

iPad & iPhone ^{user}

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iPad Pro:

Apple updates its top-of-the-range tablets



+ HomePod:

Apple's
wireless
speaker



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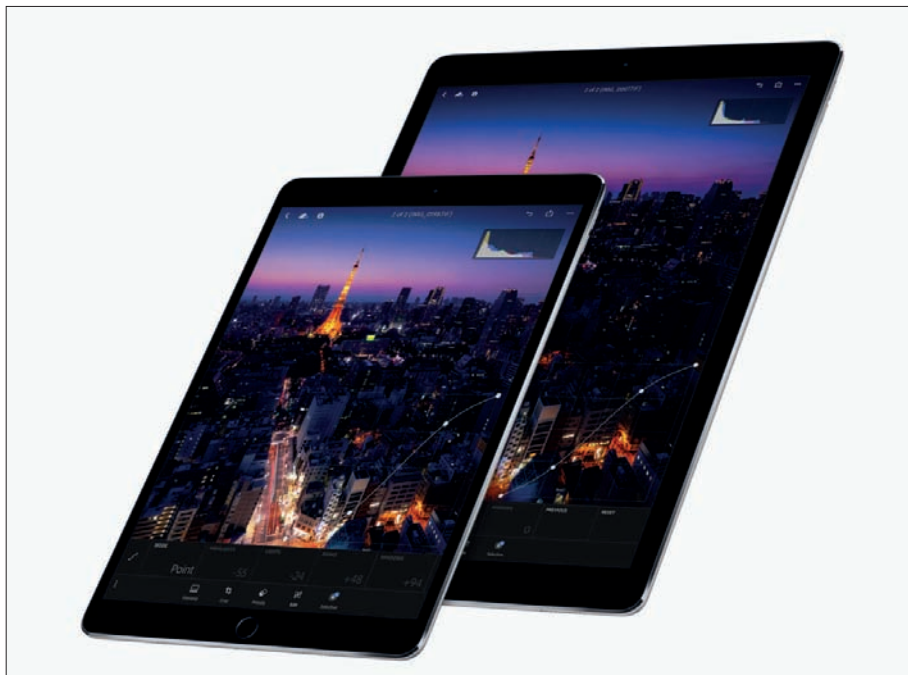
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iPad Pro

Apple expands its range of tablets, reports **Oscar Raymundo**



New size, faster chips, and more storage – that’s just a little of what you can expect from Apple’s new iPad Pro line-up, unveiled during WWDC.

In addition to upgrading its 12.9in iPad Pro (which originally launched in 2015), Apple released a new 10.5in model that replaces the 9.7in version (which launched in 2016). We spent some hands-on time with the latest iPad Pro after the WWDC keynote.



Price

10.5in iPad Pro:

£649/£749: 64GB/64GB + Cellular,

£709/£839: 256GB/256GB + Cellular

£889/£1,019: 512GB/512GB + Cellular

12.9in iPad Pro:

£769/£899: 64GB/64GB + Cellular

£859/£989: 256GB/256GB + Cellular

£1,039/£1,169: 512GB/512GB + Cellular

Colours

The 10.5in iPad Pro comes in Silver, Space Gray, Gold, and Rose Gold. The 12.9 version is available in Silver, Space Gray and Gold.

ProMotion technology

The iPad Pro models have a new trick up their sleeve. Apple has added a new feature called ProMotion,

which doubles the display refresh rate from 60- to 120Hz. ProMotion also helps to automatically adjust this refresh rate depending on how you're using the iPad Pro, as a way to conserve battery life.

True Tone

Apple has upgraded the original iPad Pro with True Tone. This means the Pro dynamically adjusts the screen's white balance based on the lighting in the room to provide more-accurate colours on a paper-white screen.

Performance

The iPad Pro models come equipped with the top-of-the-line A10x fusion chip, plus a six-core CPU (three high performance cores and three high efficiency cores) and a 12-core GPU. This gives the new iPad Pro models 30 percent faster CPU performance and 40 percent faster graphics performance than previous Pro models with the A9x chip.

Battery life

Despite improvements in speed and performance, Apple says that the 10.5- and the 12.9in model will deliver up to 10 hours of battery life, or nine hours if using an LTE model on a cellular connection. The 10.5in iPad Pro has a 30.4Wh rechargeable lithium-polymer battery, while the 12.9in model's battery is a 41Wh .

Camera

The iPad Pro has camera specs modelled after the iPhone 7, so Live Photos and all their new editing

functions are available. Unfortunately, the iPad Pro does not have a dual-camera system, so you can't use it to take photos in Portrait mode like on the iPhone 7.

Audio

The iPad Pro is equipped with four speakers, one near each corner to create an immersive 'soundstage' experience. These speakers have also been programmed to produce a well-balanced sound, whether you are holding the iPad Pro vertically or horizontally. And a new casing design gives the Pro speakers 61 percent more back volume, a wider frequency range and up to 3x more acoustic output than previous iPads.

Apple Pencil

Apple's £99 stylus is pretty self-explanatory. You can use it to add handwritten notes to your digital



documents, but it's also got some cool technology that will be particularly intriguing for sketch artists.

The Apple Pencil has several sensors on both its case and the tip that can detect the position, pressure, angle, and orientation of your strokes. Draw gently on the screen to create light strokes, or press down to draw thicker lines. Two sensors on the tip work with Multi-Touch display to detect whenever you're tilting the Pencil to create a shading effect. Apple Pencil can also be used simultaneously with your fingers, too, for those who have yet to graduate past the finger painting stage.

In iOS 11, Apple reduced the latency to an industry-best: 20 milliseconds. In addition, iPad Pro users can now use the Pencil to use Markup in screenshots and in documents scanned using the Notes app. In addition, the Notes app is able to search through your notes handwritten with the Pencil.

Instead of an eraser at the tip, the Apple Pencil has a Lighting connector. Simply take off the cap and plug the Pencil into your iPad Pro. Fully charged, it lasts up to 12 hours. And just having the stylus charging for 15 seconds will get you 30 minutes of sketching time.

Smart Keyboard

Think of the Smart Keyboard as an iPad Smart Cover but with a slim, foldable, lightweight, water-resistant, 4mm keyboard built in. In addition to using it to type, you can fold up the Smart Keyboard to prop up the iPad Pro or cover up the screen completely. Recently, Apple has added keyboard support for 30 languages, including Chinese and Japanese. It costs £159 for the 10.5in iPad Pro and £169 for the 12.9in model.



Apple has created a three-pronged Smart Connector that allows for the Smart Keyboard to be connected to the iPad without plugs, wires, or Bluetooth pairing. It's similar to how the Apple Watch's diagnostic port works. The Smart Connector allows for the seamless transfer of data and power between devices, so you won't have to charge the Smart Keyboard.

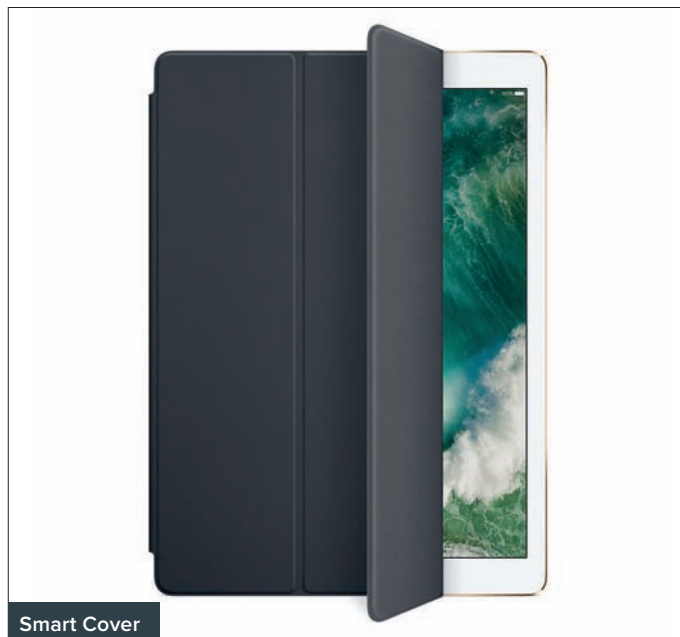
Old iPad Pro cases

Most cases for the previous generation 12.9in iPad Pro should still fit the upgraded 2017 model. The camera bump is a little more pronounced, but you should still be able to squeeze it in.

As for the cases designed for the 9.7in iPad Pro, they will not fit on the new 10.5in model.

Accessories

Apple also has new £49 Smart Covers for the 10.5in model in seven colours. The £59 Smart Cover for the 12.9in iPad Pro comes in only two colours: Charcoal Gray and White. In addition, Apple has brought back Leather Smart Covers to outfit the iPad Pro. The



10.5in Leather Smart Cover is £69 and comes in four colours. The 12.9in Leather Smart Cover is £79 and comes in three colours. Plus, Apple has released an all-new Leather Sleeve (£129 for 10.5in tablet and £149 for 12.9in iPad) that incorporates a special spot for Apple Pencil. You can also store the Apple Pencil in its own designated case that's £29.

Multitasking

In iOS 9, Apple introduced three ways to view and interact with two apps simultaneously on an iPad Pro. These multitasking features have been refined and expended with each subsequent iOS release.

First, we have Slide Over, where you can choose a second app to open up as a pinned sidebar on the right or the left. Second, there's Split View, where two apps each take up half of the screen. Apple introduced the ability to drag-and-drop in iOS 11, so you can seamlessly move text, photos, files, and URLs from one app to another. Finally, Picture-in-Picture lets you watch a video or chat on FaceTime while having another app running in the background. The video screen becomes a smaller window that you can drag and resize.

iOS 11 also brought other Mac-style capabilities to the iPad, including a new Dock and App Switcher. Like on macOS, this Dock gives you quick access to frequently used apps and documents from any screen. You can then drag these apps from the Dock to the right or left side of the screen to open in Slide Over or Split View. There's also a new Files app that keeps all your files and documents in one place, whether they're stored locally or in iCloud, Google Drive, or Dropbox.

iOS 11

Oscar Raymundo looks at the biggest changes to Apple's OS



Siri in iOS 11 has learned to sound like an actual human – and that's just the beginning when it comes to the new mobile operating system for iPhones and iPads.

Apple CEO Tim Cook and friends gave us a full overview of iOS 11 during Apple's WWDC keynote. New features include sweeping new upgrades to Siri, a redesigned Control Center and App Store, and a brand-new Apple Pay feature that lets you send or receive money to your contacts via iMessage.

In addition, developers can now create apps that tap into your iOS device's potential to create augmented reality experiences via the new ARKit. Plus, there are new productivity features for the iPad, including drag-and-drop capability and a new Mac-style Dock.

Compatible devices

- iPhone 7/Plus
- iPhone 6s/Plus
- iPhone 6/Plus
- iPhone SE
- iPhone 5s
- iPad Pro (12.9-, 10.5-, and 9.7in)
- iPad Air
- iPad Air 2
- iPad (5th generation)
- iPad mini 2/3/4
- iPod Touch (6th generation)

Release date

Following a series of developer and public betas this summer, Apple will make iOS 11 available to everyone as a free upgrade later this autumn – likely around the same time as the launch of the next iPhone, typically in early or mid-September.

Public beta

Apple is expected to start rolling out the first public beta in June and anyone can give it a whirl (at their own risk). First, log in to the Beta Software Program page (tinyurl.com/pkmbuxz) using your Apple ID and click on the link to enrol your iOS device. In order to



download and install a configuration profile, you'll be instructed to go to beta.apple.com/profile on the iOS device that you want to put the beta on – that will make the beta available as an over-the-air software update in the Settings app.

Just remember that this is a beta version of the new software, so make sure you backup your iOS device before venturing into this unknown territory. Better yet, we recommend installing the public beta profile on a secondary iOS device (if you have one) so that you can test it without fear that it will screw something up.

iOS 11 FAQ

What new features does Siri offer?

The first new thing you'll notice about Siri in iOS 11 is her more-natural sounding voice. However, she also looks a little different: Apple has given its voice assistant a new visual interface that surfaces multiple results for your requests, as well as follow-up questions. In addition, Siri can now translate phrases for you,

from English to Chinese, French, German, Italian, and Spanish. This feature is in beta, and Apple will add more languages in the months to come.

Siri has also become more predictive across different iOS apps. For example, if you search for 'Iceland' in Safari, Siri will surface Iceland-related articles in the News app and bring up QuickType suggestions in Icelandic. Or, if you get a text message asking for money, Siri will suggest iMessage's Apple Pay integration with the exact amount that's been requested. Apple has also expanded SiriKit support to include more robust integrations with third-party services. You can now use Siri to add to your Evernote or pull up a QR code in WeChat, among other things.

Can I do more with Live Photos?

Apple has given us more editing tools for Live Photos, those moving images that you can take using an iPhone 6s and later. You can turn your Live Photos into video loops that replay over... and over... and over. The Photos app will even suggest Live Photos that would make for great loops. You can also add a 'Bounce' effect so that the Live Photo plays and then rewinds, kind of like Instagram Boomerangs. There's also a new Long Exposure effect which makes the iPhone even more like a DSLR.

Do Live Photos take up a lot of space?

That's true, but thankfully Apple has addressed this issue by switching to a more space efficient encoding system. For videos, iOS 11 uses HEVC (aka H.265), which is twice as efficient as the previous H.264

format. For still photos, iOS 11 uses HEIF, which Apple claims will take up only half the space.

Where will I be able to use Maps indoors?

Apple continues to improve the native Maps app in iOS 11. For the first time, you'll be able to use Maps to navigate your way around indoor spaces. Maps in iOS 11 introduces indoor mapping so you can get detailed floor plans of certain shopping centres and major airports, such as London Heathrow, down to individual vendors on each floor.

How does 'Do Not Disturb While Driving' work?

Another feature introduced at WWDC is iOS 11's 'Do Not Disturb While Driving' mode. Your iPhone will use Bluetooth (if connected to CarPlay or any other in-vehicle Bluetooth system) or motion sensors to figure out if you're driving, and will automatically prevent all notifications from surfacing and causing a distraction. You can override this mode, however, or setup an automatic response to let people who text you know you're on the road and that you'll get back to them as soon as you arrive at your destination.

What about augmented reality?

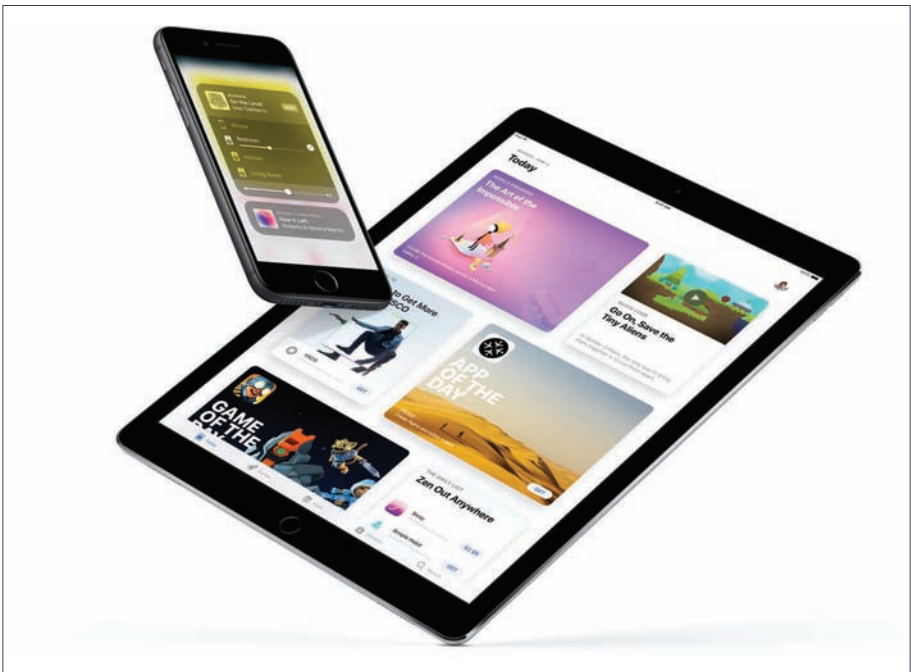
Tim Cook has spent all year talking about how excited he is for augmented reality, so it's no surprise that Apple used this year's WWDC keynote to show off what they've been working on in this emerging area. Alongside iOS 11, Apple unveiled ARKit, a new developer platform for creating iOS apps that tap into augmented reality. Apps built with ARKit will be able

to use computer vision to identify surfaces and add 3D objects. These objects create dynamic shadows that are rendered in real-time.

Did the iPad get more macOS-type features?

There's a new app Dock that looks a lot like the one in macOS, making it a lot easier to switch between apps. You can also press on any of these apps and drag them over to the right side of the screen to open them as a Slide Over. As always, you can lock Slide Over into Split View to use both apps simultaneously.

The Dock can be accessed from any screen and you can customize it with your favourite apps. Also, it has



a dynamic section on the right side that changes to suggest recently-used apps across your Apple devices.

What about drag-and-drop?

With iOS 11, you can drag-and-drop between the two apps in Split View, which makes it easier to transfer files, images, text, and URLs. You can drag-attach images from the Photos to Mail, or drag-copy-and-paste directions from Safari into Maps.

And how does the new Files app work?

Apple also launched Files, a new iOS app intended to make the iPad experience more like a traditional Mac. Pretty self-explanatory, Files displays your documents stored in iCloud, Dropbox, Google Drive, and other file-storage apps.

Are there new ways to use Apple Pencil?

Apple has expanded Apple Pencil support for the iPad Pro. Tap a PDF or screenshot with the tip of the stylus and you'll be able to scribble on it instantly thanks to a new feature called Instant Markup. Similarly, you can Pencil tap on the Lock screen to start writing. All your handwritten creations will be saved to your Notes app, and these handwritten notes are searchable, too.

Notes also has a new built-in Document Scanner, allowing you to scan a document, sign it or mark on it with Apple Pencil, then save or share. Plus, Notes and Mail now support Inline Drawing so you can add colour to your emails and notes. The text will automatically move out of the way when you start drawing, so everything remains legible.

A few more things...

Control Center has been redesigned so that it's only one panel. You can customize it with your go-to's such as Low-Power Mode and use 3D Touch to adjust more specific controls.

App Store mirrors the look-and-feel of Apple Music, with a new Today tab for featured games and apps.

Messages App Drawer makes it easier to access your favourite iMessage apps by swiping across the bottom of the screen, instead of having to tap back to the drawer every time you want to switch apps.

Apple Music gets more social. New profile photos indicate when one of your friends has listened to a certain album or playlist.



HomePod

Does the HomePod have enough features to compete against Amazon Echo and Google Home? **Oscar Raymundo** reports



Apple used its WWDC keynote to give us a sneak peek of an all-new product: the HomePod. Originally rumoured to be called Siri Speaker, the HomePod is a smart speaker with Wi-Fi capabilities intended to compete against Amazon Echo devices and Google Home – although it will be significantly more expensive. During the keynote, Apple’s senior VP of marketing Phil Schiller boasted about the HomePod’s

audio quality, its built-in room sensors, and the integration with Apple Music.

With its always-on voice assistant and ability to control connected devices, the HomePod is very similar to Echo devices and Google Home, but with a few notable differences. Here are the must-know HomePod features, specifications, and sales information showcased during WWDC.

Release date

The HomePod will be available for sale starting in December, initially in the UK, the US and Australia. So it's will only support English-language voice commands during the initial rollout. It will then be available in other countries starting in 2018.

Price

The HomePod costs \$349 in the US and we estimate it will be £349 in the UK. It will be available in two colours: White and Space Gray. By comparison, Amazon Echo is £149 from tinyurl.com/y96duarw, while Google Home retails for £129 from fave.co/2skmLpc.

Intelligence

The HomePod comes with an A8 fusion chip, the same one that powers the iPhone 6 and 6 Plus. That definitely puts it up at the top when it comes to 'smart' speakers. Like the AirPods (which sport an A1 chip), setting up the HomePod is just as easy and intuitive. All you have to do is hold your iPhone next to the HomePod and it'll be ready to start playing music in seconds.

How to activate it

The HomePod has six microphones so that it can be activated verbally using the “Hey Siri” voice command. We’re not sure what happens if you have “Hey Siri” activated on your nearby iPhone as well. Hopefully, Apple implements a way for you to customize which device responds and fulfils the voice commands, or for the iPhone and the HomePod to communicate with each other and figure it out.



Siri

You can ask Siri to send a text message to your friend, start playing the latest episode of your favourite podcast, and get the latest updates in news, sports, traffic, and weather. You can also use voice commands to set alarms, timers, and reminders. In addition, Siri on the HomePod can help you answer some of your most burning questions such as, “What’s the best Indian restaurant nearby?” or “Did Manchester United win last night?”

Controls

The HomePod does not have a touchscreen like the more-recent Amazon Show, but it can still responds to touch controls. You can tap the top of HomePod to play, pause, or adjust the volume. This panel also animates with an LED waveform to indicate whenever Siri is listening.

HomeKit devices

You can ask Siri to turn on the lights, close the shades, or activate a scene that you’ve preset in the Home app. HomePod can even control these devices when you’re not home via the Home app, giving you the power to remotely control your devices from anywhere. So far, HomeKit compatible with connected devices from Ecobee, Honeywell, August, Kwikset, Philips Hue, Lutron, and more.

Audio

Apple wanted to create a speaker that delivered state-of-the-art sound that ‘rocks the house’. The HomePod

includes an Apple-designed four-inch woofer for a deeper bass and seven beam-forming tweeters for high frequency acoustics. All of this was designed to preserve the richness and intent of the original recordings. Of course, we won't be able to vouch for this until we get to listen to it later this year.

Multi-room audio

Thanks to the new AirPlay 2, Wi-Fi speakers are now part of the HomeKit family so you can get multi-room audio controls from a single iPhone. This gives you the option to use the Home app to control multiple HomePods in different rooms and sync audio playback. Furthermore, AirPlay 2 is also compatible with Wi-Fi speakers from other manufacturers, including Bose, Bang & Olufsen, Bowers & Wilkins, and Apple's Beats.

Spotify

Unfortunately, the only music streaming service that the HomePod supports is ... Apple Music. In fact, Apple claims the smart speaker was designed to be deeply tied to Apple Music, which costs £9.99 per month. And we don't foresee Apple bringing another other services to the fold anytime soon (or ever).

Apple Music

If you're an Apple Music member, the HomePod can access Apple Music's full catalogue, as well as tap into machine learning to learn about your music preferences and suggest songs and artists you might like. Apple refers to the HomePod as the perfect musicologist. In addition, you can create a shared Up Next queue

with other nearby iOS devices so that everyone in the house can participate in picking music.

New technology

Not every room is the same, so the HomePod has learned about spatial awareness. Its built-in sensors can determine the size and layout of its surroundings to automatically deliver the volume and acoustic output that best fills the room. Think of it as virtual surround sound. When two paired HomePods are in the room, they'll be able to sense each other to deliver actual surround sound.

Privacy

Privacy is also being touted as a vital component. According to Apple, the smart speaker will only start collecting information after the 'Hey Siri' voice command is activated. This means that you shouldn't be afraid that the HomePod is secretly recording your conversations in order to sell you stuff. All information is recorded locally on the device and sent to Apple servers encrypted using an anonymous Siri ID.



watchOS 4

Michael Simon looks at the operating system's new features



The Apple Watch might still feel like a new product, but it's already on the fourth version of watchOS. And each one has brought some pretty major changes. Version 2 brought nightstand mode and third-party complications, and version 3 introduced the dock, a new Breathe app, and better overall navigation.

However, watchOS 4, unveiled at the Worldwide Developers Conference keynote in San Jose, is more of a maintenance release than a full new version.

Still, it brings some cool new ways to interact with our favourite apps and add a little fun to the screen we see the most. Here's everything we know so far about watchOS 4, including a few new features that we can't wait to try.

Compatible devices

Apple Watch is a new enough product so no models are excluded from the new version. Whether you own one of the originals, or a Series 1 or a Series 2 watch, you'll be able to install watchOS 4 when it arrives.

Release date

Apple will release watchOS in the autumn, most likely on the same day as it releases iOS 11 for download.

Public beta

Unlike iOS and OS X, Apple hasn't previously offered a public beta program for watchOS. It's possible that changes this year, but we have no reason to think it will. So to try it out before the masses you'll need to sign up for a developer program membership for £99 per year. However, if you do decide to go that route, keep in mind that Apple doesn't allow you to downgrade to an earlier watchOS version without taking it into an Apple Store for repair.

watchOS 4 FAQ

Has the navigation changed?

A little. The Dock that holds your apps now scrolls vertically rather than horizontally, making better use of the Digital Crown. You can also choose to ditch

the honeycomb home screen with a new list view that will simply display a vertical list of your installed apps.

What's the Siri face?

The biggest change to watchOS 4 is the addition of a few new faces, most notably a Siri face. Built for people who crave a steady stream of information on their wrists, the Siri face will automatically display the most relevant info based on the time, your location, and your routine. For example, if you usually drive to work at 8am, it will display the traffic, or if you use HomeKit to shut your lights at night, that button will appear at bedtime. Additionally, you can rotate the crown to cycle through the various cards. Whenever you raise your wrist, the face will dynamically update with the latest bit of relevant info, and if you need to know something that isn't displayed, you can also tap the new Siri complication to ask a question.

What's the Kaleidoscope face?

Where the Siri face offers always-changing information designed to keep you organized and motivated, the kaleidoscope face offers always-changing pattern designed to keep you happy. Just like those long tubes that you held up to the light and rotated to change shape, the new kaleidoscope face uses your photos to create a circular pattern that constantly moves and changes throughout the day.

Are there really Toy Story faces?

Yup. Woody, Jesse, and Buzz join Mickey and Minnie as Apple Watch faces, but there's a twist. Instead of



using their hands to show the hour and minute, the faces feature a simple digital clock and date and let the characters frolic around it. And each time you raise your wrist to check the time, you'll get a random little animated vignette.

Enough about faces. Tell me about fitness

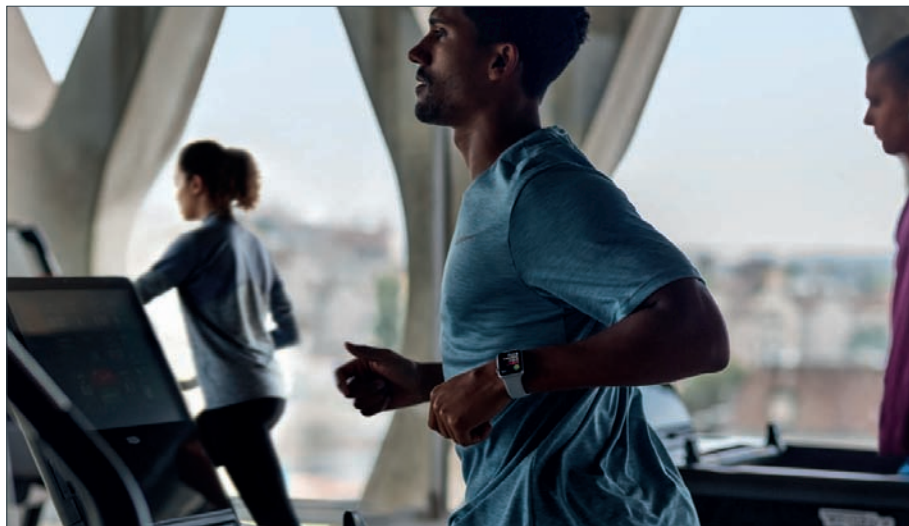
Apple has tweaked the Activity app to make us a little more likely to use it. Achievement progress alerts will let you know if you're close to accomplishing a goal or tell you what you can do to match yesterday's numbers. And there will also be personalized monthly challenges that inspire you to push a little harder. And in case you need a little more motivation, there's also a cooler animation when you close all three rings and even bigger celebrations for hitting monthly milestones.

Has the Workout app changed too?

Apple has made the Workout app easier to use with a new interface that puts a quick start button front and center. Also upgraded is the app's swimming capabilities, adding distance and pace trackers as well as auto sets, so if you're swimming laps it will recognize when you rest at the edge of the pool. There's also a new option for High Intensity Interval Training and the ability to swipe to add a new workout to the same session. And you'll also be able to set a playlist to start automatically when your workout begins.

What if I work out at a gym?

If you use gym equipment like a StairMaster or treadmill to burn your calories, you can now tap into all of data inside it using a new two-way data exchange feature will keep your metrics in sync. Apple has partnered with



top brands, including LifeFitness, Cybex and Matrix, to equip their machines with NFC readers that will seamlessly sync to your watch.

Any changes to music?

The Music app now automatically syncs music based on your tastes, and navigation is now album-art based, letting you use the crown to scroll through your songs like on a tiny digital jukebox. Plus, you can now send more than playlist to your watch.

Any new apps?

For now, all we know is that there will be a new Apple News app for the watch, which will display headlines on the Siri face and let you save articles for later reading on your phone.

What's this about a flashlight?

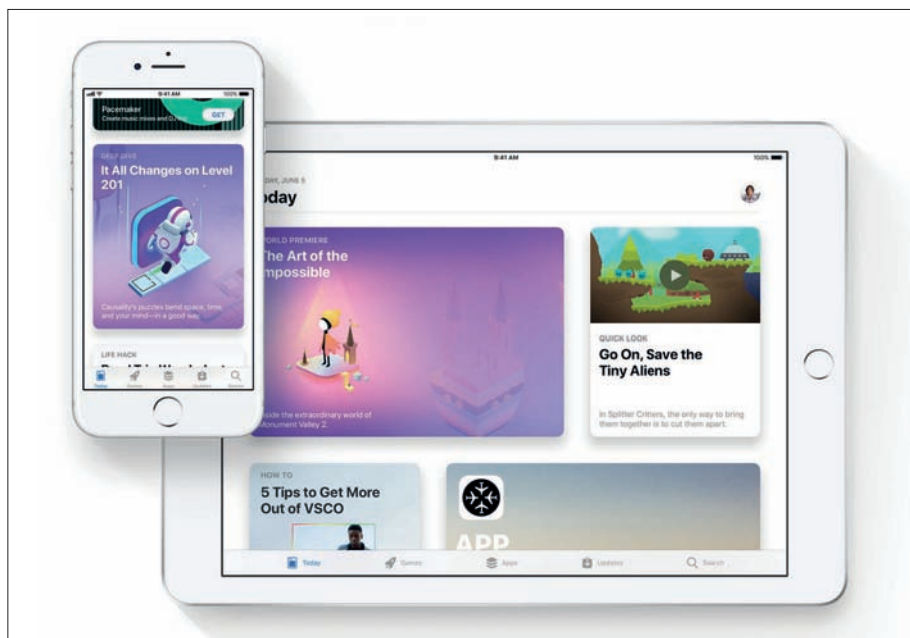
Apple is adding a new flashlight icon to the Control Center that will let you see in the dark or use it as a blinking safety light when cycling. Apple hasn't shown us how it will work, but presumably it will put a bright white screen on the watch for illumination.

Any improvements to Apple Pay?

With watchOS 4, you can send payments to your friends right on your watch. You'll be able to send money to anyone in your contacts using Apple Pay, and they'll receive the money in their new Apple Pay Cash account. Then, they'll be able to transfer it to their bank account or keep the funds around for future Apple Pay purchases.

Get iOS 11 beta

Lewis Painter reveals how to get your hands on the iOS early



Once a year, at WWDC, Apple unveils its latest major update to the iOS software on iPads and iPhones, which will be launched to the public in autumn. But before then, they will be available for a limited time to the select few: the beta testers.

Developer beta

First, you'll need to join the beta programme. You can register as an Apple developer and join the iOS

Developer Program at tinyurl.com/732huk3. It costs £99 per year and you can enrol using your Apple ID.

Before you start, back up the device you're going to install the beta on. That way you can restore it if something goes seriously wrong. Alternatively, if you are lucky enough to have a second handset, use that.

Sign into the iOS Dev Center (tinyurl.com/L4wvz8t) using your Apple ID. Next, register your Apple device's UDID – to find this plug the device into iTunes, click on the device's icon in the top right-hand corner, view the Summary tab and click on the Serial Number entry to get it to change to the UDID. You'll now be able to download the appropriate version of the iOS beta for your hardware – select the exact iPhone, iPod touch or iPad model you're using from the list. Unzip the file that downloads to your Mac (this should produce a .IPSW file). Connect your device to iTunes (if it isn't already). Hold Alt and click the Restore iPhone button on the device's Summary tab (next to Check for Update). Select the .IPSW file from the previous step. The iOS beta will be installed on your iPad or iPhone after a few minutes.

Public beta

There is a beta programme for members of the public who are willing to install a prerelease version of the next iOS update on their devices, bugs and all, and provide feedback on any issues that need to be ironed out. Apple has experienced problems with final public launches in the past, and the public beta programme is a bid to prevent that from happening again.

You can join the programme by clicking Sign Up on the Apple Beta page (tinyurl.com/pffuwnz) and use

your Apple ID. We can't stress how important it is to back up your device before you download and install a beta version of iOS, or as we recommend above, use a secondary device that isn't your main iPhone or iPad. Not only will that mean you won't lose everything if something goes wrong while the beta is installing, it also means you'll be able to go back to the last version should you find that you don't like the new software after all, or that it's too buggy.

Next, click Sign Up on the Apple Beta page and use your Apple ID. You'll then be able to log in to the Beta Software Program, and click Enrol. From there, you'll be instructed to go to beta.apple.com/profile on your iOS device in order to download and install a configuration profile. That will make the beta available in the Settings app, under General > Software Update.



Swift Playgrounds 1.5

Students can learn how to write code to control products from Lego, Parrot, Sphero, and more, finds **Roman Loyola**



When Apple released Swift Playgrounds in 2016, it opened the world of coding to kids (and adults) who thought just the idea of creating an app was intimidating. Swift Playgrounds makes codes approachable and fun to learn, combining tutorials, a touch interface, and 'challenges' on an iPad that anyone can use for free.

While Swift Playgrounds can be a very satisfying experience that results in your very own app,

technology moves forward – we’re now in a world where drones and robots are prevalent. With that in mind, Apple announced Swift Playgrounds version 1.5 at WWDC, which includes tools that teach students how to control drones and robots over Bluetooth using an iPad.

The new program gives teachers access to Swift Playgrounds curriculum that works with a number of robots and drones, including products from Lego, Parrot, Sphero, Ubtech Robotics, and Wonder Workshop. Since Swift is an open-source language, Apple says that makes it easy for other companies to jump on the bandwagon.

The addition of drone and robot support expands Swift Playgrounds’ content library, and the direct results experienced by students can be satisfying and help maintain interest in coding. “Kids know the difference between writing something that’s real and writing something that’s not real,” said Cheryl Thomas, Apple VP of Engineering, Swift Playgrounds.

Teachers can access the new Swift Playgrounds 1.5 as a free download in the App Store. The app requires iOS 10 or later, and can run on all iPad Air and iPad Pro models, as well as the iPad mini 2. Support is provided through Apple’s Education program, which includes Professional Learning Specialists to help with the lessons.

Since its introduction in 2014, Swift has been embraced by software developers. Apple said that over 250,000 apps have been created using Swift. The company is also excited by Swift Playgrounds; at the version 1.5 event, Apple representatives said the over a million unique users have used the learning software.

What to do before giving your child an old iPhone

Don't hand over an ageing iOS device to your eager youngster before doing a little childproofing first. **Ben Patterson** shows how



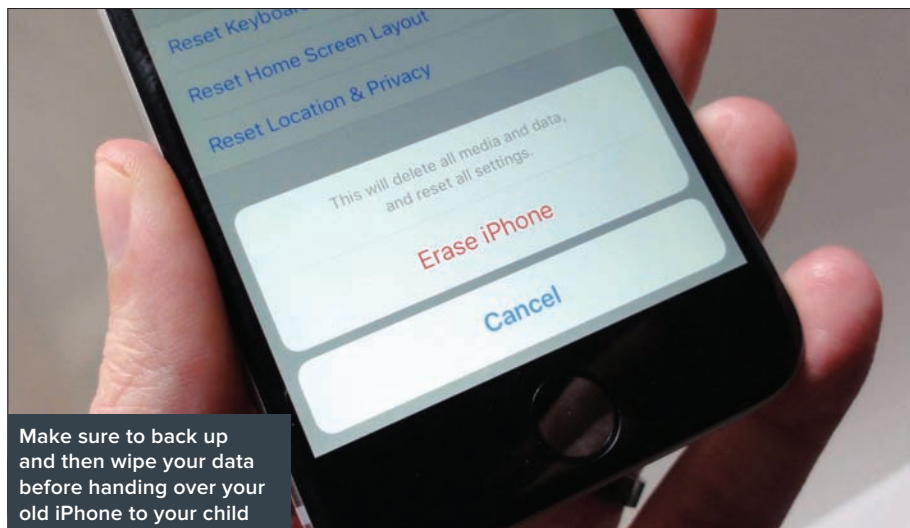
Children love iPhones and iPads. They love to look at them, they love to tap and swipe the screen, they love playing iPhone games, and most of all, they love watching videos on them. Giving your little ones a hand-me-down iOS device is an easy way to satisfy their desire for a screen of their own – my daughter is the proud owner of an iPhone 3GS and a

third-generation iPad. That said, you shouldn't hand over your old iPhone or iPad without doing some kid-proofing first. Read on for five ways to prep an aging iPhone or iPad for your youngster, from wiping your data and setting up a child's iCloud account to blocking web access and keeping her from racking up in-app charges on your credit card.

1. Wipe your old data

Before you hand over your old iPhone to your kids, you'll want to make sure any and all of your personal data has been wiped clean. The best way to do so is to perform a 'factory' reset, which wipes the iPhone's storage and returns it to its factory settings.

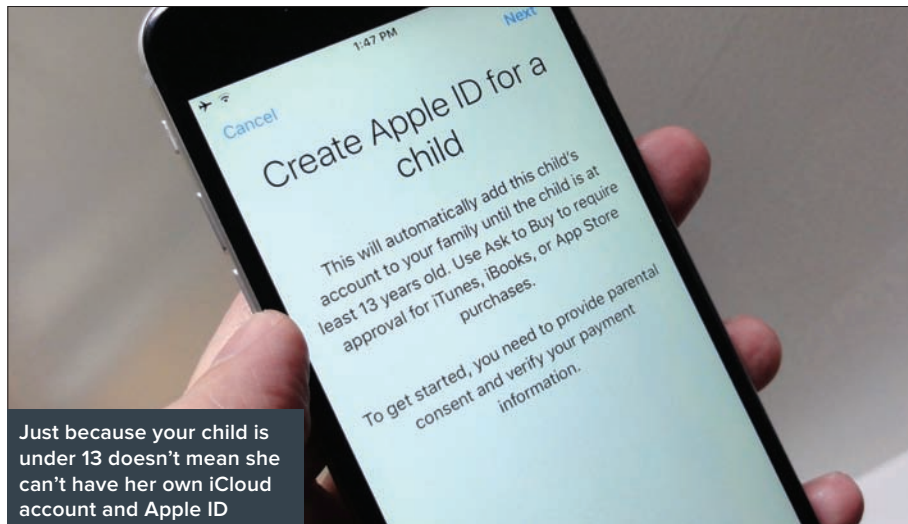
Naturally, you should first make sure you've backed up any old iPhone or iPad data you want to preserve. You may already have taken care of this step if you've



previously upgraded to a new iPhone or iPad and restored your data from iCloud. If not, tap Settings, tap your iCloud profile, then tap iCloud > Backup > Back Up Now. You can also back up your old iPhone or iPad by connecting it to your Mac or PC and syncing it with iTunes. Once you're satisfied that your data is safe and sound, go ahead and wipe the device. Tap Settings > General > Reset > Erase All Content and Settings. Once the reset is complete, your old iPhone or iPad will return to its factory settings, just like the day it came out of the box.

2. Create a child's iCloud account

While it may seem a little soon to, say, create an Apple ID for a toddler, take it from me: it won't be long before your onesie-clad child is walking, talking and pleading for an iPhone upgrade – and when that happens, it'll be



Just because your child is under 13 doesn't mean she can't have her own iCloud account and Apple ID

easier to migrate her data and apps if she already has her own iCloud account.

Even if your child is younger than 13 years old, she can still have her own iCloud account and Apple ID. All you need to do is create the account under iOS's 'Family Sharing' umbrella. With her iCloud account, your child will be able to sign in to an old iPhone or iPad, download apps, and even purchase items from the App Store – only with your approval, of course.

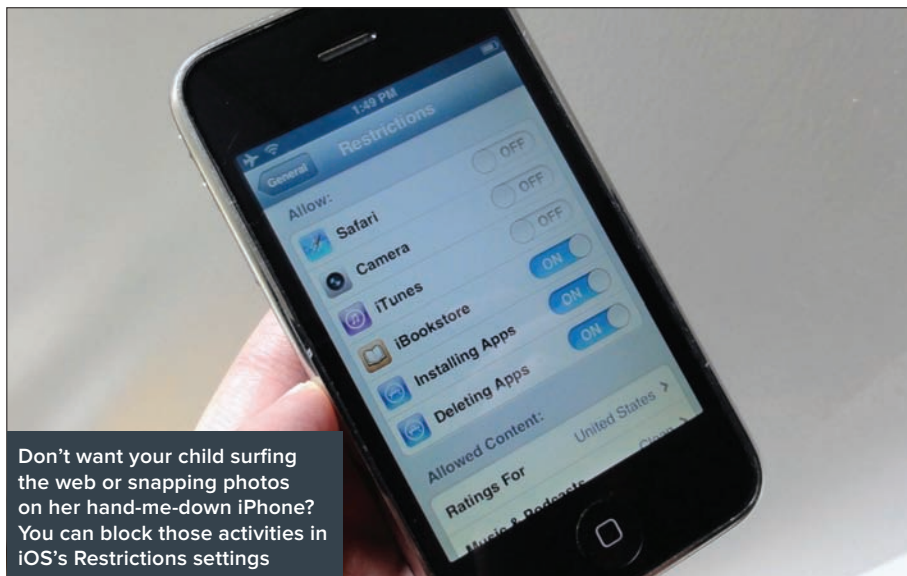
Also, keep in mind that just because she has an iCloud account, your daughter or son won't be able to start web surfing, tweeting, or posting selfies on Instagram without your say-so.

You can create a child's iCloud account directly on your own iPhone or iPad. Just tap Settings, tap your iCloud username, then tap Family Sharing > Add Family Member > Create an Apple ID for a child. You'll need to enter your kid's birthday, agree to some disclosures and legalese, choose a payment method for App Store purchases (which, again, you can control and/or block), then choose an Apple ID username and password.

By default, your kid's new iCloud account won't let her make App Store purchases without your consent. To double-check the 'Ask to Buy' setting, tap Settings, tap your iCloud account name, then tap Family Sharing and your kid's name.

3. Control what your child can, and can't, access

Once you've got your old iPhone or iPad set up with your child's new iCloud account, it's time to make some decisions on which iOS features will be fair game for your kid, and which will be off-limits. Tap Settings >



General > Restrictions > Enable Restrictions, then create a Restrictions passcode. Next, scroll down and disable all the iOS features that you'd rather your kid not mess with. You'll probably want to disable Safari and the iTunes store right away. You may also want to block your child from installing apps, and if you don't want your little one snapping a million photos of their crib, you might want to restrict the Camera app, too.

In the Allowed Content section, make sure to disable in-app purchases, as well as block music with explicit music and any grown-up movies, TV shows and books. In the Privacy section, you can control which apps can access location services, contacts, the microphone, and more on your kid's iPhone. At the bottom of the Restrictions screen, you can also disable access to

multiplayer games, friend adding, and screen recording for any Game Center-ready games.

4. Hide Settings, Mail, and other Apple apps

Even after you've thoroughly managed all of iOS's Restrictions settings, you may still see some home-screen icons on your kid's iPhone or iPad that you'd rather she not mess with. For example, the Settings icon should probably stay out of her hands, as well as the Mail app, Game Center, and the App Store.

Here's what I did before I gave my daughter my old iPhone: I hid all those various Apple apps in a 'Hidden' folder in the very last iOS home screen. To create a home screen folder, drag one app icon on top of another, name the folder, then start dragging other app icons into the newly created folder. Naturally, older children who are a bit more iOS savvy may sniff out this.



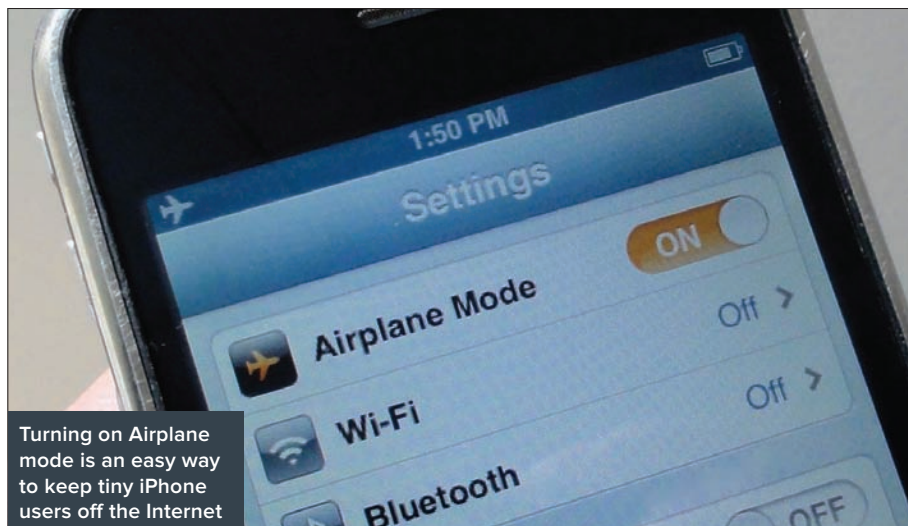
You can hide the Mail, App Store, and other Apple apps in a folder, preferably on its own home screen in the back

My five-year-old, for example, knows exactly where I've tucked away the Settings icon, but she doesn't care.

5. Turn on Airplane mode

One way to make sure your little one doesn't wander into a grown-up corner of the Internet on her iPhone is to cut off Internet access altogether, and the easiest way to do that is to turn on Airplane mode. Just tap Settings, then flip on the Airplane Mode switch.

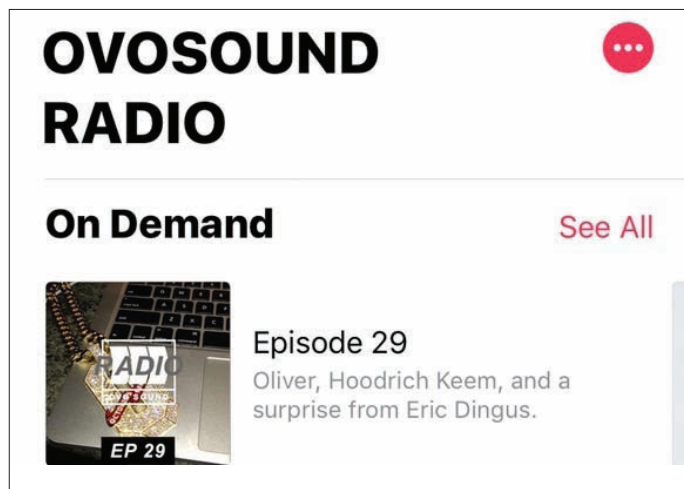
If your old iPhone or iPad is running on iOS 6 or later, you may also want to disable home screen and in-app access to Control Center, the flip-up control panel that includes an Airplane Mode button. To do so, tap Settings > Control Center, then switch off the Access on Lock Screen and Access Within Apps settings. That won't completely disable Control Center, but at least it'll make it a tad more challenging to find.



Turning on Airplane mode is an easy way to keep tiny iPhone users off the Internet

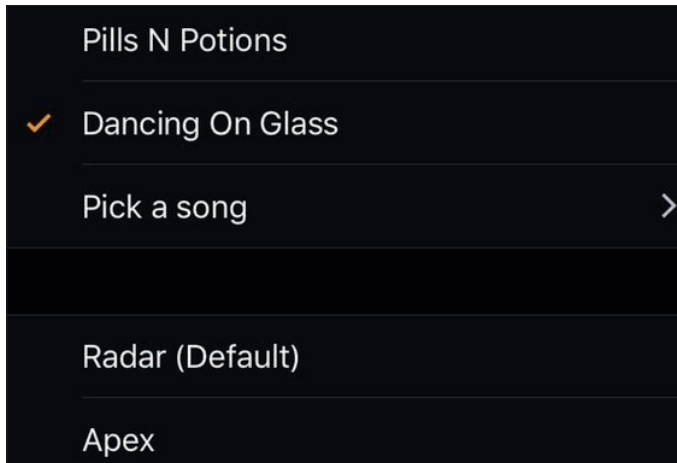
Apple Music tips

Get more from Apple's music streaming service with **Caitlin McGarry** and **Susie Ochs** tips and tricks



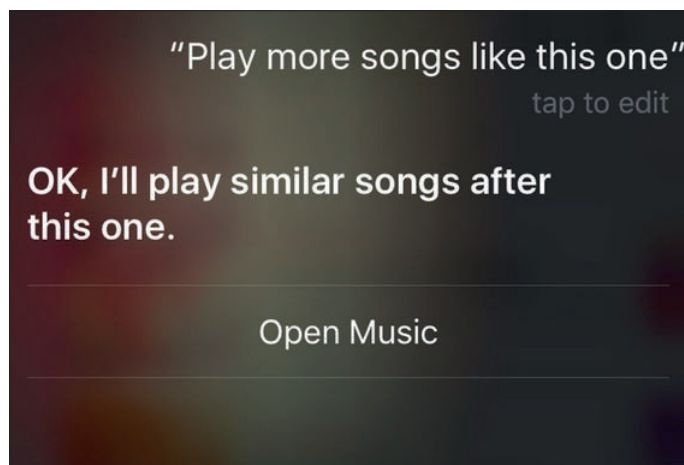
Listen to Beats 1 playlists off the air

If 24-hour live radio station Beats 1 is giving you a serious case of FOMO because you keep missing all the great parts, then catch up by streaming shows on-demand. Tap Radio > View All Beats 1 Shows and scroll past what's currently on air and upcoming shows to find all shows. Tap a specific show, then stream the episode you missed. Just want to hear the songs that Elton John played on his show and not listen to the entire episode? Each show displays the on-demand episodes and playlists from each episode, which you can save to your music library or download to listen to offline.



Stream a song to wake you up

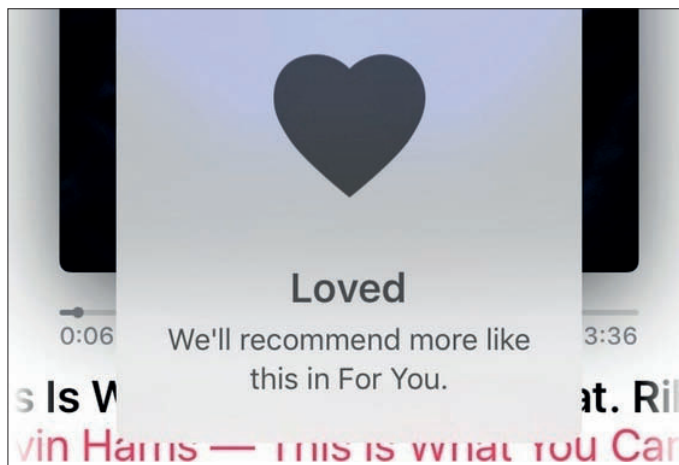
Many of us already use our iPhones as alarm clocks, but with Apple Music, alerts just got a whole lot more fun. First, make sure to add the songs you want to use for your alarms to My Music. Then open Clock > Alarm and either add a new alarm or edit an old one. Above the standard ringtone selection you would normally pick from, there's an option to pick a song from your Apple Music catalogue. The possibilities are endless.



Make friends with Siri

Siri in iOS 10 is more powerful, but Apple's personal assistant has been making Apple Music easier to use since its launch. Here are a few of our favourite Siri capabilities when it comes to managing music: when you're listening to a song, say, "Play more like this one," to create an immediately personalized playlist tailored right to your mood. You don't even have to know the name of the song you want to listen to. Ask Siri to play hits from a certain year or that one song from that one TV show, and it knows what to do. Siri can shuffle play any playlist or album you want her to. Siri can add songs to your collection.

You don't even have to have the Music app open for Siri to work its magic, which is our favourite part. It can be your personal DJ without any effort on your part, which is a feature no other streaming service can match.



Improve your recommendations

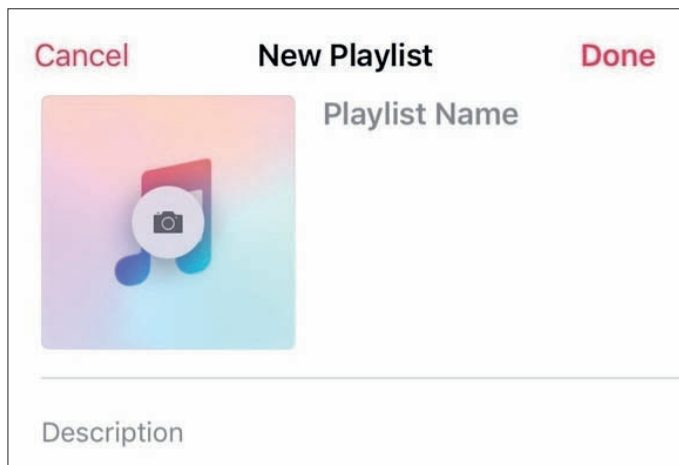
You already told Apple Music the genres and artists you love (and hate) when you signed up, and the app has used that information to create some pretty on-point playlist, artist, and album recommendations in the For You section. But you can keep fine-tuning your preferences with every song you listen to, so Apple Music will one day know exactly what you want to hear.

Use the heart button, located in a menu behind the ellipses on every Now Playing page, liberally on songs and playlists so Apple Music knows what you like. Hate something recommended to you in For You? Give it an extra long press and more options will show up. At the bottom, tap on Dislike to show your distaste. Eventually, your recommendations will be perfectly on point.



Or just pick new favourites

If you didn't do a good enough job selecting your preferred genres and artists when you first launched the Music app, you can give yourself a second chance. Go to the For You tab, then tap your profile photo in the top right to open your account page. Then just tap Choose Artists for You, and you'll get to do the whole thing again. Remember, tap once to like a genre or artist, tap again to really like it, and tap and hold to make the ones you don't care for disappear. Slide the display back and forth with your finger, and on the artist screen you can tap More Artists to see additional choices.



Personalize playlists with photos

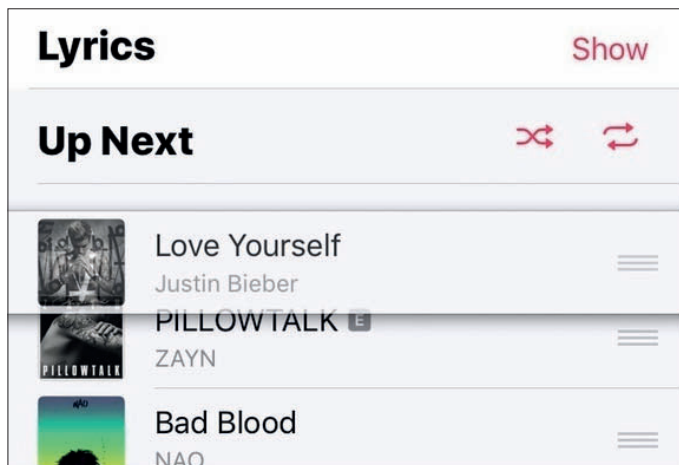
Your playlists have different names (we assume), but they all sort of look the same, marked by an icon with a grid of album covers indistinguishable from the next. But you can customize each soundtrack with a photo instead, either as you're creating the playlist or after. Go to Library > Playlists > New Playlist and tap on the Camera button in the top left corner.

From there you can add an image from your Camera Roll or take a new photo. If you want to change it later, go to the playlist, tap Edit on the top right, and then tap the little camera icon that appears over the playlist's cover image. Apple Music used to customize each playlist with a background colour to complement your cover image, but those days are gone. Every playlist has a white background.



Music in loud spaces

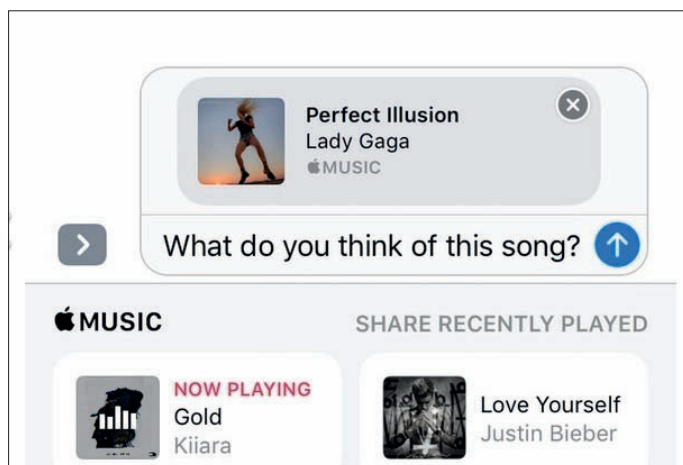
If you're trying to block out the world and jam to your tunes in peace, the Music app has a setting for easier listening in loud spaces like airplanes. Go to Settings > Music > Playback > EQ and tap the Late Night option. According to Apple, this setting will "compress the dynamic range of audio output", which tones down loud sounds so they won't be so loud and pumps up the sound on quiet parts, so you won't have to constantly change the volume controls to find an even keel.



Tweak a 'For You' playlist's order

It's easy to shuffle a For You playlist – each one has a Shuffle button right at the top. Or you can tap any song to begin the playlist at that point and play the rest in order. But if you want to tweak the order to your exact liking, or even ditch a song before it plays, just start the playlist going and then tap the mini player, and the Up Next button. Then you can drag the songs into a new order by pressing the hamburger button (three lines in a stack) and dragging them up or down, or swipe right-to-left on a song you don't want to hear and tap Remove.

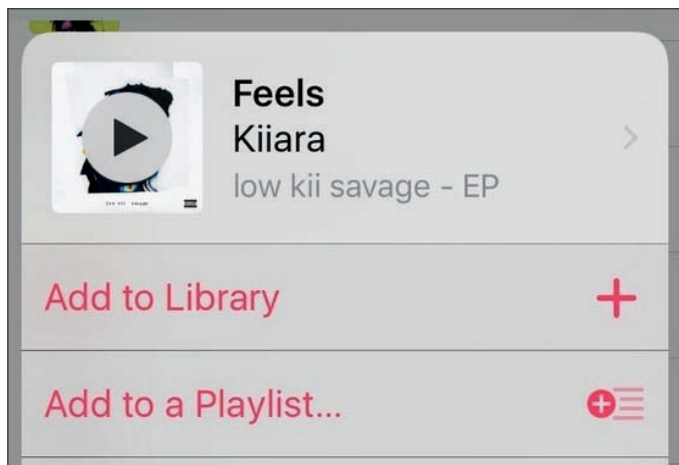
Note that this doesn't alter the playlist permanently. If you've saved it to your library, it'll still appear in its original order, with all the songs present. If the curator changes it later, it'll update in your collection automatically, but we wish Apple let us duplicate a curated playlist so we can add, remove and reorder songs and save it as a personalized new soundtrack.



Share a song

Listening to a song you love and have to share it with your friends immediately? Open the iMessage app drawer and select Music, where you'll see your most recently played songs from Apple Music. If they're also running iOS 10 on their device, the message will display as a rich link to play the song without leaving Messages.

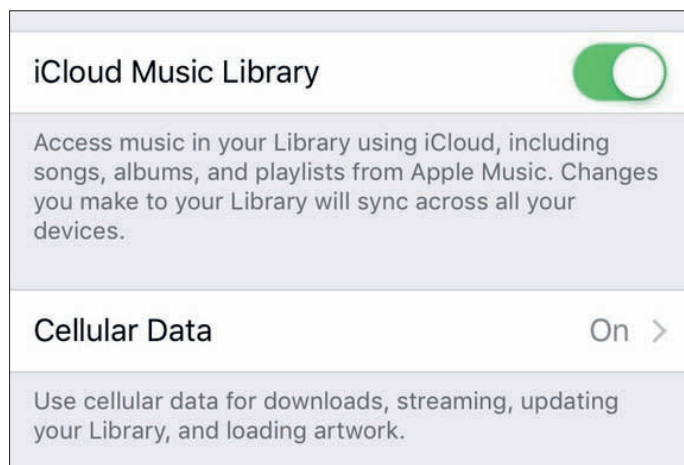
You can also share a song in a text message in Apple Music itself, but that will show up as an iTunes link and launch the Music app when you try to play it, as opposed to playing directly inside the iMessage thread.



See the album, or more from the artist

Apple Music 1.0 buried everything behind ellipses. Want to navigate to an artist's page from an album view? Ellipses. Want to view an album while playing a song? Ellipses. Those days are gone, thank goodness.

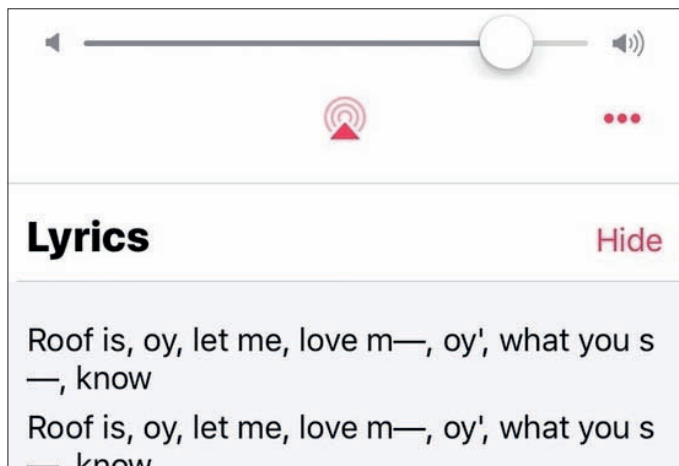
Now when you long press on a song, you can tap through to the artist's page or the album, in addition to all the other options that were buried in the ellipses menu: add to library, add to a playlist, play next, play later, create station, share song, love, or dislike. The fonts are bigger, so you can actually see what you're tapping on instead of squinting and hoping for the best.



Listen over cellular, but watch your data

If you get an error that you can't listen to Apple Music without Wi-Fi, go to Settings > Music, and turn on the option to Use Cellular Data.

Weirdly, there's also a switch to allow the Music app to use cellular data in Settings > Cellular that should do the same thing – and that menu even shows you how much data the Music app has consumed.



Sing along

No more Googling a song to figure out if Taylor Swift is singing “Starbucks lovers” or “long list of ex-lovers” (it should be the former but it’s definitely the latter). iOS 10 brought lyrics to Apple Music, so you can sing along and sound like you know every line to every song.

The mini-player used to be just a screen with some album artwork and an ellipses icon to access more options – very bare-bones. Now when you swipe up from the Now Playing screen, you’ll see a song’s lyrics (which you can easily hide), song credits, and tracks that are playing next. We’re still not exactly sure how to song along with Kiiara’s *Gold*, but we’re closer now than we were before. Thanks, Apple Music.

Siri vs Google Assistant

Google Assistant is available on iOS, giving Siri some competition on its home turf. **Oscar Raymundo** and **Michael Simon** report



Hi, how can I help?

Meet your Google Assistant.

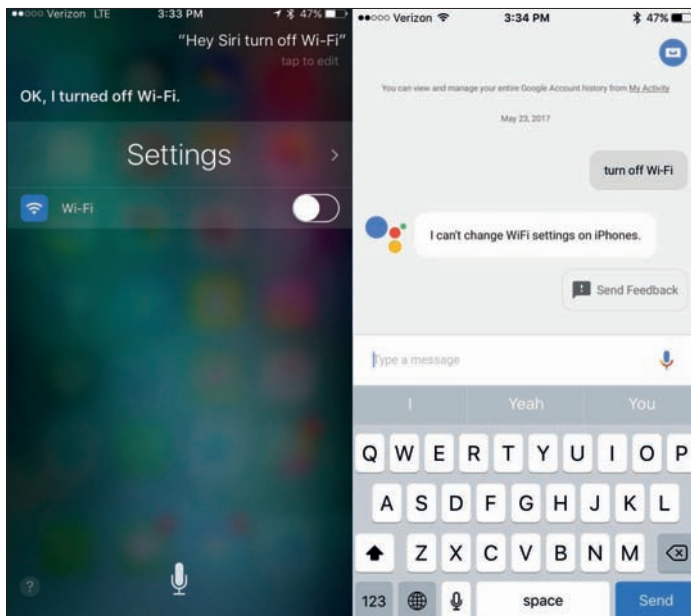
Ask it questions. Tell it to do things. It's your own personal Google, always ready to help.

"Hey Siri, change the temperature to 72 degrees"



Siri or Google Assistant? Well, that depends on how you plan to use your iPhone's voice assistant. While Google has made great strides in artificial intelligence, Siri has the perks of being seamlessly integrated into iOS, like waking it up by long-pressing the Home button or hands free by calling out "Hey Siri".

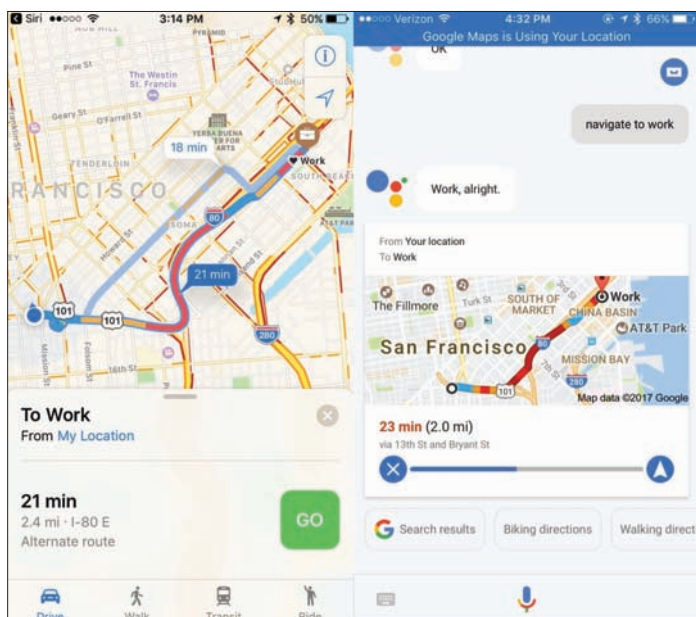
We tested Google Assistant and Siri by asking them to tap into third-party services and to conduct some complex web searches.



"Turn off Siri"

Winner: Siri

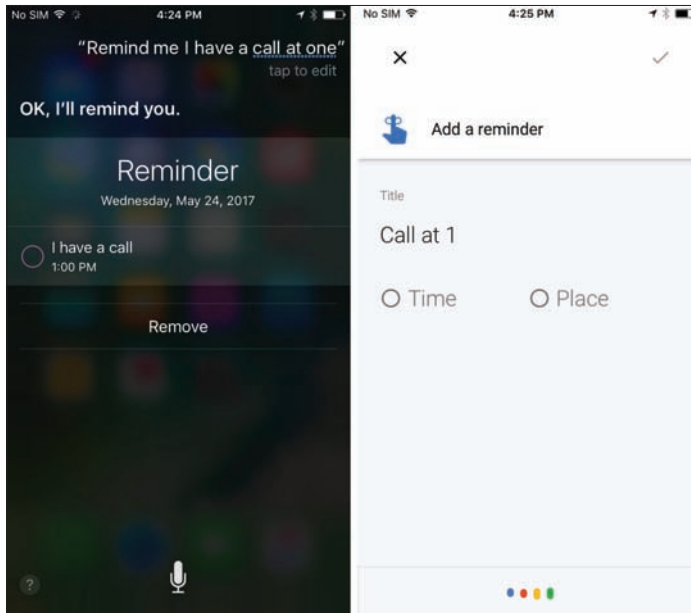
Here's where Siri's home-field advantage comes in. Using Siri, you can change a lot of the iPhone's basic functions and settings. For example, Siri can turn Wi-Fi on or off. And if you ask her to "take a selfie", Siri will launch the camera app and automatically switch it to the front-facing viewfinder. You can also open any of your installed apps using Siri, even Google Assistant. In addition, you can use Siri to search the App Store. That makes it really easy to find a new app you're looking for.



“Navigate to work”

Winner: Tie

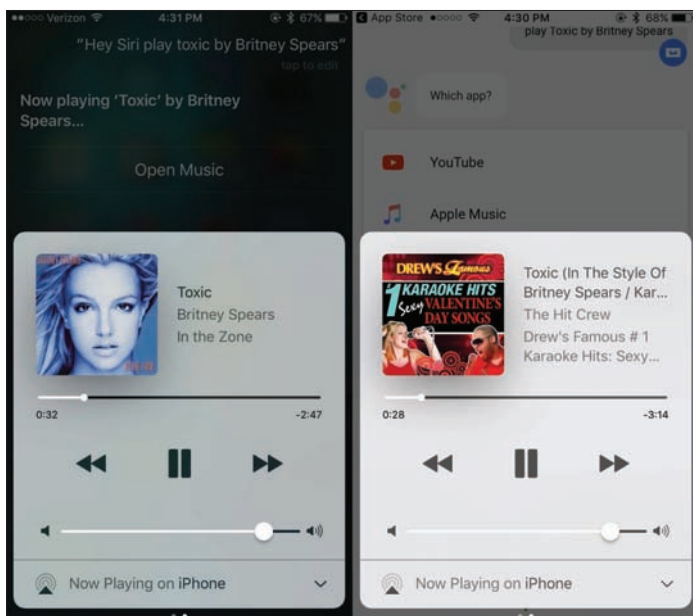
Both Siri and Google Assistant were very competent in fulfilling basic requests. During our test, both voice assistants were able to give us directions to “work”, show us photos of our pets, make phone calls, and send emails and texts. Of course, Siri completed all these tasks using the iPhone’s native apps, while Google Assistant tapped into Google Maps, Google Photos, and Gmail. So, the best assistant in this category will most likely depend on whether you’re using the default iPhone apps or opted to use Google’s suite instead.



"Remind me I have a call at one"

Winner: Google Assistant

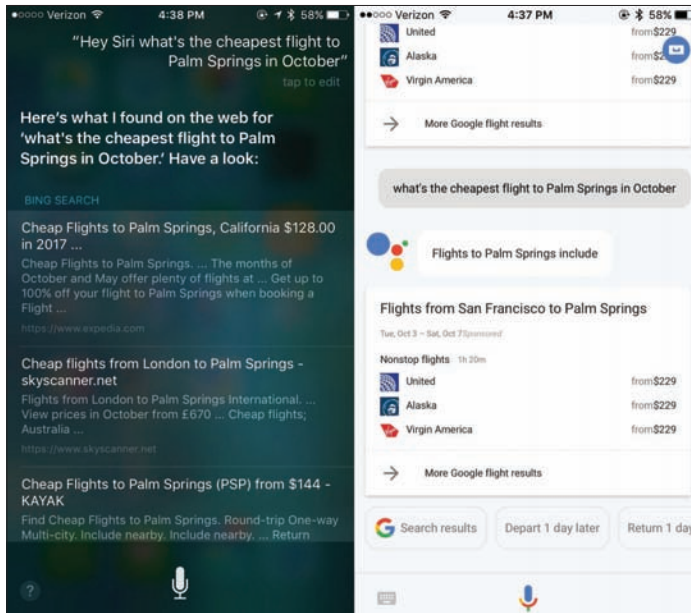
One of the best uses for our phone assistants is reminders. With Siri, you can ask to set a reminder to make a call at 1, and it will oblige. The same is true with Google Assistant (though it'll work through your Google account, not the Reminders app). However, Assistant gives you much more control. Because of its conversational nature, you can say "Make that 12:30", or "Change the title to Conference call", and it will tweak it until it's right. Siri won't know that you're talking about the same task and will offer to start a new one.



"Play *Toxic* by Britney Spears"

Winner: Siri

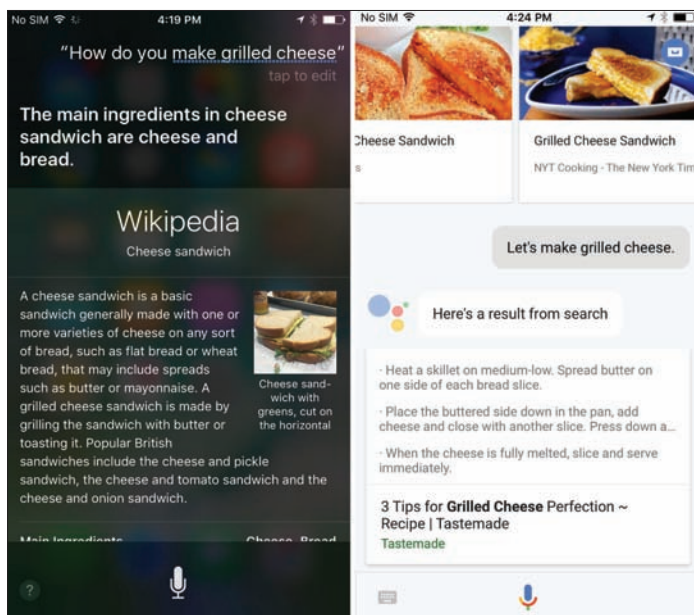
Google Assistant can actually access Apple Music, but it's a hit or miss. When we asked it to play *Toxic* by Britney Spears, it started playing a karaoke version. We asked several times, actually, and every time Google Assistant surfaced yet another weird version, from lullabies to random remixes. Siri, on the other hand, seemed to have read my mind and started playing the original version on the first try. Google Assistant was also unable to play the correct Apple Music playlist, and it can't tap into Shazam to identify songs.



"Find cheapest flight"

Winner: Google Assistant

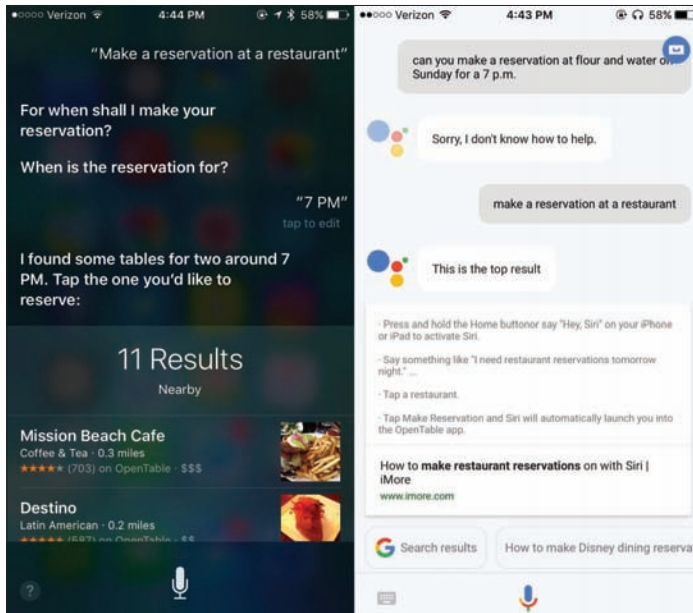
Unsurprisingly, Google Assistant really excelled at performing complex web searches. When we asked it to find the cheapest flight to Palm Springs in October, we got all the information almost instantly without having to leave the app. Google Assistant was even able to tell us the duration of each flight. Meanwhile, Siri defaulted to a basic web search using Bing that did not give me nearly as much detail right away.



"How do you make a toasted sandwich?"

Winner: Google Assistant

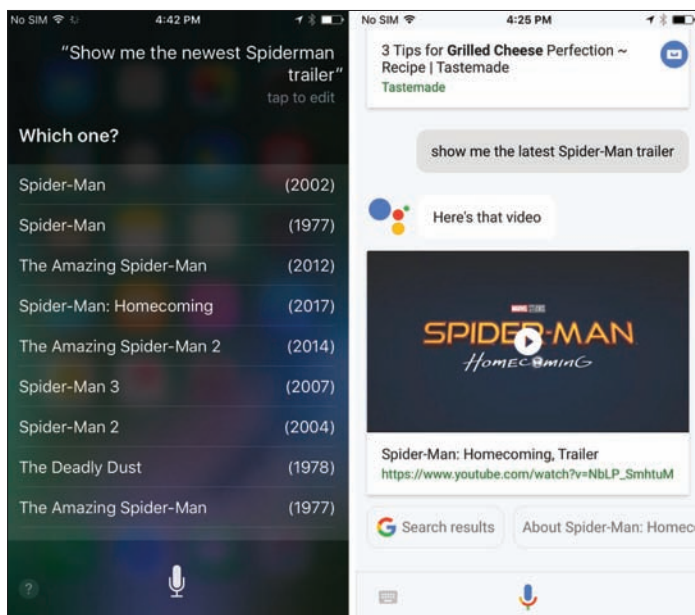
Google Home recently gained the ability to offer step-by-step instructions for making millions of dishes, but even the rudimentary recipe search is better on Google Assistant. If you say, "Let's make a toasted cheese sandwich", for example, it will provide a list of recipes to choose from, and offer instructions for the one you select. Siri isn't quite so helpful. If you ask it the same question, it will search for restaurants that specialize in grilled cheese, and even if you ask, "How do you make a toasted cheese sandwich?" it will merely take you to the Wikipedia page.



"Make a restaurant reservation"

Winner: Siri

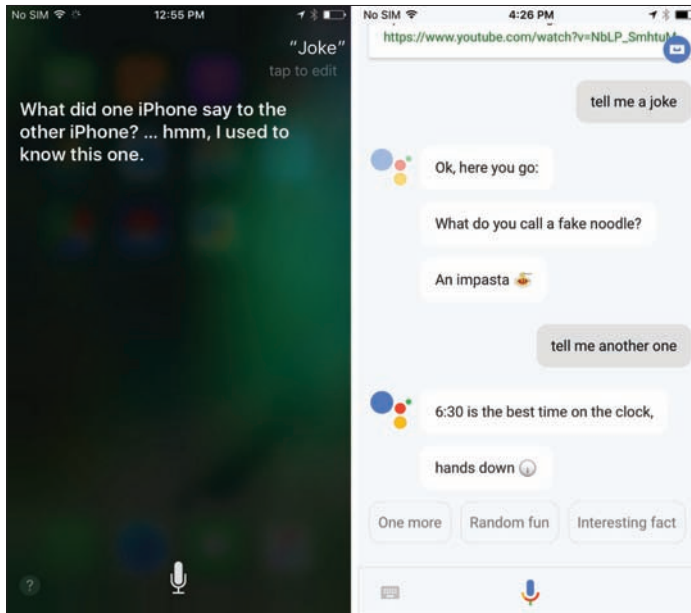
When we asked Google Assistant to make a restaurant reservation, it defaulted to pulling information from the top web search result. It was disappointing, no doubt, and pretty ironic that the web page was a how-to on making restaurant reservations via Siri. So, when we tried the same query on Siri, it followed up asking for a date and time and then gave me a list of nearby restaurants with availability using the OpenTable app.



"Show me the latest *Spider-Man* trailer"

Winner: Google Assistant

If you ask to "play the latest Spider-man trailer," Google Assistant will automatically provide the expanded YouTube link, ready to play right in the app. Siri, on the other hand, will understand that you want to play a *Spider-Man* trailer, but it will make you select from a lengthy list before it begins playing. But when we selected *Homecoming* from the list, it didn't bring up the trailer. It told us that it didn't see any movies matching it.



"Tell me a joke"

Winner: Siri

Siri and Assistant both want to be more than programmed chatbots, so each has its own personality. So, both tell jokes. Or, more specifically, both tell bad jokes. Siri and Assistant will both happily oblige to a variety of queries (including simply saying "joke"), but Assistant's were a bit more engaging. Siri tended to stick to one-liners, while Assistant's jokes tended to be more question based. (Siri's sense of humour is also a bit more iPhone-centric.) Additionally, you can say, "Tell me another", or "One more" and Assistant will oblige, while Siri will need to be specifically told to tell another joke.

Ask the iTunes Guy

Kirk McElhearn answers your iTunes questions



Viewing the right information in playlists in iTunes can be complicated, in part because iTunes defaults to a specific display when you create new playlists. In this month's column, I answer a question about choosing which columns of metadata display in Music playlists. And I also discuss some other nuances about playlist views, and present a few tricks to make changing what information playlists display easier and more efficient.

Plus, the bigger your iTunes library, the harder it is to keep it coherent. I answer two questions about managing a library. The first asks how to sort artists by their last name instead of their first name, so it's easier to find music in a large library, and the second discusses how to rip CDs when your main computer is a laptop without an optical drive.

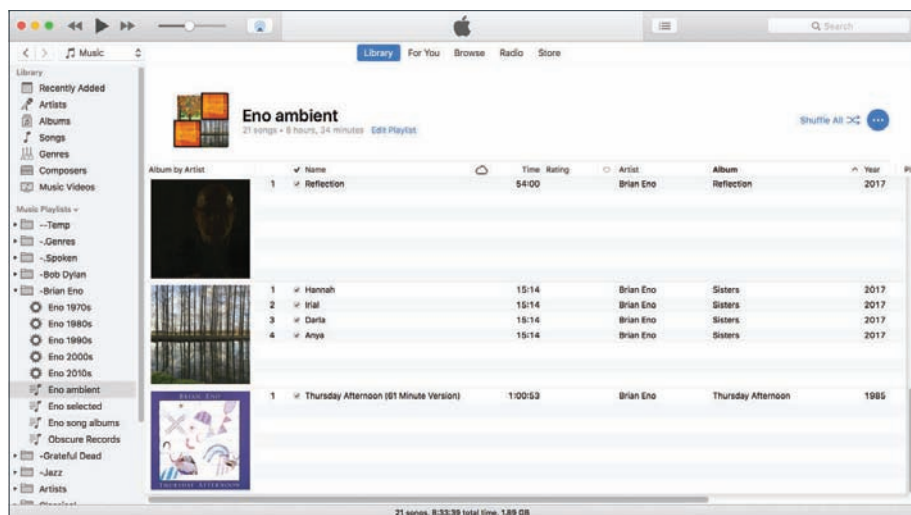
PLAYLIST COLUMNS

Q When I create a new playlist, it displays with a default set of columns, such as iCloud Download, Rating, and Genre. I would prefer that different columns display in my playlists, and I have to do this manually. Is there any way of changing the default columns that display in new playlists?

A This is a great question, because it raises a number of issues around how iTunes manages and displays playlists. When you create a new playlist in iTunes, it defaults to Playlist view. This view displays a number of columns, without headers, and you cannot change the information that iTunes shows you.

All playlists in this view display exactly the same way. Not only can you not change the columns, but you can't choose to not display artwork. That artwork takes up extra vertical space if your playlist contains albums, since each track displays an artwork thumbnail. In this view, there's nothing you can do about it.

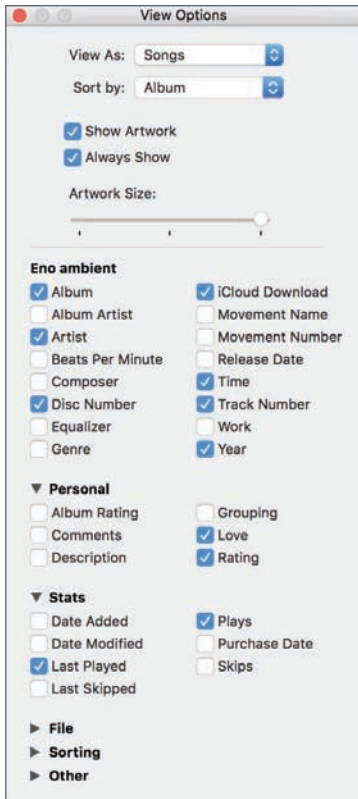
You can get a lot more control of what iTunes shows you by changing the display to Songs view, from the View > View As menu. Songs view looks like the screenshot on page 68.



Songs view is more flexible

With Songs view, you can decide which columns display by choosing View > Show View Options. The View Options palette lets you toggle on or off dozens of columns – each of which displays an item of metadata from your files – and also lets you choose to display album artwork or not, or change its size.

As I said above, when you create a new playlist, it displays in Playlist view, but after you add something to that playlist, you can choose View > View As > Songs to get the columnar view, then adjust these columns. The default columns that display when you switch to this view reflect the columns in your main Music library, when it's in Songs view (select Music from the Media Picker menu above the sidebar, then click Songs in the Library section of the sidebar). So if you want all your



In Songs view, the View Options window lets you control how iTunes displays your metadata

new playlists to show certain columns, change the columns in Songs view for your Music library.

If you find that you often create playlists then switch from Playlist to Songs view, you might want to create keyboard shortcuts for the two views to save time. This is a bit complicated, because the Playlist and Songs choices are in sub-menus, and iTunes also has the same menu items in other sub-menus. Doug Adams has written an article explaining how to set up these keyboard shortcuts at tinyurl.com/ycgeehrr.

But what if you already have a number of playlists, and you want to change the columns they

display in Songs view? You could do this manually, but this can take a long time. Doug Adams' Assimilate View Options AppleScript helps you. You select a playlist (normal or smart) and run the AppleScript. It creates a new playlist using the columns in your Music library's Songs view, copies all the tracks from the selected playlist to the new one, then deletes the original.

You may want to have a number of playlists with different columns. Perhaps you need to know the BPM

of certain tracks, so some playlists show this column. Or you may want to see the play count and last played date in some playlists. Or you may want some playlists where album artwork displays, and others where it's not visible. You can manually change the columns in any playlist in Songs view, as I explained above, but you can also create a number of templates.

Create a playlist folder (File > New > Playlist Folder), then create a new playlist in that folder (File > New > Playlist, or Command-N). Add at least one item to it – a placeholder track that you'll delete later – then switch to Songs view (View > View As > Songs). Next, show and hide the columns you want to see. When you want to create another playlist with these same columns displayed, you can duplicate that playlist (right-click on the playlist and choose Duplicate), and the new playlist will show the same columns. Add some tracks to the playlist, then delete the placeholder track you had added in the template. Make sure to change the name of the duplicated playlist to match what you want.

You could make a few different templates, or even dozens, matching the types of playlists you like to use. And when you need a new playlist with specific columns visible, you can just make a copy of one of your templates, then add music to it.

SORTING ARTIST NAMES

Q I would like to sort the artists and composers in my iTunes library by last name so they're easier to find in lists. I know I can do this by entering the name in the Sort Artist tag, but this will take a long time. Is there any quick way to do this?

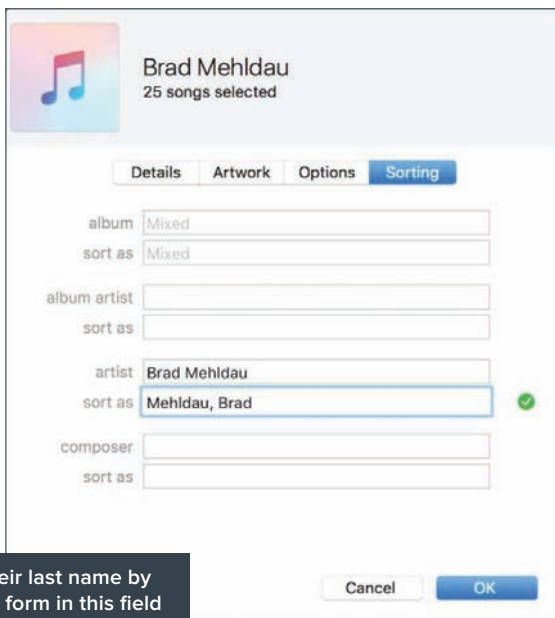
A By default, iTunes sorts everything by its first word (with the exception of A, An, The, and equivalents in other languages). So it sorts John Cage at the letter J, and Buddy Holly at B. But some people find it easier to have names sorted by their last name, so they can glance at a list and search for the first letter of that name, instead of the first name.

There are two ways to do this. The first involves changing the actual name of the artist or composer. In my library, I sort all classical composers in Lastname, Firstname order. So I have Bach, Johann Sebastian; Cage, John; and Rautavaara, Einojuhani. I find it easier to spot a composer's name this way, because the sort word – the last name – is at the beginning of the list. You can do this by selecting all the tracks by a composer, then pressing Command-I to display the Info window. In the Composer field, type their name in Lastname, Firstname format, then click OK.

But I don't do that for artists. I have Bob Dylan, Buddy Holly, and Brad Mehldau display as is, meaning that I have to glance at the second names – which aren't always lined up – to see where I am in a list.

With first name sorting, it can be confusing to find an artist in a list

Artists
Crispy Ambulance
The Cure
David Byrne & St. Vincent
The Durutti Column
Gnac
itsnotyouitsme
Joan Jeanrenaud
Joy Division
Laurie Anderson
Material
Moby
New Order
Orchestral Manoeuvres in the Dark
The Passions
Penguin Cafe Orchestra
Peter Gabriel



The screenshot shows the iTunes 'Sorting' tab for Brad Mehldau's album 'Mixed'. The 'artist' field is set to 'Brad Mehldau' and the 'sort as' field is set to 'Mehldau, Brad', which is highlighted with a blue border and a green checkmark. Other fields like 'album', 'sort as', 'album artist', 'sort as', 'composer', and 'sort as' are also present but not highlighted. The 'Details', 'Artwork', and 'Options' tabs are visible at the top, and 'Cancel' and 'OK' buttons are at the bottom.

Sort artists by their last name by entering the sort form in this field

But why not have those artists display with their first names first, but sorted by their last names? This is possible. Select all the tracks by an artist, click Command-I, then click Sorting. This tab of the Info window lets you tell iTunes how to sort the artist, album, album artist, or composer. In the Artist section's Sort As field, enter the artist's name in Lastname, Firstname format.

It can take a while to do this for all your artists, but there's a shortcut. Doug Adams' Artist to Last First AppleScript (tinyurl.com/ya7xtkq3) can set the sort tag this way for a whole batch of music. It can change a name to Lastname, Firstname order, and insert it in the appropriate sort tag, and it can even move the 'The'

at the beginning of a band's name to the end, so you could have The Jimi Hendrix Experience display as Jimi Hendrix Experience, The.

RIPPING CDS ON A LAPTOP

Q I have a MacBook without an optical drive, and most of my iTunes library as stored on an external hard drive using an app called TuneSpan. I also have an old iMac with an optical drive. How can I use the old iMac to rip CDs and get them in my MacBook's iTunes library? Can I use my external drive in some way?

A It's almost as if Apple doesn't want people to buy CDs. To start with, if you don't want to use iCloud Music Library, you have the problem of storing a large media library on a laptop that may not have a lot of storage. TuneSpan, which we covered back in 2012, lets you move some or all of your iTunes library to an external drive.

When you want to add more CDs to the laptop, you have two choices: use a second computer, which you have, or buy an optical drive and connect it to the laptop via USB. You can get an external, self-powered optical drive for about £25, and this might be a good thing to have if you plan to rip a lot of CDs.

If you rip CDs on the iMac, you can just copy them to any external drive, then add them to your iTunes library. This is important; you can't just put them in the iTunes Media folder on the external hard drive you have. You have to connect that drive and add the files to iTunes in order for iTunes (and in your case TuneSpan) to then move the files to a location that it understands.

Best VPN for iOS

A VPN lets you stay anonymous online, and access blocked content like Netflix US. **Ashleigh Macro** reveals your different options



Surfing the web on a public Wi-Fi can be dangerous business, opening your iPhone or iPad up to spying eyes. To avoid that, you could use a VPN to stay private and anonymous.

A VPN also hides your location online, which can allow you to access blocked content and blocked sites such as US Netflix when you are in the UK or BBC iPlayer when you are abroad. Here we talk you through the best iOS VPN options.

It's important to note that it is against Netflix, BBC iPlayer and other blocked content's terms and conditions to access them using a VPN, so proceed with caution as you risk getting your account blocked.

PureVPN

Price: From £2.30 per month at fave.co/2pYjebX

Our pick of the best VPN for iPad or iPhone is PureVPN. It's a popular and trusted option, and it's competitively priced too. The VPN includes a built-in auto-reconnect that automatically reconnects should your connection drop for uninterrupted browsing, and there are more than 500 servers available across 140 countries.

Its iPhone and iPad app is simple and smart, and lets you tailor your connection based on the Internet activity you intend to do.

CyberGhost

Price: From £3.74 per month at tinyurl.com/ydg9ptgj

CyberGhost is a great option, and it's also brilliantly priced. It's headquartered in Romania, which is outside the '14-eyes group' of countries that share signals intelligence. One of the great things about this VPN is its ease-of-use. It's simple to use, and does lots of the hard work for you. There are more than 800 servers available to connect to over 29 different countries, although they don't always work with Netflix US.

There is a free version of CyberGhost but that won't give you access to the mobile apps. For that you'll pay £3.74 per month on the Premium Plan.

Private Internet Access

Price: From £2.60 per month at tinyurl.com/csvru36

At around £3 per month, Private Internet Access offers anonymous browsing and access to blocked content including Netflix US.

The iPhone and iPad app is incredibly simple and easy to use, and it's also very fast. A solid option.

NordVPN

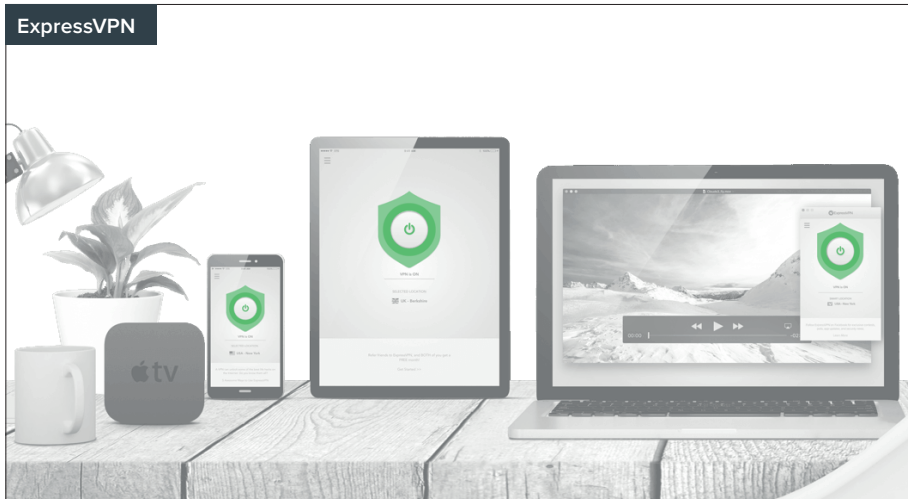
Price: From £5 per month at fave.co/2pWW9bM

Based in Panama, NordVPN is another VPN based outside of the jurisdiction of the '14-eyes'. There are more than 500 servers available across 51 countries, and encryption levels are among the highest available in a VPN. You can connect to up to six devices at one time with your NordVPN account, which offers pricing starting at around £4 per month.

IPVanish

Price: From £5 per month at tinyurl.com/L5x8rnb

Another option that offers lots of great features is IPVanish, which is both good-looking and easy to use. It has 750 servers in 60 countries. It's going to appeal to beginners, as it's one of the most intuitive VPNs we've used, but it does have one downside and that is that it's located in the US. That's not a problem for most casual users, but if 100 percent privacy is your main concern then you might want to look elsewhere. The company does promise that it doesn't keep any logs, though.



ExpressVPN

Price: From £6.50 per month at tinyurl.com/mjngk8a

ExpressVPN offers apps for all operating systems including iOS. You can connect to three devices at once, and there's no limit to bandwidth, server switching or speed.

TunnelBear

Price: From Free per month at tinyurl.com/y8uz9m35

TunnelBear offers a limited free version of its VPN service that you can try before you commit to the year-long option for \$59.98 (£47.20) which works out to just under £4 per month, or a one month option for \$9.99 (£7.86). Once signed up, you can connect to up to five devices simultaneously.

How to: Access a music library from an iPad

If only there was a way to rip CDs on a Mac. **Glenn Fleishman** reports



Reader Nelis van Nahuijs has a fascinating question about switching – not from or to an Apple platform, but from a Mac to an iPad.

My daily use is reading several digital newspapers, listening to music from my iTunes Library, watching television, and reading books in iBooks. I write rather often in Pages and Scrivener. Occasionally, I watch movies and series in Netflix.

But the fly in the ointment is their extensive music library, which currently resides on an external drive, and they still purchase and rip CDs to add to it.

I've been puzzling through this, and it seems like a computer will still be needed to prep and upload music files, though not to listen to them – as long as you don't choose iCloud Music Library to store the files.

Amazon Music is probably the best choice. With a Prime membership, you can upload unlimited photos, and up to 5GB of other files, including music. With an Amazon Drive subscription (tinyurl.com/yasrv22r), at £55 per year, you have unlimited file uploads of all kinds. This music can then be streamed or cached in the Amazon Music app for iOS (and on several other platforms). However, you still have to upload the music, and there's no iOS option for that. You need a Mac or Windows PC and Amazon Music software (which is free). Conceivably, with an external USB CD/DVD drive and an external disk drive, you could lean on a friend now and again to rip disks and upload to your account.

Because Amazon Drive offers unlimited storage, you can also use this for online backups, paired with software such as Arq (arqbackup.com), which can use it just like any other backup destination.

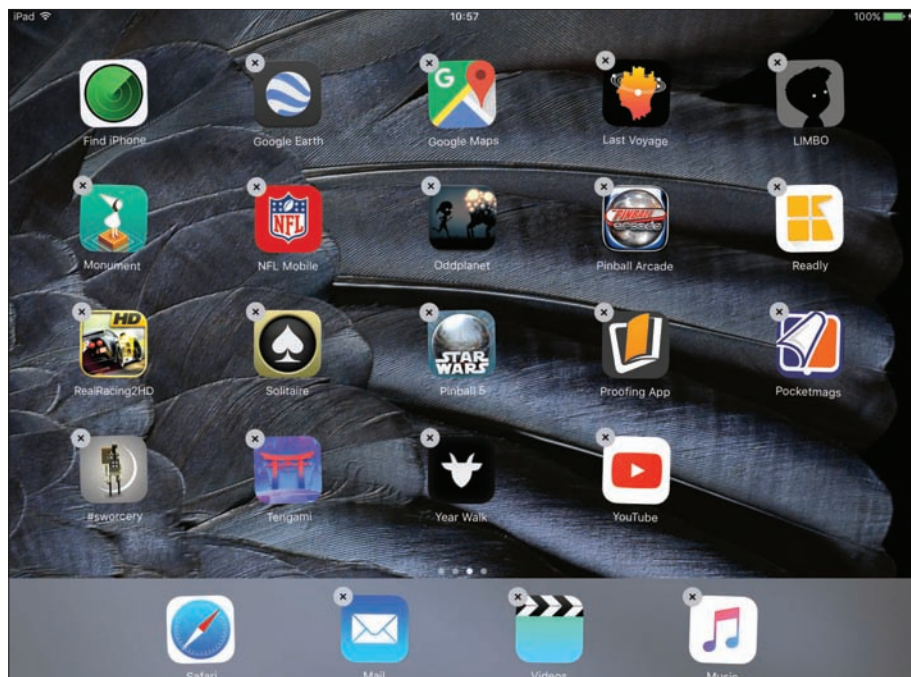
Secure storage for files,
videos, and more; 5 GB
for Prime members

amazon drive



How to: Delete iOS apps

Glenn Fleishman reveals how to cull old apps from your device



If you're like most iOS users, you have lots of apps. It's all too tempting and all too easy to buy new ones (or download free ones) from the App Store. As a result, you probably have a number of games, productivity apps, and utilities on your iPhone or iPad that you've hardly ever used and aren't likely to use in the future.

But if you keep doing that, those apps will start to crowd your iOS device (and your iTunes library), taking

up space and requiring frequent updates. That's why it's a good idea to periodically get rid of the apps you don't use anymore. (You can always download them again from the App Store if you change your mind.) Culling your apps library can make managing your app collection easier and free up precious storage space. Here are four ways to do it.

Tap and wiggle

Deleting apps on an iOS device is simple: just tap and hold any app icon until all the icons start wiggling. You'll notice that many, if not most of them, have a little X at the top left corner. (The ones that don't have the X are default apps that are part of iOS; you can't delete those.)

To delete an app, tap the X, then tap Delete in the dialog the displays. Note that doing so deletes not only the app, but also all of its data. So if you think you'll need an app again soon, and you have stored data, settings or completed levels for it, you might want to think twice before tapping that X.

From Settings

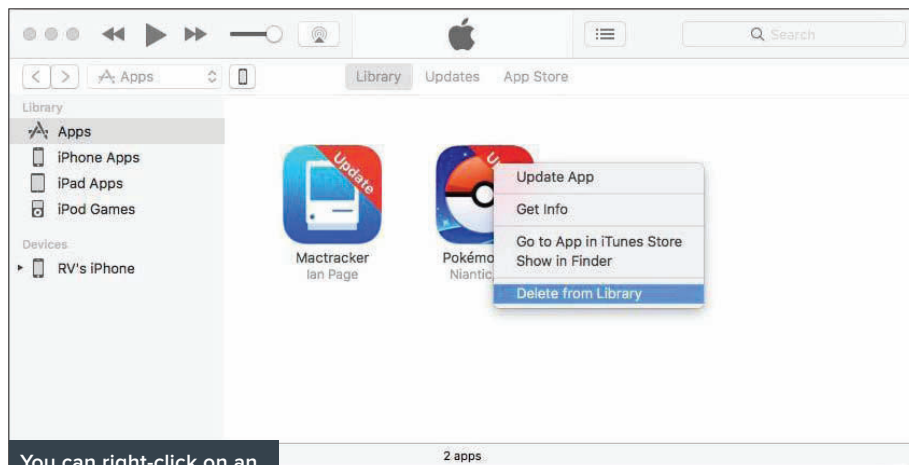
Another way to delete apps on an iOS device is from the Settings app. Tap Settings > General > Storage & iCloud Usage, then under Storage tap Manage Storage. Look at the apps that display Under the Used and Available listings. This list is useful because it shows how much storage each app actually uses. That may include just the app itself or the app plus all its attendant files and data. If you need to free up a specific amount of space – perhaps when you want to download a movie – this

is a good place to look. Deleting from here is simple, too: tap on an app's name, then tap Delete App. You may find this quicker than tapping icons if you want to delete a lot of apps at one time.

From iTunes

When you delete apps from your iOS device, iTunes will not copy them back on to your device the next time you sync it. So the above techniques are great if you want to delete apps from specific devices but still retain them in your iTunes library.

If, on the other hand, you want to nuke them entirely, go to iTunes and choose your Apps library. Click an app to select it, then press the Delete key. Another dialogue will ask you to confirm. (You may indeed want to keep them; Ted Landau recently posted a tip discussing why that can be useful.) You can remove the apps from



You can right-click on an app in your iTunes library and select Delete

your iTunes library, but keep them in a folder on your Mac just in case. It may help to view the apps in your iTunes library in a list. Click the View menu, then select View As > List. Click the Purchase Date header to sort by the date you purchased the apps. If you don't see a Purchase Date header, click on the View menu and select Show View Options, then in the pop-up window, look in the Stats section and check the box for Purchase Date. You can also right-click on a blank header in the iTunes list and select Purchase Date in the pop-up menu. (The Purchase Date is either the date you downloaded an app or, if it has been updated, the date of its last update.) Look at the apps with the oldest purchase dates to decide if you still use them.

When updating

There's one other way you can delete apps from your iTunes library, and it's one I use often. I have hundreds of apps, many that I use regularly, but most that I only tried out. It takes too long to go through my Apps library and try and remember what each app does. So I wait until there are updates.

In iTunes' Updates section, you'll see a list of new versions of apps that you can download, when an app has been updated. When I see an app in the Update window that I don't use anymore, I delete it. To do this, right-click on an app's icon and choose Delete from Library. This deletes the app itself from your iTunes library, and also removes the update notification. The next time you sync your iOS devices, the apps you have deleted from your iTunes library will be removed from your devices.

How to: Find a missing app

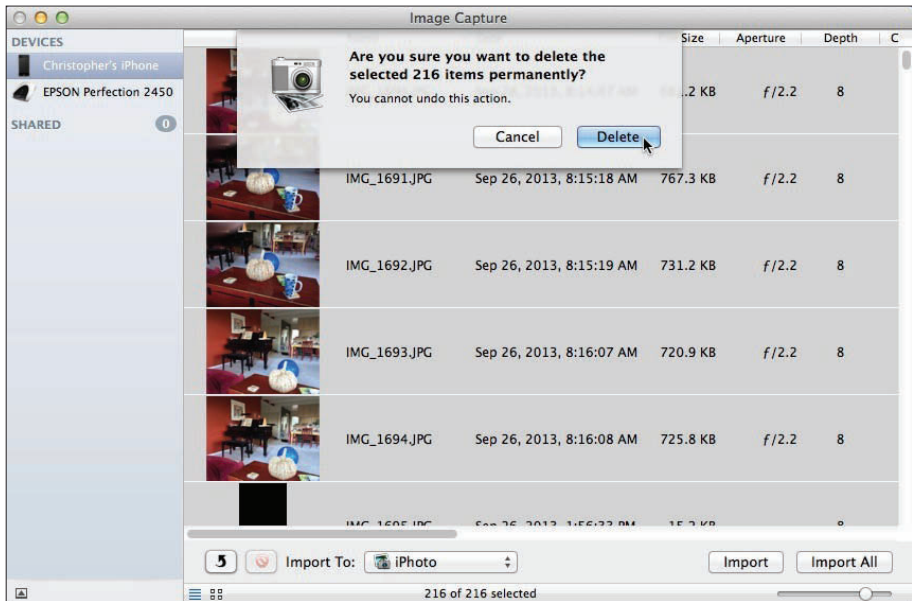
Glenn Fleishman explains how to retrieve a lost app on iOS



If you have lots of apps, you probably have a number of games, productivity apps, and utilities that you've hardly ever used and aren't likely to use in the future. But what happens if you accidentally delete one? If you use Spotlight to find the app (swipe down, enter its name), you'll see next to the results what folder it's in. Check that folder. If that doesn't work, uninstall and reinstall the app, which will delete all associated data. Use Settings > General > Storage & iCloud Usage > Storage to find the app, tap it, and then you can tap Delete App. (If you sync with iTunes, you can also delete via iTunes.) Many apps sync via the cloud, so hopefully the app is one of those.

How to: Bulk delete photos

Chris Breen's technique will speed up the process



Deleting hundred of images on your iPhone by tapping individual pictures is tedious. Thankfully there is a solution. Plug your iPhone into your Mac using the included syncing cable and launch Image Capture. This is a handy utility for grabbing images from connected devices (including scanners, cameras, and iOS devices). Select your iPhone in Image Capture's Devices column. Below, choose a destination for your imported images from the Import To pop-up menu – your choices are the Pictures,

Movies, Desktop, and Documents folders as well as iPhoto, Aperture, Preview, and Mail. Select Other and you can choose any folder you like. To import your photos click the Import All button at the bottom right of the window. This will import all the images in your iPhone's Camera Roll.

When you've done this, press Command-A to select all the iPhone's images and then click the Delete button (which displays the international circle-with-a-slash icon). You'll be asked to confirm that you want to delete your images. Confirm-ho and the images will be deleted.

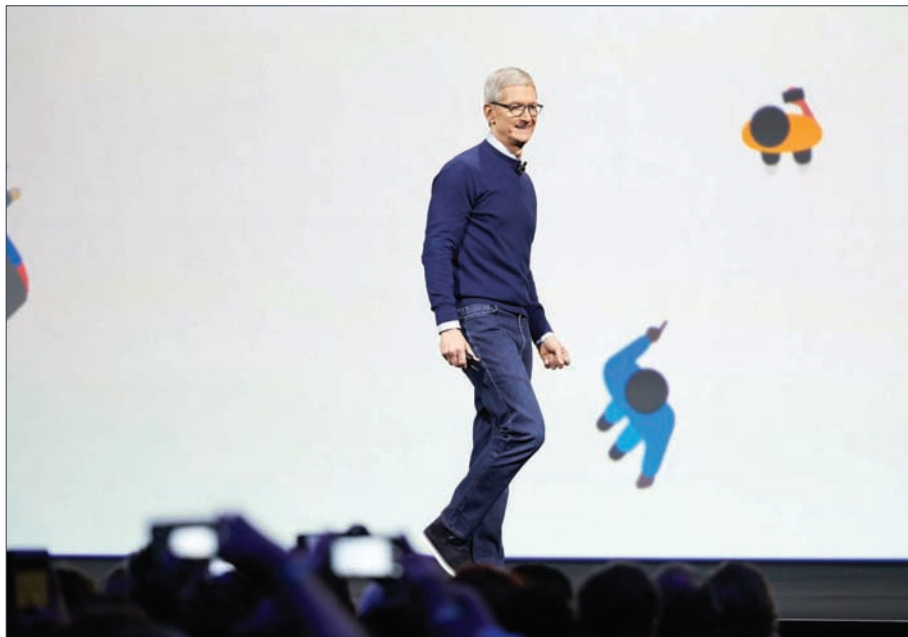
Alternatively, after you've backed up your images you can delete them in batches directly on your iPhone. To do that launch the Photos app, navigate to the Photos tab on the left until you get to Moments view. Then tap Select at the top-right of the screen, and tap each Select link next to each batch of images you want to delete. Tap the Trash button in the bottom-right corner, confirm that you want to remove the images, and they'll be deleted.

You'll also need to switch off Photo Stream on your iPhone. To do that go to Settings > Photos & Camera. In the resulting screen flick the My Photo Stream switch to Off. This will cause the pictures to disappear from your phone.

The advantage of this technique versus deleting the images in your Photo Stream is that copies of these pictures are still on iCloud and the devices for which you've enabled Photo Stream. Note that should you switch Photo Stream back on, any images that are part of Photo Stream will be downloaded to your phone.

WWDC: Taking it all in

Apple kicked off WWDC with a software and hardware showcase we'll be thinking about for a long time to come, writes **Jason Snell**



In the movie *The Princess Bride*, after a series of exciting events, sword master Inigo Montoya is asked to explain what has happened since the film's hero was rendered unconscious. "Let me explain," he says. "No, there is too much – let me sum up."

When it comes to explaining the WWDC 2017 keynote, I feel a lot like Inigo Montoya. This was a packed two-plus hours that would probably run three-

plus hours in the Director's Cut edition. There were enough Easter eggs in the 'additional features' slides to render the Easter Bunny catatonic. There's a lot to process, and we'll be processing it for the next few days – maybe even all summer.

But in the meantime, here are a few big-picture takeaways from Apple's presentation.

Apple walks the walk for professionals

When Apple gathered writers together earlier this year to emphasize the company's commitment to professional Mac users, that seemed to be a mea culpa to pro users, with the implication that in the future, Apple would serve them better.

The announcements were, in essence, Apple walking the walk after previously talking the talk. Not only did the company announce the forthcoming iMac Pro, whose existence was strongly hinted at during that briefing, but it offered speed improvements across the entire line of laptops – including the addition of Kaby Lake processors to the MacBook Pro line that was only introduced eight months ago.

According to most reports, the iMac Pro was designed at a point when it was intended to be the replacement for the Mac Pro. While its existence now makes me wonder exactly what role the new Mac Pro will serve in the Mac product line, the fact is that the iMac Pro appears to be a desktop computer truly focused on the needs of high-end professionals. I talked to game developers who were beside themselves with delight over the specs of the new iMac Pro. No, it's not for everyone – this is a computer that starts at \$5,000

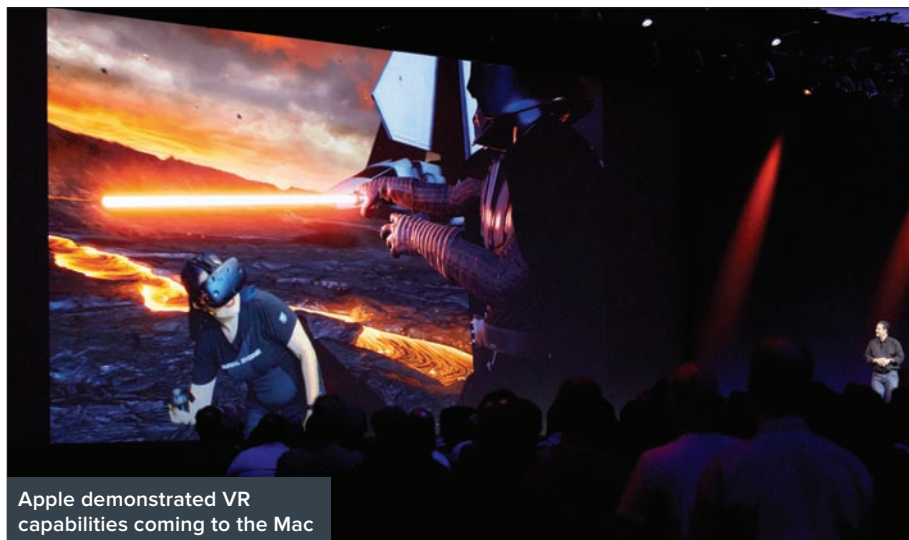


(£TBC), after all – but it's loaded up and ready for the very people who might want such a thing.

And don't discount the importance of Apple shipping those Kaby Lake updates. Apple's sluggishness in updating Mac hardware to take advantage of speed improvements from Intel is a key reason why professional users have been frustrated with Apple. This set of speed-bumped models may not seem like headline news, but it's important because it shows Apple updating the Mac in a more timely fashion. It's a big deal – though Apple's not out of the woods yet. It needs to continue to update its computers on a regular basis, rather than leaving them unaddressed for a couple of years at a time.

Apple's not sleeping on VR and AR

Apple's competitors have been trumpeting virtual reality (VR) and augmented reality (AR) tech for a



Apple demonstrated VR capabilities coming to the Mac

while now, while Apple has remained relatively quiet. But no longer: the keynote made it clear that Apple takes VR and AR seriously and it's investing in those technologies for the long haul.

Perhaps one day Apple will manufacture its own VR or AR hardware, but that day isn't here yet, and probably won't be for a while. That's not a big deal, though, when it's already sold millions of devices with cameras and a lot of processor power. The demo of the day was probably Wingnut's amazing augmented-reality game play, which took place on top of a demo table on stage. We got a first idea about the possibilities for augmented reality last year from Pokémon Go, but with ARKit, Apple is providing its developers with the power to roll out many more high-quality AR experiences on iOS. It's a big deal.

On the VR side, the story's a bit muddier. It looks like you may soon be able to actually play VR games on a high-end Mac, and the Industrial Light and Magic Star Wars VR demo suggests that developing VR games on a Mac will actually be possible, especially on the new iMac Pro. I firmly believe that in the long run, VR headsets driven by mobile processors will be how we use VR, but in the interim it's nice to think that the Mac isn't a backwater, but a platform that's actually getting serious about being a VR platform.

The iPad Pro gets its wings

After seven years in the iPhone's shadow, with iOS 11 it really feels like the iPad is coming into its own, diverging dramatically from the approach of the iPhone. With the new Dock, multitasking view, drag and drop, and Files app, Apple is bringing Mac-style functionality to the iPad, but in a uniquely iOS style.

There's a lot to digest about how iPad multitasking has been altered in iOS 11 – the new multitasking view replaces both the application switcher and Control Center, for example – but in the end these are features that will be embraced by people who want to use the iPad Pro to get work done, and ignored by those who don't care so much.

The influence of macOS is undeniable: Files is a lot like the Finder, the Dock is extremely Mac-like (but with Siri app suggestions instead of a minimized-window area), and drag and drop feels familiar. But that's to be expected, because the Mac has evolved over the years to fulfil the needs of many users. iOS is newer, and still evolving, but its more serious users have those

same needs. On the Mac, Finder is the default – the ‘home screen’ for every user. On the iPad, that’s not the case, but the Files app is there if you need it.

Apple Music steps forward, Siri steps back

In gauging rumours about the WWDC keynote, I felt it was likely that this would be a major event for Siri. Siri definitely got a lot of screen time – new voices and notifications, new proactive assistants in a bunch of places, and of course Siri’s presence on the HomePod – but none of it felt cohesive. In fact, it feels like Apple is continuing to chuck a whole lot of features into a box and call it Siri, despite the amorphous definition of what exactly Siri is. It’s a voice assistant, but sometimes also text. It’s not the same on iOS as Apple TV, nor on macOS as on Apple Watch.

The announcement of the HomePod could’ve been a huge win for Siri. Here, at last, was a device that



Apple HomePod is positioned first as a home music system, then as a digital assistant capabilities

puts Siri into the centre of your living room, ready to receive your orders. Instead, though, the HomePod was a showcase for music in general and Apple Music in particular. We heard a great deal about tweeters, woofers, audio processors, and the like during the keynote – and then there was a brief segment about Siri toward the end.

What does this all mean? My guess is that Siri is such an amorphous catch-all of evolving features that Apple was reluctant to lean on it too hard in the introduction of the HomePod. Instead, Apple Music's large library, curated playlists, and personalized recommendations carried the day. This isn't a bad call for Apple to make – on sound quality alone it attacks the greatest weakness of the Amazon Echo – but it's interesting to see just how soft-pedalled the Siri references are. Maybe Apple's not as confident about Siri as we think it is?

A jam-packed event

Let me sum up: when you, as a company, have four major software platforms and a gaggle of hardware products in need of updating, you have a day like this. It will take days, if not weeks, for all the content of Apple's keynote to sink in. This is the opening gun of Apple's product year, and there's much more to be learned. But I'm impressed with the richness of this year's keynote. Apple strikes me as a company with something to prove this year, showing a hunger that hasn't been apparent in the past few years. That's a good thing. I like it when Apple feels it needs to prove itself, to users and developers alike. The company is at its best when it's stepping up to a challenge.

Apple Park: Steve Jobs' last great product

Apple's new Cupertino campus is a reflection of the company's co-founder, argues **Jason Snell**



One of the words I use a lot when reviewing Apple products is opinionated. I believe that great art or design can't happen without a point of view – and the more you depart from a focused point of view, the more likely a creation will be compromised, workmanlike... good, maybe, but not great.

When it's at its best, Apple strives for greatness. It doesn't always get there – and every now and then you get the sense it's not actually trying to get there – but when things are hitting on all cylinders, Apple releases products that are backed by a strong point of view about what will delight and serve its customers.

The MacBook, for example, is a product based on a focused vision: That a single port and a slower class of processor are worthy trade-offs for an incredibly thin and light computer with a Retina display. You don't have to agree with Apple's take – in the case of the MacBook, the company's practically daring you to disagree – but you can't deny that it's an amazing execution of a particular set of priorities.

I've been thinking about Apple's approach to products recently because I read Steven Levy's excellent inside look at the new Apple Park campus for *Wired*. It's worth a read – I highly recommend it, if you haven't dug in yet. Levy's been covering Apple longer than just about anyone, and in great detail. In his story about Apple Park, he suggests that the facility itself is an Apple product – in fact, the last product to truly be conceived of by Steve Jobs. Here's a key section:

Apple Park is the architectural avatar of the man who envisioned it, the same man who pushed employees to produce those signature products. In the absence of his rigor and clarity, he left behind a headquarters that embodies both his autobiography and his values. The phrase that keeps coming up in talks with key Apple figures is 'Steve's gift'. ... The current leaders of Apple are determined not to disappoint him in what is arguably his biggest, and is certainly his last, product launch. "I revere him," Cook says. "And this was clearly his vision, his concept. Our biggest project ever."

As detailed by Levy, Apple Park is an Apple product through and through. The company took great care to

make design decisions, and create custom hardware, at many key points – from the massive glass sheets that required the building of a gigantic furnace, to the toilets, to the handles on the doors, to the pizza boxes in the cafeteria. It's a one-off product designed by Apple for itself, yes, but it seems to have received the same attention to detail as any other major product launch.

(In fact, reading Levy's story, I wondered to myself if some of Apple's product sluggishness over the last couple of years might be somehow related to the design energy going into the new campus. Probably not, but you never know. I'm more concerned about the hit in productivity the company may experience when it has to move so many of its employees to new workspaces and allow them some time to adapt to their surroundings.)



In the end, Apple's choices about the materials used in construction and the hardware adorning Apple Park aren't that important (unless you work there). What does fascinate me is one bit of criticism levelled at the plan, which says a lot about Steve Jobs's vision for Apple and how it conflicts with the approaches many other tech companies are making:

[There are critiques] that the campus is a snobbish isolated preserve, at odds with the trendy urbanist school of corporate headquarters. (Amazon, Twitter, and Airbnb are all part of a movement that hopes to integrate tech employees into cities as opposed to having them commute via fuel-gobbling cars or numbing Wi-Fi-equipped buses.) That the layout of the Ring is too rigid... That there is no childcare centre. "It's an obsolete model that doesn't address the work conditions of the future," says Louise Mozingo, an urban design professor at UC Berkeley.

Steve Jobs's vision for Apple's headquarters was to stay close to home, in the low-density suburbs that form Silicon Valley, rather than embrace a more high-density, urban environment. Apple's never been a city company, from its very start in that suburban garage. Using that as a given – Apple's a company that isn't going to stray too far from its suburban roots – Jobs envisioned a hub of activity surrounded by a tranquil park of hills and trees that are reminiscent of the area when it was mostly fruit trees and fields, before it became a major hub of American innovation. Apple's decision to make Apple Park a ring will be a convenient

metaphor for those who wish to criticize the company for being secretive, insular, and arrogant – Levy quotes one critic who calls it a “retrograde cocoon.” There will be more, and worse, when the campus opens and in the years thereafter.

Take those criticisms as you will, but anyone who’s visited Apple’s Infinite Loop campus – constructed in 1992-93 – will tell you that Apple’s been buildings set in a ring with a large private space in the centre for 25 years. Building oases in the middle of South Bay suburbs – this is in Apple’s DNA.

Sometimes you need to be true to yourself. I think it’s fair for Levy to note that Apple is not doing what some other major tech companies are doing, and integrating their campuses into urban environments. I was in Seattle earlier this month and got to go past Amazon’s biosphere, where many large office buildings devoted to Amazon are integrated with a weird set of domes and a bustling urban area with shops and restaurants. Twitter moved onto Market Street in San Francisco, and start-ups have thrived in San Francisco’s South of Market area for years.

There’s a lot to be said for embracing urban areas, rather than hiding in the suburbs. From a commuting perspective, the suburban office park is terrible. Apple’s campuses, old and new, are poorly served by public transit, leading the company to create a parallel transit system of fancy Wi-Fi equipped buses. City centres are, in contrast, generally served well by regional transportation systems. A friend of mine recently got a job at Google and was wondering which would be better for her commute-wise – the horror stories of

how expensive it is to live in San Francisco (Google has an office building just north of the Bay Bridge) made her assume that the suburban Mountain View campus would be preferable. I had to explain that San Francisco was actually a better location, because it's served by the regional BART train system as well as ferries from across the bay.

It's hard to imagine Apple colonizing downtown San Francisco, just as it's hard to imagine Google building its new campus in high-rises in San Jose. I can't imagine Microsoft decamping from its suburban campus in Redmond, either. Then again, Adobe – who previously occupied what is now the centre of the Googleplex – did decamp to new high-rise buildings in San Jose.

In the long run, I think it's a mistake for big companies to build sprawling suburban headquarters in areas poorly served by public transportation. I applaud Twitter and Amazon's embracing of the urban centre. (And Google's decision to include childcare centres in its facilities plans, unlike Apple and Microsoft.)

But I understand why building outside of the suburbs was never really a serious option for Apple – or its Seattle cousin Microsoft. Like their co-founders Steve Jobs and Bill Gates, they're suburban kids who never seem to have really gotten a taste for the big city.



