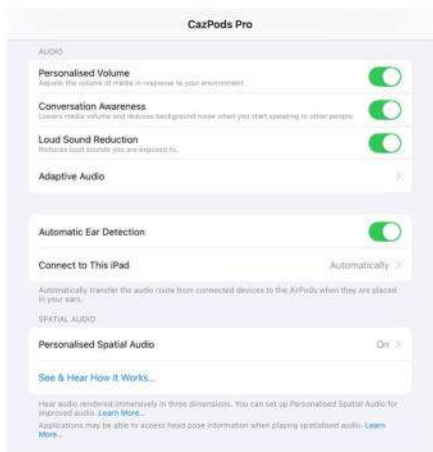
machine learning to learn your specific speech patterns in order to understand you more accurately. And if you sometimes find using your iPad as a passenger makes you travel sick, the new Vehicle Motion Cues can help reduce that.

## Shake for Siri >

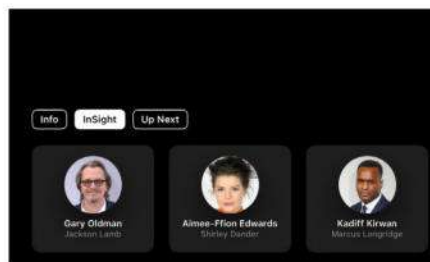
 **Game Mode isn't the only new feature that Apple is bringing to your AirPods.**

iPadOS 18 also introduces hands-free Siri interactions for the AirPods Pro 2 and AirPods 4, which enable you to simply nod or shake your head to accept or refuse incoming calls or reject notifications when it's not a good time for you to speak.

AirPods Pro 2 also get better voice isolation in calls and in in-game chats, and Personalised Spatial Audio now works in games as well as in music, in TV shows and in movies.



New gesture controls for AirPods Pro 2 and AirPods 4 mean you can reject calls with a shake of your head.



iSight can tell you who's on screen and what other Apple TV+ shows and movies you can see them appear in.


## Get iSight on Apple TV >

 **The new inSight feature in Apple's updated TV app, exclusive to Apple TV+ subscribers, adds a fun new feature to TV and movie browsing, albeit only for Apple Originals.**

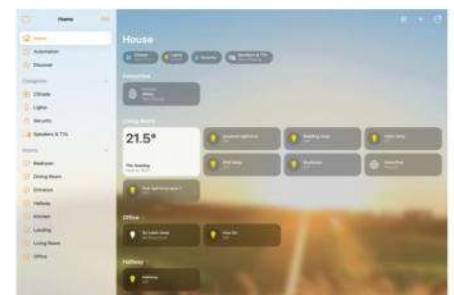
It enables you to find out more about the actors on-screen, and to bring up information about the soundtrack so that you can add the tracks to your Apple Music playlists.

The TV app also gets smarter subtitling, more speaker compatibility for Enhance Dialogue - which was previously only for 2nd-generation HomePods - and support for 21:9 projectors.

## A more helpful Home >

 **The Home app now has guest access so that you can offer hands-free unlocking for compatible smart locks; this feature requires you to have a HomePod or Apple TV as your smart home hub.**

Later this year, the Home app will also gain support for robot vacuum cleaners for easier control. You can now set a preferred Home hub if you have multiple HomePods, which should solve connectivity issues if your iPad's trying to connect to a HomePod you don't want it to, and there are many more Control Centre controls for your various HomeKit devices too.



Home has more nuanced controls and support for robot vacuum cleaners is coming soon.

# RISE OF THE ROBOTS

## Apple robots are set to revolutionise the smart home

WRITTEN BY PHIL KING >

**W**hile the shuttering of Apple's self-driving car project earlier this year was disappointing, the lessons learnt during its development may well prove useful on a smaller scale - in robotic devices for the home.

The first Apple robot is expected to be a tabletop assistant arriving in 2026 or 2027, to be followed later by a more sophisticated mobile droid. So could Apple reshape the smart home in the same way that it revolutionised smartphones, tablets, and wearables? The company's move into robotics, combined with the power of its artificial intelligence (AI) ecosystem, Apple Intelligence, could transform not only the types of devices we have at home but also how we interact with them.

First up, the planned tabletop robot - codenamed J595 - is likely


to serve as an Apple Intelligence-powered assistant that integrates into your smart home. Its likely design will feature an iPad-like screen on a robotic arm that, with the use of a camera and facial recognition, can swivel to follow your gaze. This feature could prove useful for applications such as video conferencing, always keeping your face in the frame, and home cooking, enabling you to keep tabs on a recipe as you move around the kitchen.

A fully mobile Apple robot is an even more appealing prospect. Imagine a device that not only answers questions and controls your smart home appliances, but also moves autonomously around the home to assist you. We can envisage it having a similar form factor to the Amazon Astro, a wheeled robot equipped with a screen, sensors and camera, enabling it double as a home security device when you're out.

Integrating Apple Intelligence into such a robot could lead to capabilities far beyond what we see in today's home robots. Apple is known for its ability to take emerging technologies and elevate them into the mainstream. Could the Apple robot be the next leap forward? Will it lead to a future where intelligent robots are as common in our homes as smartphones, tablets, and smart speakers?

Let's take a look at the history of domestic robots so far, speculate on the future, and examine how Apple and Apple Intelligence could shape this exciting new frontier.

### Early beginnings

The concept of an automaton to aid humans dates back as far as ancient Greece, long before the term robot (from the Czech word for 'slave') was coined, in 1922, and robots became a mainstay of science fiction. 



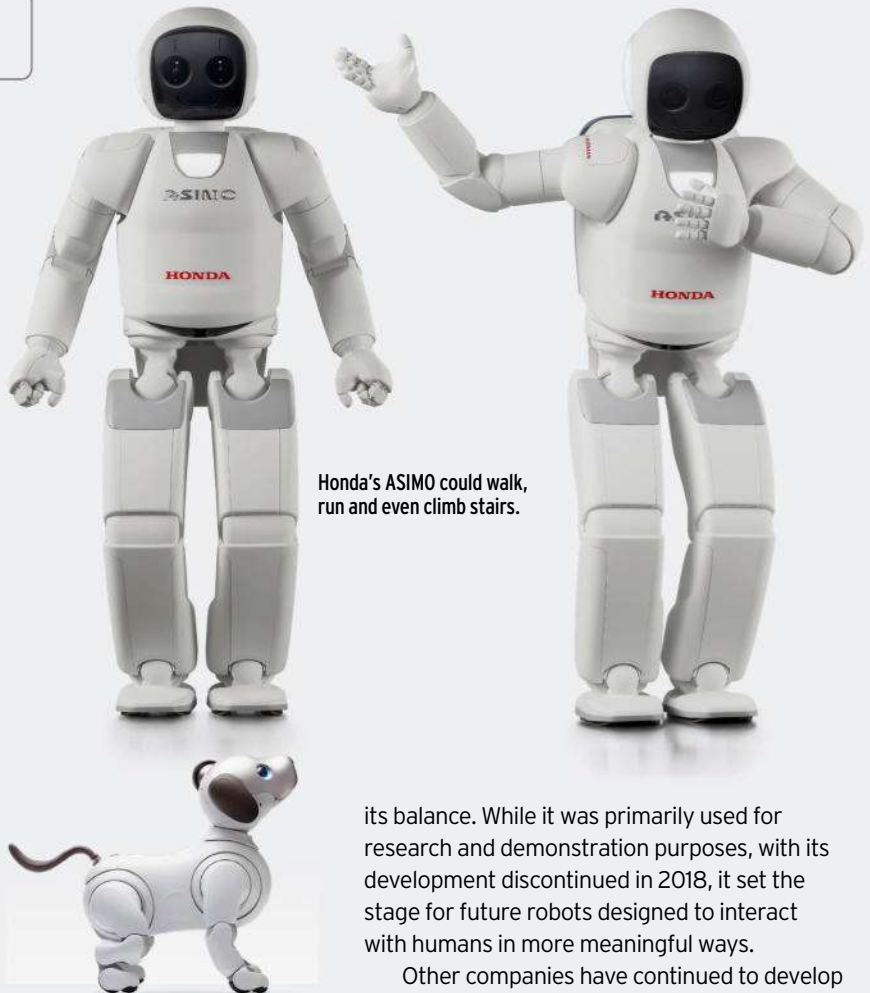


## FEATURE Rise of the robots

➤ The first practical robots were industrial devices in the early 20th century, before the dawn of the computer age; jointed arms that could replicate a set of movements demonstrated by a human worker, the precursors of the robots still used in car factories today. It's only more recently that domestic robotics have begun to gain traction in the tech world, thanks to the efforts of companies like Sony and Honda.

Interestingly, one of the first robots designed specifically for the home was not a humanoid but a robotic dog. Introduced in 1999, Sony's Aibo (Artificial Intelligence RoBOt) was more of a novelty than a practical household assistant, but it did at least show that people were interested in bringing robots into their homes. Further Aibo iterations were developed before the range was discontinued in 2006. Sony revived it in 2018, however, with the launch on the upgraded ERS-1000 model, which can recognise up to 100 faces and respond to over 50 voice commands.

Having experimented with the creation of humanoid robots from 1986 to 1997, Honda unveiled ASIMO (Advanced Step in Innovative Mobility) in 2000. This bipedal bot could walk, run, and even climb stairs, all while maintaining



Honda's ASIMO could walk, run and even climb stairs.

Worried about the rise of the robots? But Sony's Aibo robopup is so cute!

its balance. While it was primarily used for research and demonstration purposes, with its development discontinued in 2018, it set the stage for future robots designed to interact with humans in more meaningful ways.

Other companies have continued to develop humanoid robots, such as Toyota with its T-HR3, whose advanced manual dexterity includes the ability to pick up coins and twist the lids off jars.

## Domestic helpers

On a more practical level, Toyota has developed the HSR (Human Support Robot), which can help out around the house, performing practical tasks with its extendable arm, as it moves around on omnidirectional wheels. In a country with an ageing population, Japanese firms have been developing robots to help care for older people for over two decades. Performing tasks such as lifting people up out of a chair, these robots tend to be expensive to buy or lease, so are more commonly found in residential care facilities.

So far, the creation of more affordable robots for the home has focused on automated versions of devices to do specific jobs, such as mowing lawns and cleaning carpets. Most famously, in 2002 iRobot introduced the Roomba, a robotic vacuum cleaner that - now in its tenth generation - remains a popular product. Early models relied on bumper sensors

## The ultimate dream would be a fully mobile, dexterous robotic servant

# Apple Intelligence

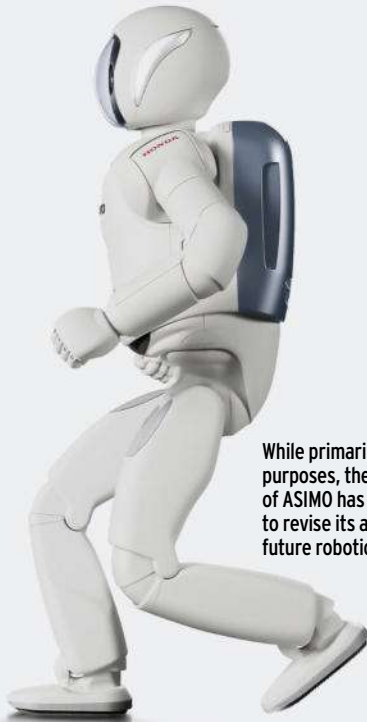
**Billed as "AI for the rest of us", Apple Intelligence is the company's new artificial intelligence platform.** Announced at WWDC in June, it's currently in beta testing, with a full launch planned for 2025.

Available on supported iPhone, iPad and Mac models, Apple Intelligence comprises both on-device and cloud-based AI models running on Apple silicon. With ChatGPT integrated seamlessly into Siri, it promises to make communication more natural

while also enabling fun new ways to get creative with Writing Tools and the new Image Playground feature. There's also an emphasis on user privacy, with the cloud model based on a Private Cloud Compute platform with end-to-end encryption.

We expect Apple Intelligence to be embedded into Apple models, giving Siri a physical form and - in the case of the mobile robot - the ability to converse with you while following you around the home.





While primarily for demo purposes, the realisation of ASIMO has helped Honda to revise its approach to future robotic innovations.

to detect and avoid obstacles, which meant they could sometimes get stuck under furniture. Newer editions are equipped with a camera and use advanced onboard mapping and navigation software to help guide them around the home.

The ultimate dream would be a fully mobile, dexterous robotic servant that could perform all sorts of chores around the house, including laundry and the dreaded ironing! There's still quite some way to go to reach that goal, however. Challenges for domestic robots include mobility. Wheeled robots can trundle around flat areas and may be able to avoid most obstacles, but most can't handle stairs – a rare exception is the MOBINN delivery bot, whose flexible wheels enable it to climb steps.

Reliable navigation around the home is another major hurdle. While companies often showcase their domestic robots in large open-plan, clutter-free apartments, that's not the reality in most homes. People often leave things lying around, and shut doors that were previously open, which could confuse less intelligent robots. Solutions include waypoints, sensors, computer vision using cameras, and LiDAR to aid navigation in the dark.

Another challenge is giving robots enough dexterity to perform the kinds of practical tasks a human can do. For this, a sense of touch may be required to avoid them crushing objects. Robots will also need to be able to operate safely in the home – especially around children and pets, whose behaviour can be unpredictable.

## Getting smarter

Apple's history of creating intuitive, user-friendly products makes the possibility

## Top 5 robots >

While anticipation is high for the first Apple robot models, they'll have plenty of rivals when they arrive. The concept of domestic robots has become a growing area of interest for many tech firms. The arrival of artificial intelligence has spurred a new wave of innovation in the field, resulting in smarter robots, often with smart home integration. Here are a few of the most interesting examples...



### Amazon Astro

> \$1,600 > amazon.com  
> Currently available to purchase by invitation only, Amazon's home robot features an Amazon Echo-like display that rolls around on a wheeled base. Equipped with a camera, it doubles as a security guard.



### Roborock S8 MaxV Ultra

> \$1,900 > global.roborock.com  
> The latest Roborock vacuum cleaner is the most advanced yet, featuring a camera to aid AI/LiDAR obstacle detection, along with a built-in voice assistant and video calling to check in.



### Samsung Ballie

> £TBC > samsung.com  
> Resembling an oversize tennis ball, and moving around on tiny wheels, the new edition of Ballie has been upgraded with AI while its standout feature is an HD projector to beam video onto any flat surface.



### ORO

> \$799 > orobuddy.com  
> This wheeled robot is designed to be a buddy for your pet, able to dispense food and throw a ball. AI helps it to learn the animal's behaviour and you can chat remotely to Rover/Kitty via the screen.



### Yarbo Core

> From £4,799 > yarbo.com  
> If you need help tidying up the garden or yard, Yarbo's modular robot range is an option. The Core robot can be equipped with accessories including a lawnmower, edger, trimmer, snow plough, and blower.



Samsung's Ballie bot can connect to your home appliances and manage them for you.

of an Apple robot particularly intriguing, as it's unlikely to be just another gadget. Apple's approach will probably focus on seamless integration with its ecosystem - particularly its smart home products like the HomePod, Apple TV 4K, and Apple Watch.

One of the key questions surrounding the Apple robot, and domestic robots in general, is whether artificial intelligence will truly spur a new wave of innovation. AI, particularly machine learning and natural language processing, is already making strides in many fields, and robotics is no exception.

## Apple's approach to robots will probably focus on seamless integration with its ecosystem

In the context of domestic robots, AI could dramatically improve their capabilities and help solve some of the challenges that have plagued previous efforts. For example, the latest Roborock vacuum cleaner robot uses artificial intelligence to create a detailed map of your home, helping it to avoid obstacles and even identify specific rooms. While the new version of Samsung's spherical Ballie robot features the integration of AI alongside a 4K projector that can beam video onto a flat surface - something we'd love to see in an Apple robot.

LG is also getting in on the act with its smart home AI Agent, a cute little robot with expressive eyes (on a screen) and advanced AI language skills to help it understand and communicate with people as it rolls around on wheeled little legs. As well acting as a mobile home hub, it can

## Room mapping

As well as packing sensors to detect obstacles on the fly, most domestic robots - such as vacuum cleaners - come with software that enables them to map the layout of rooms. Once learnt, this helps them to navigate around the home more quickly and efficiently while still looking out for new obstacles.

Typically, you'll use a mobile app to get your new robot to start mapping. It will then begin exploring its surroundings, sensing walls and other obstructions as it tries to find

the perimeter. It's often a good idea to follow it around to see if it encounters any trouble spots. Once finished, the generated floor plan will appear in the app for you peruse and, in some cases, edit.

We can expect Apple's first mobile robot to pack similar mapping features, enabling it to learn the layout of your home so it can find its way around. It could even offer the mapping of multiple levels, although we doubt the first mobile robot model will be able to manage stairs.



Robot vacuums use room mapping to navigate your home.



## Powering up

**One vital factor to consider for any mobile robot is how it will be powered.** Naturally, it can't be tethered by a wire to a mains socket, so will need some form of portable power supply. Typically, this will incorporate a rechargeable battery that enables the robot to operate for several hours at a time before automatically heading back to its charging station when the battery is running low.

How long it takes to charge depends on the battery capacity and charger specifications. For instance,

the Amazon Astro robot features a 4,300mAh Lithium-ion battery with a full recharge time of 45 to 60 minutes; when fully active, and not in 'night mode', it lasts around three hours.

The Apple robot dock is likely to use MagSafe 25W wireless inductive charging, but will still need to be within range of a mains socket. The ideal place to put it is in a low-traffic area that's never closed off. You'll also need to ensure that nobody leaves an item right in front of the charging station, blocking access.

While an Apple robot will need to be within range of a mains socket, it's likely that it will use the company's wireless MagSafe charging.



learn from analysing environmental data gathered by various on-board sensors.

As you might expect, Google DeepMind is deeply involved in developing advanced AI for use in robots. Building upon previous work, its RT-2 AI model can perform multi-stage semantic reasoning, such as deciding which object could be used as an improvised hammer.

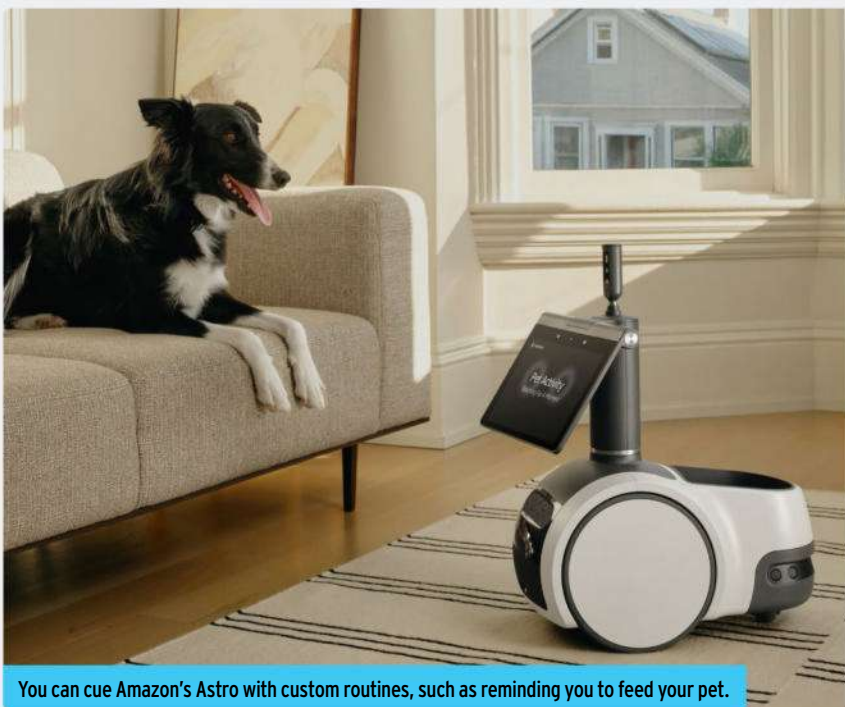
The great advances in speech understanding and image labelling enabled by deep learning will enhance robots' interactions with people in their homes. Future iterations of home robots, powered by more advanced AI, should be able to perform increasingly complex tasks.

Apple's new robots, combined with its Apple Intelligence ecosystem, could push this further. Apple has historically been successful in creating artificial intelligence that feels human-like, such as Siri, and integrating this level of sophistication into a home robot could result in a far more intuitive experience than we've seen so far.

## Apple innovation

Another area where the Apple robot could shine is in its integration with smart home devices. A robot equipped with Apple Intelligence and connected to HomeKit could act as the ultimate smart home manager, automating tasks and making your home more efficient and comfortable. For instance, it could detect the sun setting and adjust the home's lighting and temperature accordingly, or track your location to ensure the house is prepared when you arrive.

If domestic robots are ever to become ubiquitous, and not remain niche novelty products, they need to prove genuinely useful in the home. Apple's entry into this burgeoning market is a major boon. With the firm's track record of innovation, there's every reason to be optimistic. Combining Apple Intelligence with robotics has the potential to bring science fiction a step closer to reality, offering not just convenience but also new forms of interaction with our smart homes. The key challenge will be making robots affordable, practical, and multifunctional. If Apple can do that, it might not just change the types of devices we have at home - it could change the way we live. For now, all we can do is speculate, but if anyone can deliver it's Apple. Get ready: your next big smart home upgrade might just have wheels.



You can cue Amazon's Astro with custom routines, such as reminding you to feed your pet.

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EDITED BY **ROB MEAD-GREEN** >



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> A brilliant thing



> Strongly recommended



> Worth considering



> Notable flaws



> A waste of your money

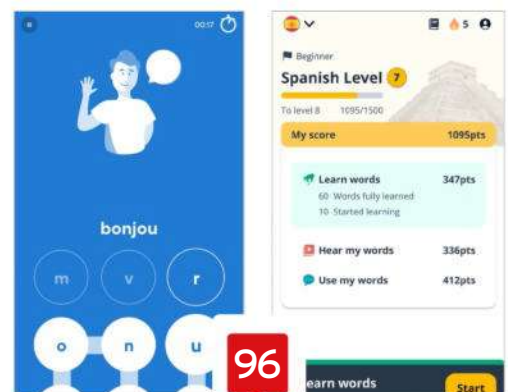


## HARDWARE

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# iPhone 16 Pro

Bigger and better in almost every way – and with power to spare

> From £999 > FROM [apple.com/uk](https://apple.com/uk) > FEATURES 6.3-inch Super Retina XDR Display (2622x1206 pixels), A18 Pro chip, 128/256/512/1TB of storage, Wi-Fi 7 (802.11be), Bluetooth 5.3, 5G, USB-C port, up to 27 hours (video playback)

There's a learning curve to Camera Control, but we're glad that it's an option

**B**etween the iPhone 16 Pro and iPhone 16 Pro Max, the latter seems like a bigger deal because of its enormous 6.9-inch screen. But the iPhone 16 Pro should not be overlooked. We've been using both of these new iPhone Pro models, and we think the iPhone 16 Pro is better value. For £999, you get a bigger display than last year (6.3 vs 6.1 inches), the more powerful 5x zoom that used to be a Pro Max exclusive and an impressive battery life boost.

The iPhone 16 Pro has many of the same features as the 16 Pro Max, including the powerful A18 Pro chip, upgraded 48MP Ultra Wide camera and impressive video features like 4K 120fps slo-mo videos and Audio Mix for zapping background noise. Apple Intelligence features like Writing Tools and improved Siri are promising based on early testing of the iOS 18.1 developer beta, but that won't officially arrive until October.

The iPhone 16 Pro is still compact, but there's a trade-off with getting a larger display. It's now more mid-size - measuring 149.6x71.5x8.25mm and weighing 199g, compared to 146.6x70.6x8.25mm and 187g for the iPhone 15 Pro, so the 16 Pro is taller and wider and just as thin, but there's more heft to it.

The handset is still easy to use with one hand, as Apple has made the bezels thinner. The design should be more durable, too, as Apple says the Ceramic Shield display is 50%

tougher. Plus, the band is still made of titanium, which is more durable than aluminium.

The iPhone 16 Pro colours aren't very flashy compared to the regular iPhone 16. There's Black Titanium, Natural Titanium, White Titanium and the new Desert Titanium, which looks like a soft rose gold.

In terms of the Super Retina XDR display OLED screen, the only real news beyond the size increase to 6.3 inches is that it can get dimmer. The minimum is now just 1 nit (down from 2 nits on the iPhone 15 Pro). We put the two phones side by side in a dark room, and we noticed the difference immediately. So you can use your phone in bed without disturbing your partner, and if you're using StandBy mode, the iPhone 16 Pro won't be as bright when you're using it overnight as an alarm clock.

Otherwise, you get the same 120Hz refresh rate on this ProMotion display, and the same max brightness. Apple claims a peak brightness of 2,000 nits outdoors and 1,600 nits for High Dynamic Range content.

## Camera

Apple has added a new button, though it's not technically a button. Camera Control is a recessed capacitive switch that provides haptic feedback. Press it once to launch the Camera app, then press it again to snap a photo. We found it easy to use in both portrait and landscape, and we like that you can press and hold it to record a video, though if you take your finger off the button the video stops. We wish you could customise that.

The Camera Control has a lot of tricks, including the ability to zoom in and out by sliding your finger left and right on the button. And a soft double press launches a mini menu you can scroll through to tweak things like exposure, depth and choose Photographic Styles. There's a learning curve to Camera Control, but we're glad that it's an option. Plus, this frees up the Action button on the left side of the iPhone 16 Pro for other shortcuts.

The iPhone 16 Pro's camera system has a few key upgrades that we appreciated during



The iPhone 16 Pro is available in Black Titanium, Natural Titanium, White Titanium and new Desert Titanium.





The latest 'pro' iPhones have a bigger battery, a better camera, and an even bigger display than before.



In low light, the iPhone 16 Pro packed in lots of detail, although some highlights were blown out.

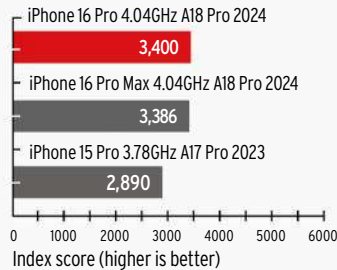


The Ultra Wide camera takes natural-looking photos without over-saturation or distortion.



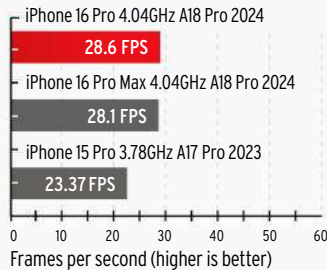
It also delivered plenty of detail in our 'peppers' shot, even if the image was a little unsaturated.

## BENCHMARKS Our analysis explained >



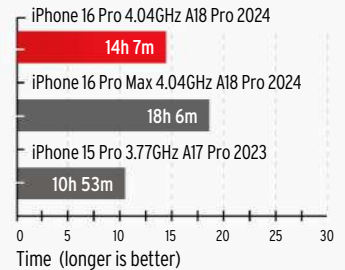
### GEARBENCH 6 SINGLE-CORE TEST

> We use this cross-platform benchmarking tool to measure a device's performance, with a single-core processor baseline of 1,000.



### 3DMARK SOLAR BAY

> This cross-platform benchmarking test measures a device's graphics performance, with support for Metal API based ray tracing on iOS devices. The test has three different sections.



### BATTERY LIFE

> In our battery test we continuously surfed the web with the iPhone's display set to 150 nits brightness, measuring how long it took for the battery to become depleted.

> our testing: there's a sharper 48MP Ultra Wide camera, a faster 48MP main Fusion Camera with 'zero shutter lag' and the 5x tetraprism Telephoto borrowed from the Pro Max series.

In addition, Photographic Styles are integrated directly into the Camera and Photos apps, so you can change Skin Undertones and the Mood effect of your photo on the fly. Plus, you can tweak it after the fact. Video on the iPhone 16 Pro gets a boost as you can now record at 4K and 120fps (up from 60fps). So video will not only look smoother on the 120Hz display, you can adjust the playback speed on the fly to get dramatic-looking slow-mo videos.

The new Audio Mix video editing tool lets you remix audio as one might in a studio for a

much clearer result. There are a few options: Standard, In-Frame, Studio, and Cinematic. Standard is just your original recorded audio; In-Frame focuses the audio on what's in the camera frame; Studio cuts out background noises and reverb; Cinematic, meanwhile, pushes voices to the foreground track and leaves environmental noises in the surround, more like audio in movies.

## Performance

The iPhone 16 Pro packs Apple's new A18 Pro chip built on second-gen 3-nanometre (nm) process, as well as 8GB of RAM.

When we played Resident Evil Village, we were scared (in a good way) as we made our

## Apple Intelligence

**Apple Intelligence isn't officially coming to the iPhone 16 series until October, but we were able to try out some of the features ahead of its official launch.**

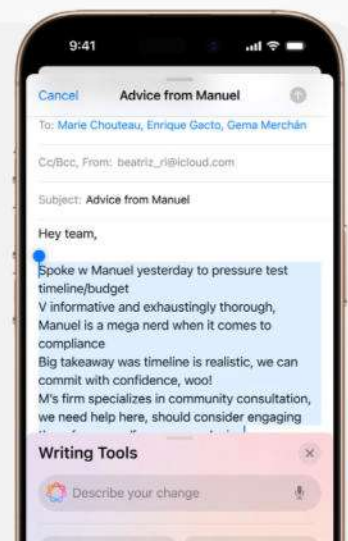
Writing Tools can be fairly helpful. We used it to summarise a long note in the Apple Notes app and it came up with a useful summary. We also had fun with Writing Tools trying to rewrite an email we purposely wrote in a brusque tone, choosing the Professional option. And the result was indeed closer to what we would usually send.

In the Photos app, our favourite Apple Intelligence feature was Memory Movie. You can give the Photos app a prompt like 'Beach

memories through the years with an upbeat soundtrack' and you'll see the artificial intelligence go to work sifting through photos and videos. And the end result was pretty satisfying, fittingly ending with a sunset pic.

While overdue, we appreciate that the iPhone 16 Pro has a Clean Up button. It's smart enough to identify objects or subjects you might want to remove and works quickly. But it struggled in some cases to completely erase what we didn't want in the frame.

Siri gets the biggest upgrade with Apple Intelligence. It's more conversational and forgiving of mistakes as you speak. And it's also better at answering follow-up questions.



New Writing Tools make it easier to compose messages with a suitable tone.





Camera Control adds a new way to access the iPhone's photography features - and it works well, even if it does take some getting used to.

way down a snowy path. The graphics are console-grade. We also got to play the Infinity Nikki game, which was in beta, and the lighting and water effects were very impressive.

In Geekbench, which measures overall performance, the iPhone 16 Pro scored 3,400 compared to the iPhone 15 Pro's 2,890.

To test video-editing performance we used Adobe Premiere Rush and timed how long it took to transcode a 4K clip to 1080p. The iPhone 16 Pro took a mere 21 seconds.

When it comes to graphics performance, the iPhone 16 Pro has a 6-core GPU, compared to five cores for the regular iPhone 16 and Apple says you should get 20% faster performance than the iPhone 15 Pro. On the 3DMark Solar Bay test, which has support for ray tracing, the iPhone 16 Pro was 22% faster than the iPhone 15 Pro, and actually slightly ahead of the iPhone 16 Pro Max.



The iPhone 16 Pro has an improved camera system with a 48MP Fusion camera, a 48MP Ultra Wide camera and a 5x Telephoto camera, taken from last year's 15 Pro Max.

The iPhone 16 Pro Max features a new internal design with a graphite-clad aluminium substructure that's supposed to result in 20% better sustained performance. To test this, we ran the 3DMark Wildlife Life Stress Test for 20 minutes. The iPhone 16 Pro turned in a stability score of 66%. It hit a higher overall loop score than the 16 Pro Max but had a bigger drop-off.

## Battery

The iPhone 16 Pro gets a big battery life boost, thanks to a larger battery and other efficiencies. In our battery life test, which involves continuous web surfing at 150 nits of screen brightness, the new iPhone 16 Pro lasted 14 hours and 7 minutes - a big jump from the 10 hrs 53mins of the iPhone 15 Pro.

Sadly, the iPhone 16 Pro has the same 20W charging speeds as before, so it wasn't a surprise to see it get to 56% capacity in 30 minutes. Despite reports that the iPhone 16 Pro supports 45W charging, we did not see any difference in our tests. However, MagSafe wireless charging jumps from 15W to 25W, if you're using a 30W adaptor.

Overall, the iPhone 16 Pro is arguably the best flagship phone for under £1,000. You get the same excellent cameras as the iPhone 16 Pro Max for £200 less and we think the screen is big enough at 6.3 inches. We also liked the improved battery life, Camera Control and compelling Audio Mix feature for videos

Should you upgrade to the iPhone 16 Pro? If you have an iPhone 13 Pro or earlier, yes. But if you own a newer phone, maybe wait to see how Apple Intelligence develops. **Mark Spoonauer**

## Mac FORMAT VERDICT

› The iPhone 16 Pro gets a bigger display, 5x tetraprism zoom, and longer battery life. Plus, promising Apple Intelligence features and smarter Siri are on the way.



- ⊕ Bigger display
- ⊕ Better battery life
- ⊕ Camera Control
- ⊖ Apple Intelligence is a work in progress

# AirPods 4 with ANC

A new design and Active Noise Cancellation make these a must-have

> £179 > FROM [apple.com/uk](https://apple.com/uk) > FEATURES H2 headphone chip, Active Noise Cancellation (ANC), dust, sweat and water resistant to IP54, charging case with USB-C and wireless charging, up to 5 hours battery life (AirPods)/30 hours (Charging Case) with ANC off

Try them on a packed train or plane and the difference they make is amazing

**W**hile Apple added new hearing health features to the existing AirPods Pro 2 at its 'Glowtime' event in September, it was the company's cheaper AirPods that got the biggest overhaul. Still only available in de rigueur white, the new AirPods 4 are available in two different guises: regular AirPods 4 for £129 and AirPods 4 with Active Noise Cancellation (ANC) for £179. It's the latter we're looking at here.

While it looks familiar, the design of the AirPods 4 is all-new. Apple has tweaked the AirPods' contours, shape and size to make them more comfortable to wear for longer periods, and they've now been fitted it with Apple's next-gen headphone chip, the H2, promising improved sound quality with better sound separation, deeper bass and clearer highs. You can see whether that holds true later on in this review.

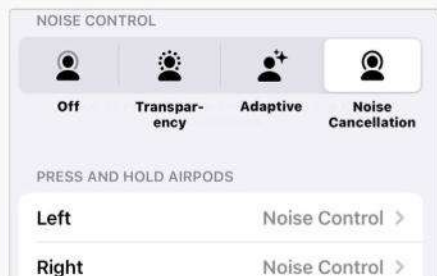
The biggest change, of course, is that these new AirPods are available with Active Noise Cancellation (ANC), which is real game-changer when it comes to your listening enjoyment. Previously only available on the pricier AirPods 2 Pro and AirPods Max, ANC helps drastically



The design may look familiar, but the AirPods 4 with ANC are all-new, both inside and out.

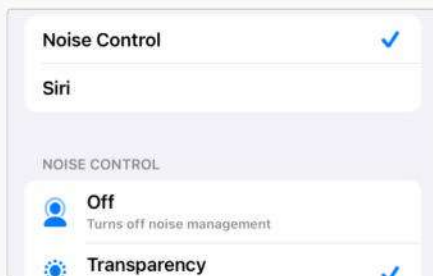
cut down the amount of background noise, not only giving you a better audio environment to listen to your favourite music and podcasts, but also enabling you to listen at lower volume - the AirPods 4 may not have the AirPods Pro 2's hearing health's bells and whistles, but listening at lower volumes certainly helps.

## Turn on, tune in, customise!



### Noise controls

There are two ways to control noise levels in the AirPods 4 with ANC. You can go Settings > AirPods, then choose from Off, Transparency, Adaptive or Noise Cancellation. Or you can press and hold the stems on either of the earbuds.



### Customisation

You don't have to stick with the default control options. Under 'Press and Hold AirPods', tap either Left or Right to change what the controls on each earbud do. You can change the default ANC option, for example. Or invoke Siri.



### Personalisation

Scroll down in Settings > AirPods, then tap Personalised Spatial Audio. Follow the prompts and your iPhone will perform a Face ID-like check that helps customise the sounds from the AirPods to suit the shape of your ears.





The built-in Force sensor on the stem makes it easy to switch listening modes.

As with the AirPods 2 Pro, ANC on the AirPods 4 can also be adjusted: Transparency mode lets in most background sounds; Adaptive Audio applies a level of noise cancellation but lets some sounds (people talking, loud sounds, etc) through; and Noise Cancellation cuts out ambient noise almost entirely - try them on a packed plane or train and the difference they make is amazing.

While you can easily control the AirPods 4 from your iPhone, you can also do so using their Force sensor stems, pressing and holding them to switch Noise Control modes or invoke Siri; and pressing them one, two or three times to play/pause the currently playing track, skip to the next track or skip to the previous track. You can also use the AirPods' Force sensor to answer, mute or end calls. And new in iOS 18, you can simply shake or nod your head to accept or decline an incoming call.

## Sound sensation

While the open-ear design means you don't get the sound-isolating ear tips of the AirPods Pro 2, in practice we didn't miss them much - indeed, some people may find the AirPods 4 preferable; silicone ear tips can make your ears feel itchy after a while, after all.

Fire up your favourite sounds with ANC active and the world around you mostly fades away, making it easy to lose yourself in your favourite podcasts and music, whether it's savouring the atmos in Billy Eilish's *Wildflower* in Spatial Audio or soaking up the syncopated synths of The Weeknd's *Dancing In The Flames*. Narrators in podcasts sound suitably involving too - you really feel like the presenters in Apple TV+'s *The Pirate of Prague* are right there with you, the timbre of their voices being easily discernible from one another.

As you'd expect, battery life is good - the AirPods 4 earbuds will last for up to four hours between recharges with ANC on (or five with it off), while the Charging Case lasts for up to 20 hours with ANC on, or 30 hours with it off. Charging the case is easy - not only does it come with a USB-C port (as well as Find My), but you can also charge it along with the AirPods using either an Apple Watch charger or a Qi charger. However, none of these are included in the box that the AirPods 4 with ANC come in, so you'll need your own.

Overall then, the AirPods 4 with ANC are great. Let's get listening!

**Rob Mead-Green**



## Mac FORMAT VERDICT

> They may not be quite as capable as the AirPods Pro 2, but the AirPods 4 with ANC are brilliant earbuds in their own right and they're easy to wear and use too.



- ⊕ Good sound isolation
- ⊕ Comfortable fit
- ⊕ Delightful to listen to
- ⊖ Lack some features found in AirPods Pro 2

You can use the AOC 16T3EA display in landscape or portrait orientation.



# AOC 16T3EA

A second screen on the go for less than you think

› £149.99 › FROM [aoc.com/uk](http://aoc.com/uk) › FEATURES 15.6-inch screen, 1920x1080, IPS panel, 60Hz refresh rate, 1x USB-C 3.2, 1.8m cable

The monitor is plug and play – just connect it and it’s ready to use

## Mac FORMAT VERDICT

› One or two compromises, but overall, an excellent budget portable display.



- ⊕ Good price
- ⊕ Very portable
- ⊕ Portrait or landscape
- ⊖ Imperfect colours

**P**ortable monitors are great for on the road productivity. Slip it into your bag with your notebook and you can enjoy two screens when on a work trip, just like you might do at home.

The AOC 16T3EA has a 15.6in screen (corner to corner), with a 16:9 aspect ratio, and comes with a carry case. The unit as a whole is barely larger than the screen – it’s a mere 12.5mm thick and weighs only 830g, so it sits neatly in your laptop bag, along with your MacBook. The fold-out stand lets you use it in landscape or portrait, and if you want to wall mount it, a VESA bracket is supplied. While not adjustable, the stand is sturdy enough and enables you to position the screen at a good viewing angle.

The monitor is a plug-and-play affair. Just connect it to your MacBook’s USB-C port and it’s ready to use, with no need to download drivers. The USB-C port is used for both power and video, and is the device’s only connectivity port. Annoying, but it keeps the price down.

We’re impressed by the display’s brightness and contrast. Being an in-plane switching (IPS) screen, the viewing angles are excellent. When looking at our PhotoDisc test image, fine details were clearly reproduced and skin tones were accurate and vivid. Colour reproduction was

not quite as good. The gradient ramps were smooth and well realised, but the reds tended to look a little orange. This isn’t a screen for design work where colour accuracy is essential, but if you work on layouts on your MacBook and use the monitor for menus and tool windows, it’s fine. It’s evenly lit, though there was a slightly darker patch in the bottom left.

### Space to offload

It also passed our text test, though maybe not with flying colours. Although bold and readable, the letters aren’t as smooth and crisp as you get on the Mac’s Retina display. To be fair, you wouldn’t expect that sort of quality on a sub-£150 portable monitor, and the 1920x1080 HD resolution does a decent enough job. Finally, put on a movie or other such video and it plays smoothly and clearly, with no ghosting.

The AOC 16T3EA isn’t perfect, but it offers good value for money. If you absolutely must have impeccable colour reproduction and ultra-high resolution, spend more money and get one of the increasingly capable 4K portable monitors available. For most people, who just need space to offload Finder windows, tools and so on while they work on their Mac notebook’s screen, it’s ideal. **Ian Osborne**



# Belkin Auto-Tracking Stand Pro

Get your iPhone to follow your every move!

> **£169.99** > FROM [belkin.com/uk](https://belkin.com/uk) > **FEATURES** 360° movement tracking, 90° auto tilt, 15W MagSafe wireless charging with 30W power supply, NFC pairing

The stand rotates the iPhone through 360° to follow you while you walk and talk



Mac  
FORMAT

**VERDICT**

> The Belkin Stand Pro frees you to walk and talk during video calls and ensures your iPhone is fully charged.



- ⊕ Pans 360°
- ⊕ Tilts through 90°
- ⊕ Charges your iPhone
- ⊖ Bit slow to follow sudden moves

**W**hen using FaceTime we tend to hold our iPhone for the duration of the call. This limits our options to do

other things while we talk to friends and family, or make a work call with a colleague. By attaching your iPhone to the Belkin Stand Pro's MagSafe compatible pad, you can chat hands-free. The Belkin Stand Pro rotates the attached iPhone through 360° to follow you while you walk and talk. It will also tilt up or down (90°) to keep you in the frame at all times, even when you crouch down. This freedom to move around without having to hold your iPhone means that you can video-chat in the kitchen while preparing a meal for example.

The beauty of the Belkin Stand Pro is that it doesn't require a third-party app. It tracks while you're recording video in Apple's native Camera app or when talking over FaceTime. It's easy to set up. Simply tap and hold your iPhone on the base of the stand and it will use Bluetooth NFC (Near-Field Communication) to pair your iPhone with the stand. Then simply stick the iPhone to the MagSafe pad, fire up a DockKit-compatible video app such as Apple's Camera app, and let auto-tracking commence!

## Smooth and silent

The Belkin Stand Pro should also appeal to vloggers and YouTubers who want to enhance their 'talking to camera' presentations. As you walk and talk, the Belkin Stand Pro will pan and tilt like a camera operator so that you're always in shot. This camera movement makes your usually static presentations look more interesting and engaging.

The auto pans are smooth - the stand can take half a second or so to start panning if you suddenly move quickly, but it soon catches up. As you come to a stop, the pan slows smoothly to a halt rather than stopping sharply - mimicking the moves of a pro camera operator. The movement is also silent, so it doesn't interfere with a presentation's audio recording.



Stay in shot - whatever moves you make - thanks to this auto-tracking marvel.

There's more to the Belkin Stand Pro than auto-tracking. It also charges your iPhone while it is attached to the MagSafe pad. With the iPhone on the pad, it's easy to manually swivel it from portrait to landscape orientation. This activates the iPhone's StandBy mode so you can turn the iPhone into a bedside clock during the night and your iPhone will be fully charged by morning. While attached to the mains, the stand's internal batteries are also charged so you can use the stand cordlessly for up to five hours, so YouTubers can present to camera in an outdoor location and the Belkin Stand Pro will keep them in the frame without requiring an external power source. **George Cairns**

# reMarkable 2, Marker Plus & Type Folio

A tablet that gives a note-paper experience

> reMarkable 2 with Marker Plus **£429**; Type Folio **£179** > **FROM** remarkable.com  
 > **FEATURES** 10.3inch monochrome digital paper display, 1872x1404 resolution (226 DPI), 1.2GHz dual core ARM, 1GB LPDDR3 SDRAM, 8GB memory (around 100,000 pages), Wi-Fi 2.4GHz and 5GHz, USB-C, 3,000mAh battery

You really see what reMarkable can do when you simply write on it



Mac  
FORMAT

## VERDICT

> An excellent note-taking tablet that's getting better and better with each new software update.



- + Genuine paper-like writing experience
  - + Excellent tool selection
- + Solid interface
  - Needs more drawing tools

**T**he problem with using a stylus on a tablet, including an iPad and Apple Pencil, is the lack of tactile feedback. For those used to writing and drawing with a pencil and paper, it feels, well... wrong. Not so with reMarkable 2. This next-generation reMarkable tablet promises a paper-like experience, and it actually delivers. reMarkable 2 has a 10.3-inch e-ink screen. It's available with either a Marker (white) or a more expensive Marker Plus (black, reviewed here) which adds an eraser to the top of the stylus. Both connect to the tablet magnetically, and neither need charging. Also available is the Type Folio keyboard case (black or brown). It's great for typing, and unlike Apple's Magic Keyboard for iPad, it folds away neatly when you're using the tablet for handwriting.

The device's interface is a joy to use. You can create and store individual notepads in user-defined folders, so you have all your notes with you without having to lug around a huge pile of dog-eared paper pads. There's a huge range of templates to choose from, including a blank page, various types of lined and squared paper, planners, checklists, music options and more. Having chosen, you can add more pages to your notebook at will and use different templates within a notebook. You can even make individual pages as long as you like. When you get to the bottom, simply swipe upwards for more space. You can't do that with a spiral-bound reporter's jotter. And if you want to mark up a document, import it to your tablet in PDF or ePub format.

### Hidden colours

A range of writing tools are at your disposal, chosen from a retractable toolbar on the side of the screen. For your pen, you can choose between ballpoint, marker, fine liner, pencil,



The Marker 2 stylus is capable of very fine drawing and writing, and there's a built-in eraser at the top.

mechanical pencil, paintbrush, highlighter or calligraphy pen. Thin, medium and thick strokes are catered for, and there are limited colours on offer, depending on which pen you're using. These don't show up on the tablet's black and white screen, of course, but if you export your documents to your Mac, iPad or iPhone using their reMarkable apps, or share your screen so you can use your notes in real-time presentations, they appear in full colour. Handwriting can be converted to text too.

You really see what reMarkable can do when you simply write on it. You get just enough tactile feedback from the screen that it feels like writing on paper. There's almost no lag, and the typing experience on the keyboard is excellent too. We wish it had better drawing tools, and a word/character count for text would be welcome, but its developer has a strong update policy, so we might well see them soon. Whatever the future has in store for reMarkable 2, we can't wait for it. **Ian Osborne**



# QDOS SnapStand 3-in-1

Charge three devices in one plug socket

> **£79.99** > FROM [qdossound.com](https://qdossound.com) > **FEATURES** Output capability - iPhone 15W Qi/Apple Watch 2.5W Qi/AirPods 5W Qi; USB-C (cable included); 60% recycled materials

**T**his handy travelling gadget saves space on your bedside

table when you need to charge your iPhone, Apple Watch and AirPods. It also saves cables and plug sockets.

When not in use, the SnapStand folds down to fit nicely into your notebook bag, or even your pocket. When opened, your MagSafe iPhone snaps onto a 15W Qi charger that can power up an iPhone 15 Pro Max from flat to 100% in just three hours, 30 minutes. You can position it in portrait, or landscape mode if you want to use StandBy.

Around the back, another Qi wireless charger holds your Apple Watch. This has a 2.5W output, which can charge a Series 9 watch in three hours. The watch is held facing upwards, so you can't use it in Nightstand Mode while it's charging. The base of the unit is a 5W Qi charger for your earbuds. Charging Apple AirPods is advertised, but any earbuds that support wireless charging should work fine.

Naturally, this is dependent on using a plug that can output this much power, and there isn't one in the box; go for a USB-C



For travel, the stand folds almost flat.

charge plug of at least 25W, to go with the USB-C cable.

If you charge on your nightstand, you'll be glad that a fairly dim LED indicates it's active. It's unobtrusive, and easily covered if even a low light disturbs your sleep. Even so, we wish it turned off after a little while. **Ian Osborne**

Mac  
FORMAT

**VERDICT**

> An excellent 3-in-1 charger that's perfect for home and travel.



- ⊕ Quick-charge three devices at once
- ⊕ Robust build quality

# STM 65W Three Port Universal Power Adapter

Power performance for travellers

> **£49.95** > FROM [stmgoods.com](https://stmgoods.com) > **FEATURES** GaN charger; US, UK, Euro and Aus plug adaptors; 2x USB-C outlets, 1x USB-A outlet

**Y**ou're going on holiday or on a business trip, and you're taking stock of the tech you need while away.

There's your iPhone, notebook, Apple Watch, and maybe a few non-Apple devices such as an ebook reader or a handheld games console. But what chargers do you need? What cables? What international plug adaptors? And with all that in your luggage, will you have enough room for your clothes?

STM's 65W Three Port Universal Power Adapter addresses these questions. It has two USB-C charging ports, which can carry up to 65W of power between them, which is plenty enough for your notebook. There's also a single USB-A socket, giving you three charging options. The cables aren't included, so pick the ones you need from your cables box and take them with you.

Being a GaN (Gallium Nitride) charger, it's more

A powerful three-port travel charger. efficient than a regular silicon one. This allows it to be smaller and faster at charging. The palm-sized device has a US plug built in, with adaptors for the UK, Europe and Australia included. Unfortunately, there isn't a drawstring bag to put them all in, but unless you're going on a world tour, you probably only need one at a time anyway. **Ian Osborne**



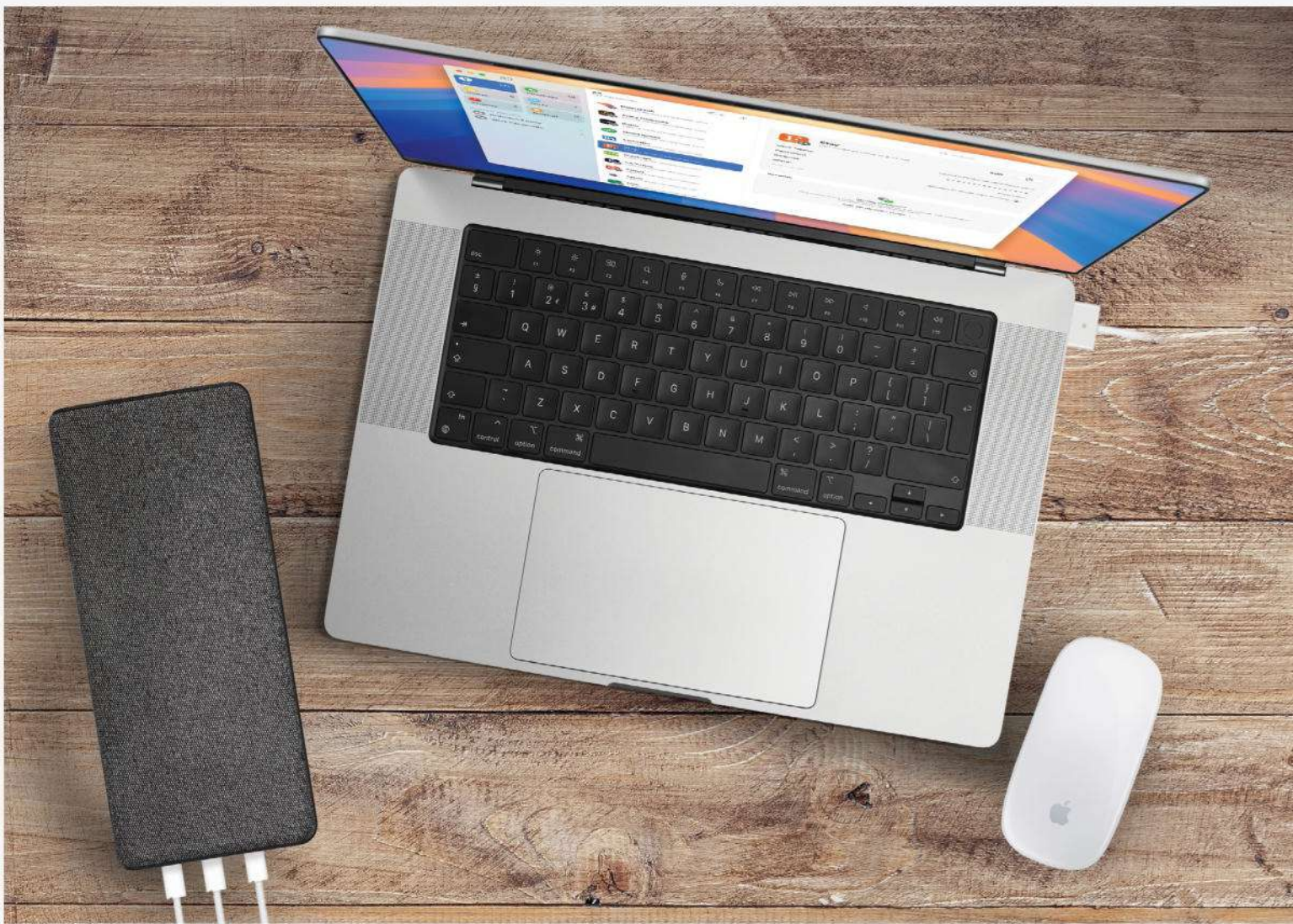
Mac  
FORMAT

**VERDICT**

> An excellent charger, and the ideal accessory for your notebook bag.



- ⊕ Versatile
- ⊕ Fast charging



# MacBook powerbanks

Serious power for working on the move

REVIEWED BY **HOLLIN JONES** >

**W**hen Apple created the M-series processors that now power all its Macs and some iPads, it set a new standard for power efficiency. And the battery life of recent MacBooks is far better than older models.

Yet as we travel or work on the move more and more, we still need to keep our batteries topped up. Laptops require much more juice than an iPhone or iPad, so you need a high-capacity and fast powerbank for those times you're running low but you're away from a power point. Smaller powerbanks will be drained dry by a laptop

very quickly while only giving you a few per cent more battery. But a new generation of higher-powered models is emerging as the technology evolves. Still very portable, they provide connectivity for several devices while crucially having enough punch to provide a serious amount of power to your notebook when you need it. And, thanks to the prevalence of the USB-C charging format now, you don't need to carry around lots of cables, just one rated to carry plenty of power for charging the laptop and recharging the powerbank.

## How we tested

> Charging times are subject to a huge number of variables. MacBook Air and Pro models of different ages and sizes have different sized batteries with different capacities. Using your Mac or charging other devices at the same time will affect the amount of power drain.

We used a baseline of charging a 2023 16-inch MacBook Pro (M2 Pro) from empty, with no other devices connected to the powerbank. Smaller notebooks draw less power.





1



2

## Anker Prime 27,650mAh Power Bank (250W)

> £179.99 > FROM [anker.com/uk](https://anker.com/uk)

**1** This can-sized powerbank comes with a high capacity USB-C cable and can supply 140W through either of its USB-C ports, or 65W through USB-A. It's very slick, with a detailed real-time display for charging stats, as well as a companion app for monitoring over Bluetooth. Its capacity of 27,650mAh is impressive for its size, and provides 1.3 full charges of a MacBook Air, or 0.7 of our 16-inch MacBook Pro.

Remarkably, the powerbank can recharge itself at 170W if you connect two high-powered chargers to the USB-C ports, which is very handy if you're in a bit

of a rush. Power Delivery (PD) 3.1 protocol means it can fast charge, getting the MacBook Pro to 50% from empty in a shade under half an hour.

The powerbank is attractively designed and portable, and its 250W rating means that even with three devices connected, you can still get 140W/92W/18W across the USB ports, although this will drain it quickly. An all-round bank that's easy to slip in a bag.

### VERDICT

- ⊕ Slick and portable
  - ⊕ 140W to a single port
  - ⊕ Recharges itself quickly
  - ⊖ MacBook Pro drains it fast
- ★★★★★

## Goal Zero Sherpa 100AC

> £299.99 > FROM [goalzero.co.uk](https://goalzero.co.uk)

**2** Goal Zero's powerbank is the most high-tech looking on test, with a compact but rugged build. It has a solar panel input option, in addition to its dual USB-C ports with PD that can accept 60W input for charging; the second allowing up to 100W output while the first tops out at 60W. The two USB-A ports offer up to 12W max and the unit can recharge in two hours from a wall socket. It refilled our MacBook Pro battery up to 70% and has a capacity of 25,600mAh.

Switches on the rear let you set the USB-C ports to accept input/output, or auto detect the optimal

function, and there's a small screen that provides important visual info about what's charging, and times remaining. The unit also has a wireless charging pad on its top surface that can charge a compatible smartphone at up to 15W. It's a really handy addition since we all have to charge our phones so often. It's arguably a bit too pricey considering its capacity, but it's a good, sturdy option.

### VERDICT

- ⊕ Very rugged
  - ⊕ Wireless charger
  - ⊖ Expensive
  - ⊖ Tops out at 100W
- ★★★★★

## Things to consider...

**1** **Portability vs capacity**  
With batteries, larger means more life. If space is at a premium you might consider a small and light unit at the cost of overall capacity.

**2** **Real world results**  
Charging times/speeds aren't an exact science. A 100W powerbank might

typically output slightly less, say 90W peak, due to inefficiencies in cables and components. A MacBook battery will draw lots of power when it's low but slow down the drain as it gets closer to full.

**3** **Mac batteries vary**  
A smaller bank won't charge the biggest 16-inch MacBook battery from

zero to full. But a smaller MacBook Air could get up to one and a half charges. Consider which model suits your Mac.

**4** **Extra features**  
Larger powerbanks can have extras like car chargers or wall-sized power plug sockets, making them more flexible at the cost of being less portable.



## Jackery Explorer 300 Plus

> £319 > FROM [uk.jackery.com](http://uk.jackery.com)

**3 Jackery's powerbank is hefty and better suited to heavyweight than casual use.** Think on-set photographer or hardcore camper, rather than a person writing emails on a train. Charging from a wall socket in two hours, or over high-speed USB-C in four, it can also be charged by the company's optional solar panels. It has a full-sized AC output for larger appliances, and two USB-C PD outputs at up to 100W each, as well as USB-A and a car charger.

It's much bigger and heavier than the other banks on test but has a rating of 300W, as well as a capacity

of 288Wh, meaning it can charge our 16-inch MBP fully twice with a little to spare. Charging other devices at the same time impacts it less since it has more headroom, and there's even an app for monitoring its charging.

As mentioned, this is more for photographers or videographers, or people who take several devices camping or on long commutes. In these instances, it's a great choice.

### VERDICT

- ⊕ High capacity
  - ⊕ Lots of connections
  - ⊖ Bigger and heavier
  - ⊖ Overkill for notebooks
- ★★★★★

## Mophie Powerstation Pro XL 25K

> £209.95 > FROM [uk.zagg.com](http://uk.zagg.com)

**4 Mophie's Powerstation Pro XL is slender and modern in its design which is one reason it's sold by Apple in its online store.** It has three USB-C ports, each with Power Delivery and a total power output of 120W. This breaks down as 100W to the first port and 20W to a second, or 45W and 20W respectively to ports two and three. Though no precise breakdown is provided, Mophie says that using all three ports divides the total 120W using 'up to' 100W, 30W and 20W respectively.

The 25,000mAh capacity was enough to put 67% charge into our 16-inch MacBook Pro and, as noted,

this would be more with a smaller 14-inch model or Air. This powerbank doesn't really have any bells or whistles - just charge it then charge your devices - save for a small LED power indicator display on one edge. It's not the highest capacity on test, though it is definitely the sleekest, most unobtrusive and Apple-like, and Mophie has many years of experience with charging.

### VERDICT

- ⊕ Beautiful, lightweight design
  - ⊕ All three ports have PD
  - ⊖ 100W max over one port
  - ⊖ Limited visual feedback
- ★★★★★



**THE WINNER**



# Anker Prime 27,650mAh Power Bank (250W)

The best balance of price and performance

**G**oal Zero's model has a more industrial feel if you're after something reassuringly robust, and the wireless pad is an excellent addition, though it is quite pricey. Jackery's powerbank is also a more heavyweight proposition, with a bunch of outdoor-centric features that will be great for some people but overkill for others. Mophie's model is the sleekest of the bunch, though it's also a little expensive considering it has fewer features than the others.

While it might not have the highest capacity on test, Anker's powerbank

makes up for it elsewhere. It's the only model on test that can deliver 140W down a single port, enough for the latest large notebooks. It can be recharged quickly, offers excellent visual feedback, and has a sleek and portable design.

While our tests were with the biggest MacBook Pro, many users will have 13- or 14-inch models, a MacBook Air, or even just an iPad and iPhone. In these cases, the Anker's performance is even better, allowing around 1.3 full charges of a MacBook Air (M2), for example. Overall it's the perfect balance of features.



**>How do they compare?**

> Specs	Anker Prime 27,650mAh Power Bank (250W)	Goal Zero Sherpa 100AC	Jackery Explorer 300 Plus	Mophie Powerstation Pro XL 25K
Price	£179.99	£299.99	£319	£209.95
Website	anker.com/uk	goalzero.co.uk	uk.jackery.com	uk.zagg.com
Capacity	27,650mAh	25,600mAh	77,800mAh	25,000mAh
Max one-port output	140W	100W	100W	100W
Max total output	250W	100W	300W	120W
Companion app	Yes	No	Yes	No
Number of ports	3	4	5	3
Wireless charger	No	Yes	No	No
<b>&gt; Overall</b>	★★★★★	★★★★★	★★★★★	★★★★★

Note: The final verdict scores reflect the overall opinion of a product and are not necessarily an average of the criteria listed in the table.

# Death Stranding Director's Cut

An outstanding horror tale

> £34.99 > FROM 505games.com > NEEDS macOS 13.3 or later; Mac with an Apple M1 chip or later

It's a marvel how much thought went into the game's construction and mechanics



Mac  
FORMAT

## VERDICT

> An exceptionally well-made horror title from Hideo Kojima, *Death Stranding* is a gaming masterpiece.



- ⊕ Cinematic storytelling and atmospheric soundtrack
- ⊕ Beautifully detailed
- ⊕ Cooperative elements
- ⊖ Can lag on some Macs

**D**eath Stranding Director's Cut has finally arrived on the Mac, and Hideo Kojima's opus does not disappoint. It's truly a masterpiece of unsettling world building and patient, multi-layered gameplay.

The game is set in a supernatural future where the Death Stranding has blurred the boundaries between the worlds of the living and the dead. Unless properly incinerated, dead bodies become BTs (Beached Things). These ghostly monsters consume the living, triggering a void-out blast that can flatten cities. Your character, Sam, can detect BTs with the help of a scanner called an Odradek. As a porter, your task is to deliver supplies to remote outposts of civilisation, a job that gradually morphs into the grand project of rebuilding America itself.

Death Stranding's lore is one of its most fascinating aspects. Toxic rain called Timefall heralds the presence of BTs, and anything it touches rapidly ages in a matter of seconds. Your Odradek connects to a Bridge Baby (BB), a foetus that was removed from the body of a brain-dead 'stillmother', allowing it to bridge the gap between life and death and thus sense BTs. The world of *Death Stranding* is weird, unsettling and deeply engrossing. It'll grab you from the moment you start.

## Terrifying territory

*Death Stranding*'s gameplay seems simple: deliver cargo to locations across the game world. At first, you start on foot, slowly traversing the strikingly bleak landscape, with only a hauntingly beautiful soundtrack occasionally puncturing the quiet.

You can't just sprint to your objective and call it a day. Load too many boxes on one side of your body and you'll topple over. Don't look out for rocks and you'll trip and fall. Making it to your goal is a literal balancing act as you carefully navigate the safest path - which may



*Death Stranding* has an absorbing cinematic quality.

not always be the quickest. This forces you to slow down and take in your stark but stunning surroundings instead of charging through and missing something.

Encounters with Beached Things are genuinely unnerving, with their other-worldly appearance and the terrifying ramifications of meeting them instilling a healthy fear of getting too close. Stay in BT territory too long and the stress shuts down your Bridge Baby - and with it your Odradek, your only means of detecting the BTs. You must be patient to get past them, utilising stealth and forethought to ensure you survive.

Other times you'll need to fight back, whether that's against aggressive bandit camps or against the BTs themselves, and you gradually start to unlock weapons, vehicles and tools to deal with your encounters. Bandit combat is intense and enjoyable, but finding a BTs infestation is always stressful.

Fortunately, help from other players is often at hand, and *Death Stranding* has a strong social vein running through it. Structures you create, from ladders and postboxes to bridges and roads, can be used by other players, making traversal significantly less taxing. Leave a parcel in a postbox and someone else might deliver it for you, giving





Beached Things are the game's pre-eminent danger.

you both a share of the reward. It's a thoughtful addition that frequently lightens the load of your tasks.

## Details, details

Large portions of the game are broken up by extended cutscenes. Although this limits your active participation, it gives *Death Stranding* a cinematic feel that adds to the immensity of the story and setting. It almost feels like it would work better as a movie than as a game, such is its dramatic quality.

It's full of small details, too, like Timefall rain moving up your screen instead of down and flowers rapidly growing and dying as the drops hit the ground. Wading through deep water depletes an endurance meter, while wind can buffet you off balance. It's a marvel how much thought went into the game's construction and mechanics.

Not everything is smooth sailing. *Death Stranding* is a demanding game, and while we hit just under 50fps on default settings with an M1 Pro chip, our MacBook Pro often got warm to the touch, leading to lag and stutter. We'd recommend a beefier Mac chip. It's also best played in bursts, lest the long delivery slogs become wearisome.

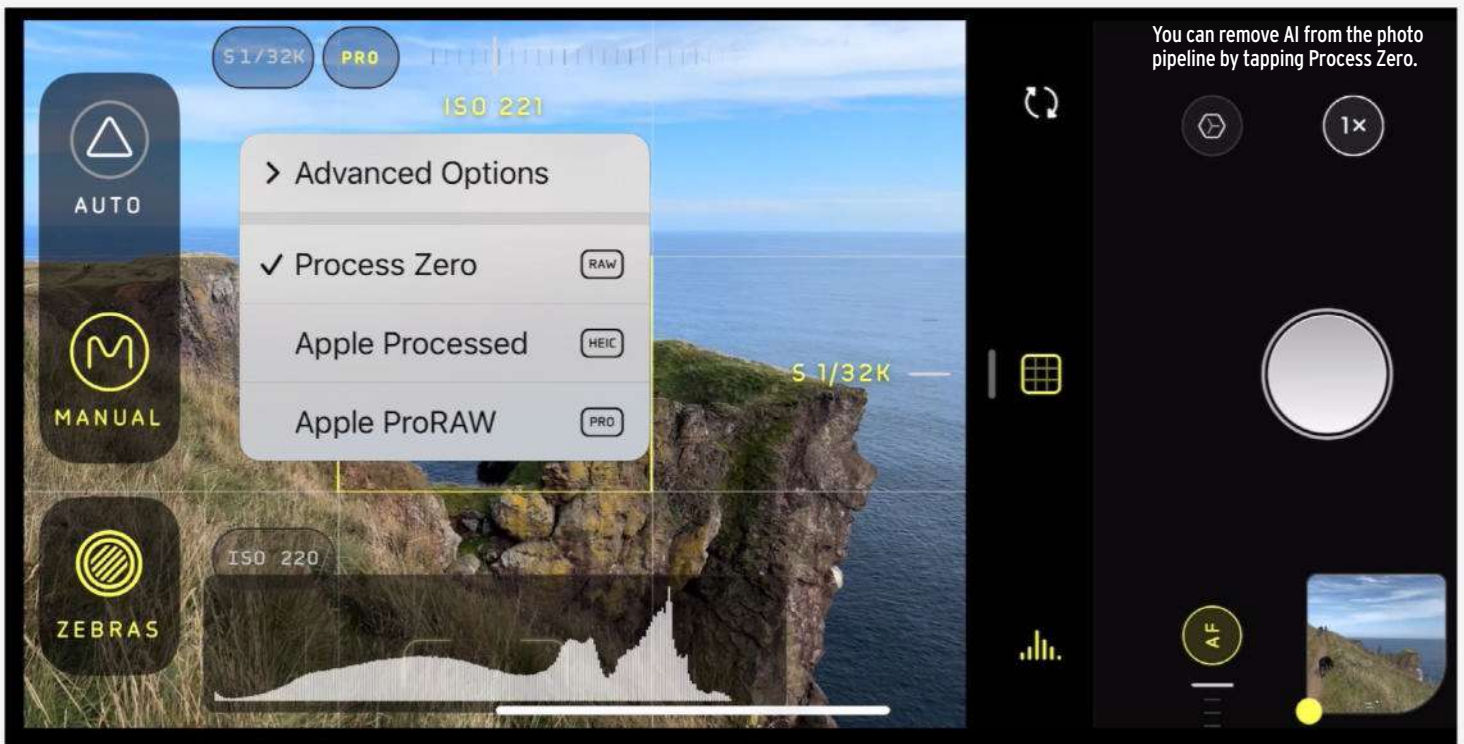
But none of that takes away from *Death Stranding*'s overall standout quality. Mac gaming has come a long way in recent years, and if you want to experience one of the best titles on Apple's platforms, this game should be on your list. **Alex Blake**



*Death Stranding*'s world is bleak and beautiful.



There are many enemies to face along the way.



# Halide Mark II (2.15)

The ideal app for photographers looking for more manual control

> £59.99 > FROM lux.camera > NEEDS iOS 16 or later



Mac  
FORMAT

## VERDICT

> If you want more creative input as a photographer, Halide Mark II lets you take back control from those AI algorithms!



- + Manual exposure
- + Focus peaking
- + Portrait mode on older iPhones
- Smaller image sizes

**T**hanks to Smart HDR and Deep Fusion, your iPhone can snap consecutive exposures and create a single composite image that has colour and detail in both the shadows and highlights. This artificial intelligence-assisted photography means you can shoot and share a shot without much (if any) editing.

Halide Mark II (version 2.15) is a camera app that's designed to give iPhone photographers more manual control over camera settings, such as ISO speed (sensitivity to light) and shutter speed (to add motion blur or freeze action). This latest version boasts Process Zero - a response to the encroachment of AI into the art of photography.

## Take back control

Photography used to be more challenging, and therefore more creatively rewarding. When faced with a high-contrast scene, a traditional 'analogue' photographer had to manually set the aperture, ISO, and shutter speed to capture detail in either the bright highlights or dark shadows. Halide's new Process Zero setting bypasses Apple's AI-assisted algorithms so that you can decide which areas to set the exposure for - just like a traditional DSLR photographer would. Process Zero creates a Raw DNG (digital negative) file that you'll need to edit in a third-party app (such as Apple Photos or

Adobe Photoshop) to reveal the colour and tone. In our example image, we set the camera to capture the shadow detail and edited the Process Zero DNG file in Photoshop to claw back detail in the bright highlights. This enables you to shoot and edit like a traditional photographer - it even adds picture noise that Apple's algorithms do their best to smooth out.

Halide Mark II enables you to quickly switch between using Process Zero to an Apple-processed HEIC file or an Apple ProRAW file - so you can enjoy the benefits of AI-assisted photography whenever you need it. Process Zero limits you to a 12MP Raw photo, whereas Apple ProRAW can capture a much larger 48MP file, so your options to produce larger prints are limited.

As well as Process Zero, Halide Mark II is packed full of features that enable you to take more control when capturing a photo than you can in Apple's native Camera app. Green focus peaking lines appear over areas that are in sharp focus and you can change the focus point by swiping a slider. You can also see which areas are going to be over- or under-exposed thanks to 'zebra' warnings. A handy histogram can be summoned to show the spread of shadows, midtones and highlights so that you can adjust accordingly. If you miss the manual controls of a DSLR, Halide Mark II is well worth a free trial run. **George Cairns**



# Hidden Kingdoms

Panic relief for the nervous traveller

> **Free** > FROM [hiddenkingdoms.org](https://hiddenkingdoms.org)  
> **NEEDS** iOS 14.7 or later, visionOS 1.0 or later

The app's overall effectiveness depends on the user; it works for some better than others




**T**ravel anxiety can ruin a good trip. Many of us gets stressed when we have to travel far, or in extreme cases, even make a short journey. For those people - especially vulnerable young adults or people with hidden disabilities - Hidden Kingdoms could be the answer.

Developed by the artist collective at BOM (Birmingham Open Media), Hidden Kingdoms is a new experience to help people with anxiety on their travels. Built on game engine technology, the app makes the journey with you, supporting you as you go.

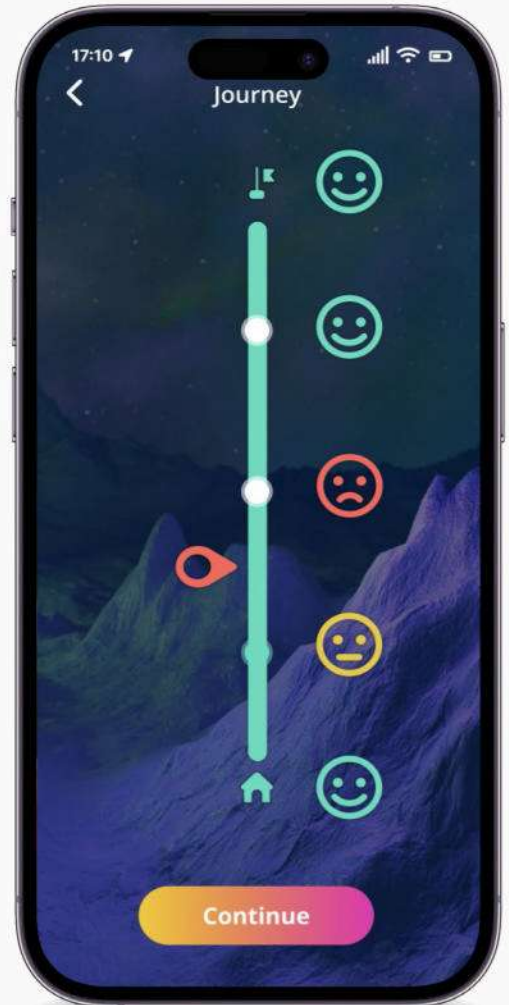
As you start your journey, you can plan ahead and identify potential stress points. You input your starting location and your destination, and how you're going to travel (car, train, walking, and so on). When you're done, you can review your journey plan and input your initial mood (happy, average or sad). Then it's time to begin.

## Creature comforts

Custom visual content and spatialised audio (music and nature sounds) are offered across the entire journey. The sounds are especially welcome, including Space, Forest and Desert soundscapes. If you feel extra nervous, try a meditation such as Patterns, Natural Breath, Affirmations and more, offered in a male or female voice. The app checks in on you during your journey to check you're OK. At the end, creatures are unlocked, giving the traveller something to focus on beyond the actual trip.

	<b>Breath</b> Practicing a gently controlled breath ● Listen Sitting down or standing still	6-7 mins
	<b>Gratitude</b> Taking time to think about and reflect upon things that we are grateful for ● Listen Anywhere	5-6 mins
	<b>Hidden Gems</b>	3-4 mins

Mindfulness activities are available to help distract you from any anxiety you may be feeling about your trip.



The collectables you accrue are endearingly well realised.

The app is excellently presented and very easy to use. The pictures of the creatures you capture are great, and the soundscapes used in the meditations are relaxing and easy on the ears. The voiceovers are of a high quality too. There's a slight trace of a Brummie accent occasionally, but it's certainly not strong enough to distract from the content.

But does the app work? It certainly made us more chilled on long journeys. We didn't get a chance to try it out on a plane, but we think it could be especially useful for the nervous flyer. The app's overall effectiveness depends on the user; it works for some better than others. Some people might find it a useful crutch to lean on during stressful journeys, while others might find it gimmicky and irrelevant. It's free, though, with no in-app purchases, so you've nothing to lose by giving it a go. **Ian Osborne**

## Mac FORMAT VERDICT

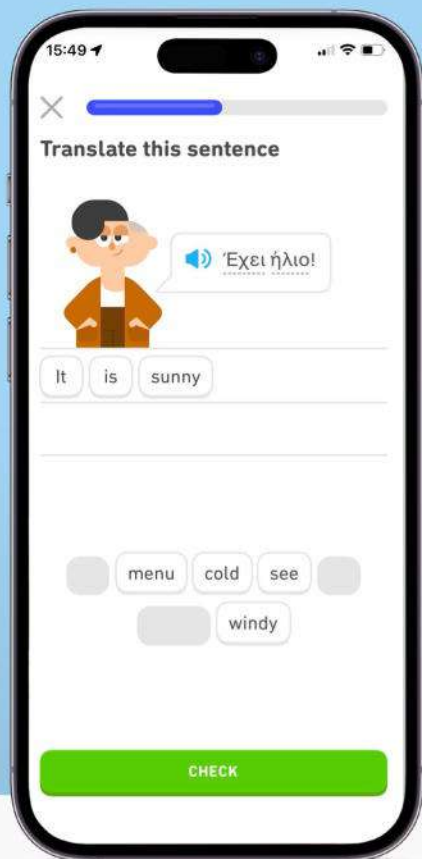
> Well presented, accessible and a decent attempt at solving a debilitating problem.



- ⊕ Completely free
- ⊕ Very well presented
- ⊕ Easy to use
- ⊖ Might not be right for everyone

# 6 apps for... Learning a new language

Say bonjour to a handy new skill



## Duolingo - Language Lessons

> Free (IAPs) > FROM [duolingo.com](https://duolingo.com)  
> NEEDS iOS 15 or later



Duolingo is popular for a reason; its short, snappy lessons let you dip in and out of learning in your own time, allowing you to continue for as long as you want. There's a great variety of tutorials, from listening exercises to timed tests, and the app helps you tune your skills by focusing on correcting mistakes. It also has a competitive edge, challenging you to work your way up a series of leagues and contests to claim the top prize.

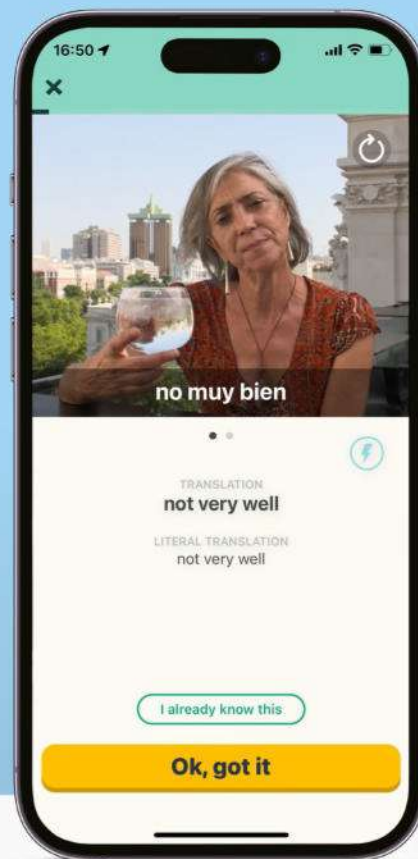


## Rosetta Stone: Learn Languages

> Free (IAPs) > FROM [uk/rosettastone.com](https://uk/rosettastone.com)  
> NEEDS iOS 16 or later



Rosetta Stone aims to ensure you have a well-rounded understanding of any language you learn, and that means practising reading, writing and speaking. It pairs words and images together to give each word context, and its quick-fire lessons recreate real-life situations to give you the tools you'll actually need to succeed. And with top-notch speech-recognition tech at your disposal, you'll be talking like a native speaker in next to no time.



## Memrise: Speak a new language

> Free (IAPs) > FROM [memrise.com](https://memrise.com)  
> NEEDS iOS 15 or later

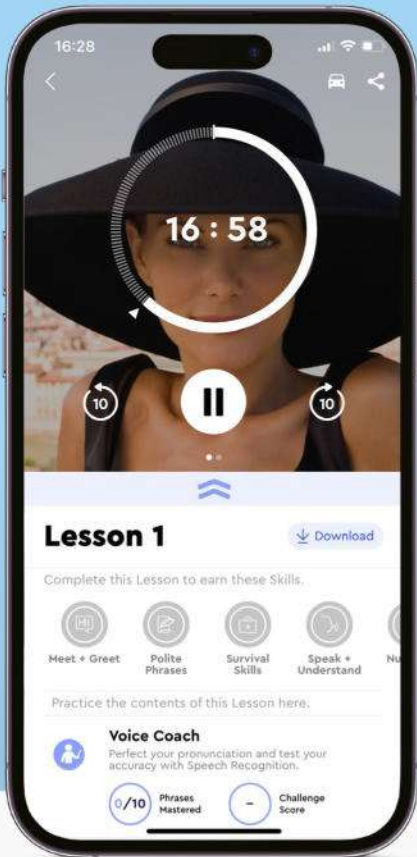


Often, the trouble with learning a new language is nailing the accent - without it, you can stick out like a sore thumb when conversing abroad. Memrise aims to fix that by recording locals saying phrases, adding a dose of practicality that takes language out of the classroom and into the real world. You can pick the conversations you want to learn too, enabling you to be laser-focused on mastering the phrases that matter.



**B**eing able to speak another language is a great skill to have, whether you love foreign holidays or are actively looking to move abroad. It can help you gain a new appreciation of other countries and cultures, settle into a new land, or just

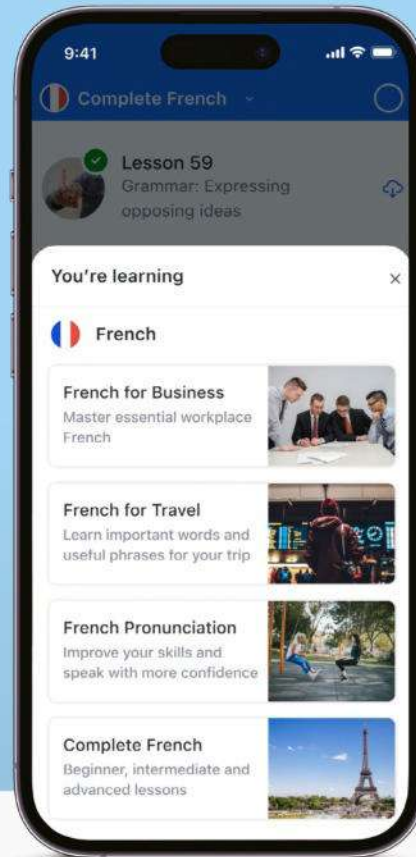
provide a fun new challenge to undertake. With so many superb apps to choose from, now is the perfect time to start learning on iOS - and these six apps are our pick of the lot. Start using them today and you'll be well on your way to talking a new tongue like a local. **Alex Blake**



## Learn Languages with Pimsleur

> **Free** (IAPs) > **FROM** pimsleur.com  
> **NEEDS** iOS 14 or later

**Rather than simply learning to read a language, Pimsleur is all about speaking.** Exercises are centred on learning practical conversations that have everyday utility, breaking down words into their component parts so you know exactly how to say them. One of its best features is the hands-free learning sessions, which let you learn to speak your chosen language while you're driving along or doing the housework.



## Busuu: Language Learning

> **Free** (IAPs) > **FROM** busuu.com  
> **NEEDS** iOS 16.4 or later

**What do you do when trying to learn a new language but hit a roadblock?** Instead of bashing your head against a wall, try Busuu. This app connects you with native speakers who can offer knowledge and support. But there's more to Busuu than that - it offers video flashcards, cultural tips, study plans and pronunciation help so you get a really comprehensive understanding of whatever language it is that you want to learn.



## Drops: Language Learning Games

> **Free** (IAPs) > **FROM** languagedrops.com  
> **NEEDS** iOS 12.4 or later

**Drops aims to transform learning a language from a tedious chore into something fun.** It does this by turning lessons into games - join up letters to spell words, for example, or swipe flash cards in the correct direction. It does this while teaching you practical conversational skills that will help you progress in the real world, all while learning at your own pace. If you want to go from beginner to expert, it's a great place to start.

# STORE GUIDE

Your guide to the best Apple hardware and third-party accessories

## iMac > From £1,399

EXPECTED  
OCT 2024  
UPDATED  
OCT 2023

> In October 2023, Apple updated its only iMac, the 24in model, so that it now benefits from Apple's M3 chip. You can now choose between an 8-core CPU/8-core GPU at the entry-level, or an 8-core CPU/10-core GPU on the mid-range and top-tier versions. You still get a 4.5K (4480x2520) Retina display, and all models come with 8GB of memory as standard, but this is now upgradeable to 24GB throughout. The solid-state drive (SSD) storage ranges from 256GB on entry-level and mid-range versions to 512GB on the top tier, although you can add up to 1TB on the entry-level and up to 2TB on mid-range and top-tier models.

The entry level version is available in Blue, Green, Pink and Silver, but the mid- and top-tier models are also available in Yellow, Orange and Purple. Each M3 iMac also comes with a 1080p FaceTime camera, and a six-speaker sound system with support for spatial audio. You'll also find two Thunderbolt/USB 4 ports on each model, with mid-range and top-tier options offering two additional USB 3 (USB-C) ports. Rather surprisingly - and pleasingly - the starting price remains unchanged at £1,399.



### iMac 24in £1,399 (Entry level)

Display: 23.5in 4.5K Retina (4480x2520) with True Tone  
Chip: Apple M3 with 8-core CPU (4 performance cores, 4 efficiency cores), 8-core GPU, 16-core Neural Engine  
Memory: 8GB (upgradeable to 24GB)  
Storage: 256GB (upgradeable to 512GB or 1TB)  
Ports: 2x Thunderbolt/USB 4, 1x Gb Ethernet (option)

### iMac 24in £1,599 (Mid-range)

Display: 23.5in 4.5K Retina (4480x2520) with True Tone  
Chip: Apple M3 with 8-core CPU (4 performance cores, 4 efficiency cores), 10-core GPU, 16-core Neural Engine  
Memory: 8GB (upgradeable to 24GB)  
Storage: 256GB (upgradeable to 512GB, 1TB or 2TB)  
Ports: 2x Thunderbolt/USB 4, 2x USB 3, 1x Gb Ethernet

### iMac 24in £1,799 (Ultimate)

Display: 23.5in 4.5K Retina (4480x2520) with True Tone  
Chip: Apple M3 with 8-core CPU (4 performance cores, 4 efficiency cores), 10-core GPU, 16-core Neural Engine  
Memory: 8GB (upgradeable to 16GB)  
Storage: 512GB (upgradeable to 1TB or 2TB)  
Ports: 2x Thunderbolt/USB 4, 2x USB 3, 1x Gb Ethernet



### Apple Magic Keyboard with Touch ID and Numeric Keypad

> From £179

> This extended keyboard is a great upgrade option for any Mac and comes with Touch ID for faster Mac logins. The black version costs £199.

### Apple Magic Mouse

> From £79

> Design quirks aside (we're looking at you, Lightning Port), the Magic Mouse is a great pointing device, thanks to its Multi Touch support. The black version costs £99.



### Apple Magic Trackpad

> From £129

> This Multi Touch glass trackpad is a thing of beauty, giving you lots of control over macOS, and it's rechargeable too. The black version costs £149.







**EXPECTED  
MAR 2025  
UPDATED  
MAR 2024**

## MacBook Air

> From **£1,099**

> **Apple's most affordable laptop was given an upgrade in March 2024, with both the 13-inch and 15-inch models now sporting Apple silicon M3 chips, although an M2-equipped version of the 13-inch remains available.**

The laptop boasts a silent, fanless design, a six-speaker sound system (the 13in has four speakers) and spatial audio. The 13in M3 features an 8-core CPU, offering 1.6x faster performance than the M1, along with either an 8- or a 10-core GPU, giving it a 5.8% boost in graphics performance. The M3 also benefits from 100GB/sec memory bandwidth. Both M3 MacBook Air models come with 8GB of memory as standard, configurable to 16 or 24GB, and both can be configured with up to 2TB of storage.

The 15in MacBook Air is the thinnest 15in laptop available - 40% thinner than comparable PC laptops; it's just 11.5mm thin and weighs 1.51kg. The 13in Air is 11.3mm thin and weighs 1.24kg. The Liquid Retina display in the 15in MacBook Air has a resolution of 2880x1864 pixels, while the 13in has 2560x1664. Both support up to one billion colours.

Both M3 MacBook Air models come with 1080p FaceTime HD cameras, MagSafe 3, two Thunderbolt/USB 4 ports and a headphone jack and Bluetooth 5.3, and they now support Wi-Fi 6E. You also get up to 18 hours of battery life when viewing video or 15 when web surfing.

Prices for the 13in model start at £1,099, while the 15in starts at £1,299.

### MacBook Air 13in £1,099 (Entry level)

**Display:** 13.6in Liquid Retina with True Tone  
**Chip:** Apple M3 with 8-core CPU (4 performance cores, 4 efficiency cores), 8-core GPU, 16-core Neural Engine  
**Memory:** 8GB (upgradeable to 24GB)  
**Storage:** 256GB (upgradeable to 512GB, 1TB or 2TB)  
**Ports:** 2x Thunderbolt/USB 4, 3.5mm headphone jack

### MacBook Air 15in £1,699 (Ultimate)

**Display:** 15.3in Liquid Retina with True Tone  
**Chip:** Apple M3 with 8-core CPU (4 performance cores, 4 efficiency cores), 10-core GPU, 16-core Neural Engine  
**Memory:** 16GB (upgradeable to 24GB)  
**Storage:** 512GB (upgradeable to 1TB or 2TB)  
**Ports:** 2x Thunderbolt/USB 4, 3.5mm headphone jack



**EXPECTED  
OCT 2024  
UPDATED  
JAN 2023**

## Mac mini

> From **£649**

> **Apple's most affordable desktop may not come with a mouse, a trackpad or keyboard, but it's also great value starting at even less than the last model at £649.**

Despite the reduction in price, the Mac mini now boasts Apple's M2 chip, plus an 8-core CPU, 10-core GPU and 16-core Neural Engine. The 8GB of memory can now be boosted up to 24GB, while SSD storage options range from 256GB all the way up to 2TB. There is now also an M2 Pro version with a 10-core CPU/16-core GPU (configurable to 12-core CPU/19-core GPU), with 16 to 32GB memory and 512GB to 8TB SSD storage.

Entry-level and mid-range M2 Mac mini models continue to come with two Thunderbolt/USB 4 ports, but the M2 Pro model has now has four.

### Mac mini £649 (Entry level)

**Chip:** Apple M2, 8-core CPU (4 performance cores, 4 efficiency cores), 10-core GPU, 16-core Neural Engine  
**Memory:** 8GB (upgradeable to 24GB)  
**Storage:** 256GB (upgradeable to 512GB, 1TB or 2TB)  
**Ports:** 2x Thunderbolt/USB 4, 2x USB-A, 1x HDMI 2.0, 3.5mm headphone jack, Gb Ethernet (10Gb Ethernet option)

### Mac mini £1,399 (Ultimate)

**Chip:** Apple M2 Pro with 10-core CPU (4 performance cores, 4 efficiency cores), 16-core GPU, 16-core Neural Engine  
**Memory:** 8GB (upgradeable to 16GB)  
**Storage:** 512GB (upgradeable to 1TB or 2TB)  
**Ports:** 4x Thunderbolt/USB 4, 2x USB-A, 1x HDMI 2.0, 3.5mm headphone jack, Gb Ethernet (10Gb Ethernet option)

### Apple TV 4K

> From **£149**

> Apple's third-gen little black box with A15 Bionic chip now adds HDR10+ to the mix. Prices now start at just £149 (Wi-Fi only); the standard version now comes with 64GB of storage, while paying £20 extra gets you 128GB, Ethernet and Thread.



### Apple HomePod/ HomePod mini

> **£99/£299**

> Apple's Siri-powered speakers sound great, you can link two for stereo sound, and use them as smart home hubs. The mini comes in five colours; the 2nd-gen Midnight/White HomePod (£299), offers higher spec and spatial audio.



### Apple Watch Series 10, Ultra 2, SE

> From **£219**

> The Series 10 and SE are water resistant to 50m, but the Ultra 2 is water resistant to 100m. The Ultra 2 runs on an S9 SiP, while the new Series 10 has an S10; both have an Always-On Retina display. All three offer Emergency SOS and Crash Detection.



EXPECTED  
OCT 2024  
UPDATED  
OCT 2023

# MacBook Pro

> From £1,699

> **October 2023 saw the introduction of the M3 chip family to the MacBook Pro.** The new 14-inch M3 model is available with an 8-core CPU/10-core GPU. But if you step up to the M3 Pro option, you can opt for either an 11-core CPU/14-core GPU or a 12-core CPU/18-core GPU, or the M3 Max which has a 14-core CPU/30-core GPU.

The 16in options start with the M3 Pro chip with a 12-core CPU/18-core GPU and either 18GB or 36GB of unified memory. Or you can opt for the M3 Max chip with



either a 14-core CPU/30-core GPU or 16-core CPU/40-core GPU. The unified memory can be upgraded to a max of 128GB on the M3 Max models, while SSD

storage can be upgraded to a max of 8TB on M3 Max models. The 14in M3 and 16in M3 Pro and M3 Max models now offer up to 22 hours of battery life.

## MacBook Pro 14in £1,699

(Entry level)

**Display:** 14.2in Liquid Retina XDR (3024x1964) with True Tone  
**Chip:** Apple M3 with 8-core CPU (4 performance cores, 4 efficiency cores), 10-core GPU, 16-core Neural Engine  
**Memory:** 8GB (upgradeable to 24GB)  
**Storage:** 512GB (upgradeable to 1TB, 2TB)  
**Ports:** 2x Thunderbolt/USB 4, HDMI port, SDXC card slot

## MacBook Pro 16in £2,599

(Mid-range)

**Display:** 16.2in Liquid Retina XDR (3456x2234) with True Tone  
**Chip:** Apple M3 Pro with 12-core CPU (6 performance cores, 6 efficiency cores), 18-core GPU, 16-core Neural Engine  
**Memory:** 18GB (upgradeable to 36GB)  
**Storage:** 512GB (upgradeable to 1TB, 2TB, 4TB)  
**Ports:** 3x Thunderbolt/USB 4, HDMI port, SDXC card slot

## MacBook Pro 16in £4,099

(Ultimate)

**Display:** 16.2in Liquid Retina XDR (3456x2234) and True Tone  
**Chip:** Apple M3 Max with 16-core CPU (12 performance cores, 4 efficiency cores), 40-core GPU, 16-core Neural Engine  
**Memory:** 48GB (upgradeable to 128GB)  
**Storage:** 1TB (upgradeable to 2TB, 4TB or 8TB)  
**Ports:** 3x Thunderbolt/USB 4, HDMI port, SDXC card slot

# Mac Studio

> From £2,099

EXPECTED  
JUNE 2025  
UPDATED  
JUNE 2023

> **The Mac Studio finally received a long-hoped-for update in June 2023 with the latest model sporting Apple silicon M2 Max and M2 Ultra chips.**

The Mac Studio is up to six times faster than the most powerful Intel-based 27-inch iMac and up to three times faster than the M1 Ultra Studio that preceded it.

The Studio's aluminium body is very compact for a desktop Mac, measuring 197x197x95mm, but it's what's inside that counts. The M2 Max chip has a 12-core CPU, a 30-core GPU (upgradeable to 38-core), and 32GB of memory (configurable to 96GB). The M2 Ultra comes with a 24-core CPU, 60-core GPU (upgradeable to 76-core), and 64GB of



The Mac Studio is Apple's most powerful desktop Mac to date - it's pricy though.

unified memory (upgradeable to 192GB). Storage options on both scale up to 8TB.

The Mac Studio M2 Max starts at £2,099, and the M2 Ultra starts at £4,199, so these machines are not for everyone. But both offer an incredible array of connectivity options and support for the more pro user.



## Studio Display

> From £1,499

> **Launched alongside the original Mac Studio in March 2022, the Studio Display is a great addition to any Mac setup.**

Powered by Apple's A13 Bionic and running iOS, it features a 27-inch Retina display with 5K resolution (5120x2880 pixels) and True Tone, a 12MP Ultra Wide camera with Centre Stage, and a six-speaker sound system with support for spatial audio. A range of stand options are available, and you can choose nano-texture glass for £250 more.

## Mac Studio £2,099

(Entry level)

**Chip:** M2 Max with 12-core CPU (8 performance cores, 4 efficiency cores), 30-core GPU, 16-core Neural Engine  
**Memory:** 32GB (upgradeable to 96GB)  
**Storage:** 512GB (upgradeable to 1TB, 2TB, 4TB, 8TB)  
**Ports:** 4x Thunderbolt 4, 2x USB-C, 2x USB-A, HDMI 2.0, 3.5mm headphone jack, 10Gb Ethernet, SDXC card slot

## Mac Studio £4,199

(Ultimate)

**Chip:** M2 Ultra with 24-core CPU (16 performance cores, 8 efficiency cores), 60-core GPU, 32-core Neural Engine  
**Memory:** 64GB (upgradeable to 192GB)  
**Storage:** 1TB (upgradeable to 2TB, 4TB, 8TB)  
**Ports:** 4x Thunderbolt 4, 2x USB-C, 2x USB-A, HDMI 2.0, 3.5mm headphone jack, 10Gb Ethernet, SDXC card slot





## iPad/mini

- > iPad (10th gen) From **£349**
- > iPad mini From **£499**

> **Apple's entry-level iPad got a welcome price drop in May 2024, with prices now starting at £349.** Its specs remain the same, though, with the iPad (10th gen) sporting a 10.9in display, powered by an A14 Bionic chip. Plus you get an Ultra Wide 12MP front and 12MP back camera. The iPad also comes with a USB-C port and is available in four colours.

The iPad mini is a neat little tablet, with an 8.3in Liquid Retina display. The cheapest £499 model has 64GB of storage (a 256GB model is also available for £649) and comes with a 12MP Wide camera, Apple Pencil support and USB-C charging.

## iPad Air > From **£599**

> **In May 2024, Apple announced a redesigned 11-inch and all-new 13-inch iPad Air.** Inside, you'll now find an Apple silicon M2 chip. Storage options now range from 128GB or 1TB, and there's Wi-Fi 6E and Bluetooth 5.3.

The two new models support the newly released Apple Pencil Pro, and can be teamed with Apple's Magic Keyboard for powerhouse productivity on the go. As before, augmented reality fans will love the LiDAR-equipped 12MP Wide camera and Centre Stage. The Liquid Retina display resolution remains at 2360x1640 on the 11in, but the 13in boasts a resolution of 2732x2048. Prices start at a respectable £599 for the 11in and £799 for the 13in.

## iPad Pro > From **£999**

> **Alongside the new iPad Air in May, Apple showed off its newly designed 'thinpossible' iPad Pro 11in and 13in.** The iPad Pro models have now jumped to M4 Apple silicon to provide incredible performance and powerful AI capabilities.

Despite the Ultra Retina XDR display boasting new Tandem OLED tech, the new iPad Pro is über thin, with the 13-inch model measuring just 5.1mm thick! (There's also a nano-texture glass option on the 1TB and 2TB models.) The front camera is now a Landscape 12MP Ultra Wide on the iPad's longest side. Plus, the Pro supports the new Apple Pencil Pro, and revamped Magic Keyboard.

### iPad

Display: 10.9in  
Chip: A14 Bionic  
Storage: 64GB, 256GB  
Ports: USB-C  
Unlocking: Touch ID

### iPad mini

Display: 8.3in  
Chip: A15 Bionic  
Storage: 64GB, 256GB  
Ports: USB-C  
Unlocking: Touch ID

### iPad Air

Display: 11in or 13in  
Chip: Apple M2  
Storage: 128GB, 256, 512GB, 1TB  
Ports: USB-C  
Unlocking: Touch ID



### iPad Pro

Display: 11in or 13in  
Chip: Apple M4  
Storage: 256GB-2TB  
Ports: Thunderbolt 4  
Unlocking: Face ID



## Apple Smart Folio

> From **£59**

> Available in a range of stylish colours, these wrap-around magnetic cases will keep your iPad, iPad mini, iPad Air and iPad Pro looking good for years, and they double as handy stands.



## Apple Pencil/Apple Pencil Pro

> From **£79**

> There are now four variations of Pencil. The 1st- and 2nd-gen models are still available; Apple released a USB-C version in November 2023, and in May 2024, Apple unveiled the Apple Pencil Pro (£129), which contains a barrel sensor that can feel a user's squeeze and a gyroscope for incredible control.



## Apple Magic Keyboard

> From **£299**

> Team your iPad with one of these and you'll feel like you're using a touchscreen Mac. The new iPad Pro version even has a trackpad with haptic feedback.



EXPECTED  
MAR 2025  
UPDATED  
MAR 2022



## iPhone SE

> From £429

> **The most affordable iPhone became even better value when Apple reduced the price by £20. As with the iPhone 14 range, the SE works on an A15 Bionic chip.** The iPhone SE offers plenty of the things people love about iPhone, including iOS's phenomenal ease of use. There's only a single 12MP Wide main camera and no Night mode, but you do get True Tone, a Photonic engine, and 4K recording.

Battery life is decent too with the iPhone SE lasting for up to 15 hours between recharges (with Qi wireless charging onboard too). The main thing the iPhone SE misses out on is Face ID unlocking, making do with Touch ID on the Home button instead.

EXPECTED  
SEPT 2025  
UPDATED  
SEPT 2024



## iPhone 16/ Plus

> iPhone 16 From £799  
> iPhone 16 Plus From £899

> **In September 2024, Apple launched the iPhone 16 and 16 Plus. Both handsets are still aluminium, and screen sizes have remained the same at 6.1in and 6.7in respectively.** Inside, however, a new A18 chip helps to power Apple Intelligence.

The 48MP Main and 12MP Ultra Wide dual-camera system now allows for spatial photos and videos, and macro, and benefits from a new physical Camera Control feature. The iPhone 16 now lasts for up to 22 hours when playing video playback; the Plus up to 27. Pricing remains the same as the iPhone 15 models.



## iPhone 16 Pro/Pro Max

> iPhone 16 Pro From £999  
> iPhone 16 Pro Max From £1,199

> **Alongside the base handsets, Apple released the iPhone 16 Pro and Pro Max with titanium shells with textured matt glass backs.** The Super Retina XDR displays are larger again at 6.3- and 6.9-inch, and feature thinner borders.

An A18 Pro chip focuses on Apple Intelligence capabilities. You now get a 48MP Fusion camera alongside the 48MP Ultra Wide and 12MP Telephoto, plus the new physical Camera Control feature. Video playback is now 27 hours on the Pro; 33 hours on the Pro Max.

### iPhone SE

Display: 4.7in  
Chip: A15 Bionic  
Storage: 64GB-256GB  
Connectivity: 5G, Wi-Fi  
Unlocking: Touch ID



### iPhone 16

Display: 6.1in  
Chip: A18  
Storage: 128GB-512GB  
Connectivity: 5G, Wi-Fi  
Unlocking: Face ID

### iPhone 16 Plus

Display: 6.7in  
Chip: A18  
Storage: 128GB-512GB  
Connectivity: 5G, Wi-Fi  
Unlocking: Face ID

### iPhone 16 Pro

Display: 6.3in  
Chip: A18 Pro  
Storage: 128GB-1TB  
Connectivity: 5G, Wi-Fi  
Unlocking: Face ID

### iPhone 16 Pro Max

Display: 6.9in  
Chip: A18 Pro  
Storage: 256GB-1TB  
Connectivity: 5G, Wi-Fi  
Unlocking: Face ID

## Apple Vision Pro

> £3,499

> Marking the start of what Apple hopes is a new era of spatial computing, the Vision Pro is now available in the UK. Equipped with a custom 23 million pixel microOLED display, the twin lenses inside the Vision Pro boasts better than 4K resolution and it



has spatial audio onboard too. Driving the whole thing are Apple silicon M2 and R1 chips, upon which sit its own dedicated visionOS.

## Apple AirPods Max/ AirPods Pro 2/AirPods

> £499/£229/From £129

> The AirPods Max boast Transparency mode, Active Noise Cancellation and now offer USB-C charging. The AirPods Pro 2 boast Adaptive Audio. The AirPods 4 are more comfortable, boast dynamic head tracking, and come with an ANC option. All offer Personalised Spatial Audio.





## BEST BUYS...



> **EXTERNAL DISPLAY**  
**Philips 27B1U7903**  
**£999**, philips.co.uk  
 > An excellent monitor that satisfies on every level. It's expensive, but you do get a lot of quality for your money.  
 ★★★★★ MF392



> **BLUETOOTH SPEAKER**  
**Marshall Middleton**  
**£270**, marshallheadphones.com  
 > Meaty, beaty, big and bouncy, the Middleton knows how to rock.  
 ★★★★★ MF391



> **NAS DRIVE**  
**Asustor Lockerstor 2 Gen2 AS6702T**  
**£469**, asustor.com  
 > Excellent and versatile mid-range network storage.  
 ★★★★★ MF390


### > OUR TOP 3 MESH NETWORK DEVICES

-  **ASUS ZenWiFi XD5**  
 > **£209.99** > MF398  
 > asus.com/uk
-  **TP-Link Deco X55**  
 > **£219.99** > MF398  
 > tp-link.com/uk/
-  **Devolo Magic 2 WiFi 6 Starter Kit**  
 > **£219.99** > MF398  
 > devolo.co.uk

### > OUR TOP 3 PORTABLE SSDS

-  **Crucial X8**  
 > **£212** > MF388  
 > uk.crucial.com
-  **SanDisk Extreme**  
 > **£100** > MF388  
 > westerndigital.com
-  **OWC Envoy Pro SX**  
 > **£285** > MF388  
 > owc.com

### > OUR TOP 3 SUPERFAST CHARGERS

-  **Satechi 200W USB-C 6-Port PD GaN**  
 > **£160** > MF392  
 > satechi.net
-  **Anker 737 Charger GaNPrime 120W**  
 > **£70** > MF392  
 > anker.com/uk
-  **Ugreen Nexode 200W USB-C Desktop**  
 > **£130** > MF394  
 > uk.ugreen.com

## BEST BUYS... Third-party Mac apps >



> **PHOTO EDITOR**  
**Pixelmator Pro**  
**£49.99** pixelmator.com  
 > Easily improve your photos with this brilliant and affordable Mac app. AI smarts add to its prowess.  
 ★★★★★ MF406



> **PRODUCTIVITY TIMER**  
**Vitamin-R 4.18**  
**\$49.95** (about **£38**)  
 publicspace.net  
 > Break your working day up into short bursts of distraction-free activity.  
 ★★★★★ MF384






> **WRITING APPS**  
**Scrivener**  
**£55**  
 literatureandlatte.com  
 > A genuinely outstanding app that has almost everything you could ever need. ★★★★★ MF385



### > OUR TOP 3 VIDEO EDITORS

-  **Wondershare Filmora**  
 > **£17.49/month** > MF387  
 > wondershare.com
-  **HitFilm (Creator)**  
 > **£7.99/month** > MF387  
 > fxhome.com
-  **Lightworks Create**  
 > **£9.99/month** > MF387  
 > lwks.com

### > OUR TOP 3 NOTE TAKING APPS

-  **Agenda**  
 > **Free** (IAPs) > MF389  
 > agenda.com
-  **Bear**  
 > **Free** (IAPs) > MF389  
 > bear.app
-  **Simplenote**  
 > **Free** > MF389  
 > simplenote.com

### > OUR TOP 3 EMAIL

-  **Spark**  
 > **Free** (IAPs) > MF375  
 > sparkmailapp.com
-  **Edison Mail**  
 > **Free** (IAPs) > MF375  
 > mail.edison.tech
-  **Airmail Pro**  
 > **£5.99/month** > MF375  
 > airmailapp.com

## BEST BUYS...

### Third-party iPhone, iPad & Watch apps >

 > **VIDEO EDITOR (iOS/IPADOS)**  
**LumaFusion 3**  
**£29.99** luma-touch.com  
 > A powerful and reasonably priced video-editing suite. Existing users can upgrade for free.  
 ★★★★★ MF372

 > **NOTE-TAKING (iOS/IPADOS)**  
**Notability**  
**£8.99** notability.com

> Notability is a superb note-taking app with lots of flexibility. It's ideal for a variety of projects.  
 ★★★★★ MF360

 > **SCANNING/OCR (iOS/IPADOS)**  
**GeniusScan+**  
**£9.99** thegrizzlylabs.com

> Fast, flexible and useful scanning with good optical character recognition (OCR).  
 ★★★★★ MF368

 > **PAGE LAYOUT (IPADOS)**  
**Affinity Publisher 2**  
**£17.99** affinity.serif.com

> Serif's page layout app finally arrives on iPad and it's great - even if the interface takes some getting used to.  
 ★★★★★ MF391

 > **PHOTO EDITOR (IPADOS)**  
**Capture One**  
**£4.49/month** captureone.com

> A comprehensive photo editor offering powerful Raw conversion and desktop-quality editing tools on the iPad.  
 ★★★★★ MF384

 > **RSS READER (iOS)**  
**Reeder 5**  
**£4.99** reederapp.com

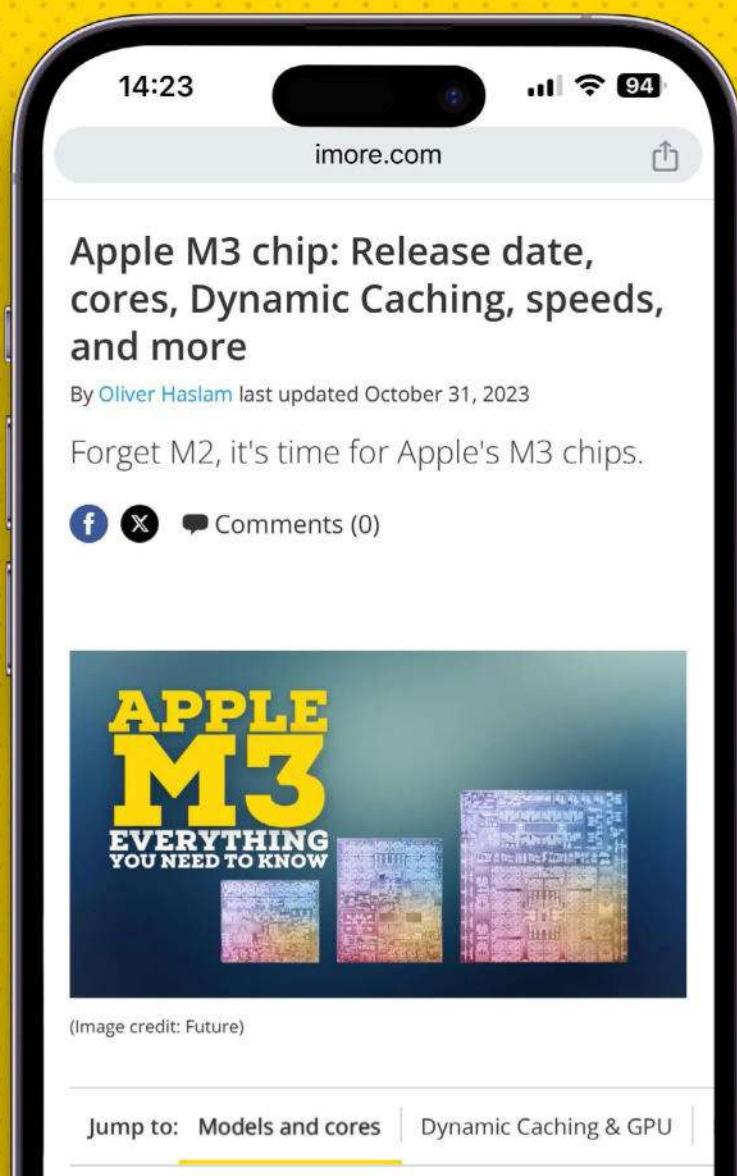
> Version 5 brings minor, but welcome improvements to an already great RSS news-reader app.  
 ★★★★★ MF361

 > **GAME (iOS/IPADOS)**  
**Overboard!**  
**£5.99** inklestudios.com

> A gem. A small, but perfectly formed and entertaining game about a ship-based murder mystery.  
 ★★★★★ MF372

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#### PRINTED BY

Buxton Press Ltd, Palace Road, Buxton, Derbyshire, SK17 6AE  
<https://buxtonpress.com> Tel: 01298 212000

#### DISTRIBUTED BY

Marketforce UK, 121-141 Westbourne Terrace, London, W2 6JR  
Email: [mcommunications@futurenet.com](mailto:mcommunications@futurenet.com)

Everything you need to know about MacFormat... MacFormat, ISSN 0968-3305, USPS 24150 is published monthly with an extra issue in June by Future Publishing, Quay House, The Ambury, Bath, BA1 1UA, UK

The US annual subscription price is \$188.37. Airfreight and mailing in the USA by agent named World Container Inc, 150-15 183rd St, Jamaica, NY 11413, USA

Periodicals Postage Paid at Brooklyn, NY 11256.

POSTMASTER: Send address changes to MacFormat, Air Business Ltd, c/o World Container Inc, c/o BBT 150-15 183rd St, Jamaica, NY 11413, USA

Subscription records are maintained at Future Publishing, c/o Air Business Subscriptions, Rockwood House, Perrymount Road, Haywards Heath, West Sussex, RH16 3DH, UK. The Apple logo and various Apple products and services mentioned in MacFormat are trademarks of Apple Inc.

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# One more thing Apple Watch

Graham Barlow has stopped wearing his Apple Watch, but will sleep apnoea detection make him change his mind?

**L**et me tell you a little secret. An admission if you will. I've actually stopped wearing my Apple Watch, and I don't miss it. It's a secret because for a tech journalist, admitting that you've stopped using a bit of tech, in fact a whole category of wearable tech, feels like I'm breaking some sort of secret covenant. I've been wearing an Apple Watch for two years now, so it's not like I just decided to stop wearing it on a whim.

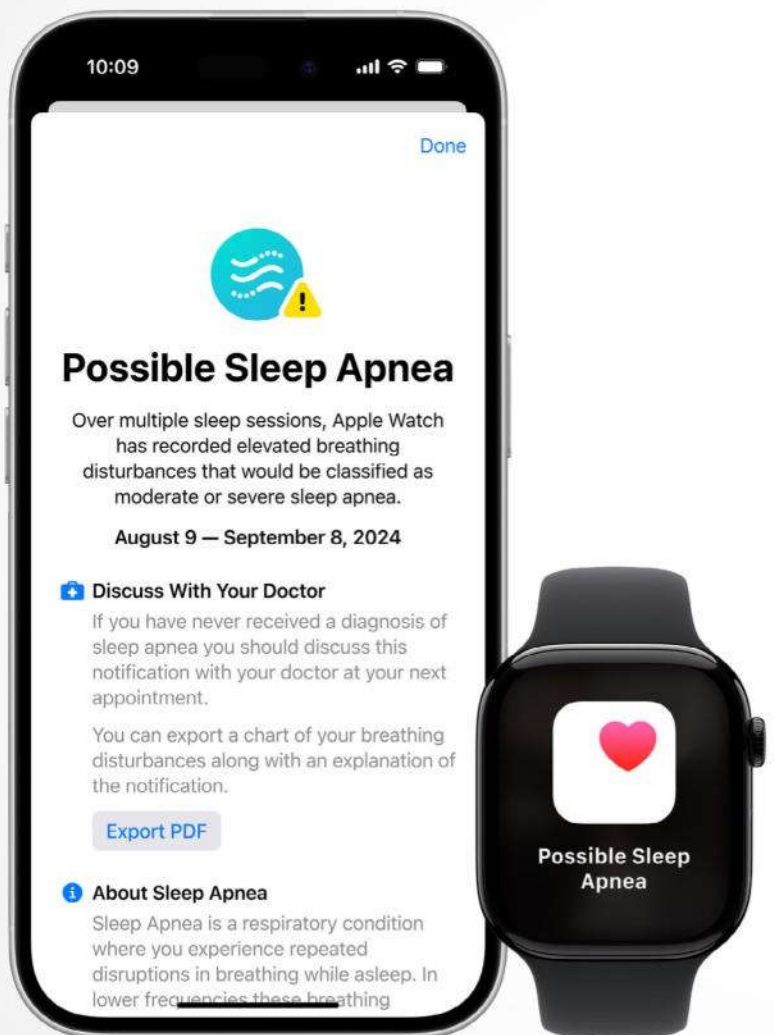
Despite its charms, my Apple Watch was turning into just one more thing I had to remember to charge and take with me, and – along with my smartphone, my AirPods, MacBook and iPad – it was just one thing too many. It's not like I've decided to start wearing another smartwatch, I've just abandoned the whole category of wrist-based wearable tech, leaving my wrist free and unencumbered by a strap of any kind. It's refreshing. Kind of like how our ancestors must have felt. Possibly.

I get that for many people their Apple Watch is indispensable for listening to music while running, tracking their steps and heart rate, or looking at Apple Maps, but I've decided to stop obsessing about how many steps I take a day and I've not missed it. My phone does the rest.

## I can't get no sleep

Of course, as soon as I stopped wearing my Apple Watch, Apple immediately released a brand new feature that made me question my decision. The new watchOS 11 is now FDA-approved for sleep apnoea detection, on the Series 9, 10 and Ultra 2. Sleep apnoea is the slowing down or even stopping of your breathing during sleep and can be caused by either your brain not regulating your breathing properly or some sort of obstruction. Sleep apnoea goes largely undiagnosed because it requires special sleep tests to detect it. Your Apple Watch picking the problem up as part of its regular monitoring of sleep patterns seems like a great idea.

And of course, I'd need to upgrade to a new Apple Watch to use the feature, because mine is too old to



To detect signs of apnoea, Apple Watch monitors movement associated with interruptions in respiratory patterns.

run it, so it looks like I'll be staying Watch-free for the foreseeable future. Incidentally, my teenage son noticed I wasn't wearing my Apple Watch as soon as I abandoned it and instantly pounced, immediately declaring it as his. He busied himself syncing it to his iPhone and setting up the Health app. And now? Well, one week later, he's stopped wearing it too...







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# IF I HAD SOMEWHERE TO LIVE...

## I COULD GO ANYWHERE IN LIFE



When Abi's mum died, life got tough. She didn't get on with her dad and the arguments became violent. Abi felt her only choice was to leave home. With just the clothes on her back, and no idea where to go, she ended up sleeping on the streets in the freezing cold.

**Right now, you could give a homeless young person like Abi somewhere to start their future**

Abi's life changed when she was given a room at Centrepoin. A safe place to sleep and recover. A place to develop the skills and confidence she needed to rebuild her life – and leave homelessness behind for good. Now, Abi believes she can go anywhere.

Thousands of homeless young people like Abi are desperately trying to find their place in the world – but first they need a place to start again. You could help right now by sponsoring a room at Centrepoin for just 40p a day.

We know this support changes lives. 88% of the young people we help move on positively in life. So please, help someone like Abi today. **Thank you.**

**Text PLACE to 78866 to donate £3**

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**Visit [centrepoin.org.uk/place](http://centrepoin.org.uk/place)**

**Or complete and return the form below**

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Bank Sort Code:    Account Number:

Instructions to your Bank or Building Society: Please pay Centrepoin Direct Debits from the account detailed in this instruction, subject to the safeguards assured by the Direct Debit Guarantee. I understand that this instruction may remain with Centrepoin and, if so, details will be passed electronically to my Bank/Building Society.

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We'd love to show the impact of your support and share how young people continue to need your help, through newsletters, fundraising appeals and information about events. Please let us know how best to stay in touch with you by adding your details above, and ticking the relevant boxes:

**Please contact me by email**  **Please contact me by phone**

Last year our supporters helped us change the lives of over 15,000 homeless young people. By letting us know we can count on you, we can continue helping young people with a home and a future.

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