

# printout

Keystone MacCentral Macintosh Users Group ❖ [www.keystonemac.com](http://www.keystonemac.com)

## Keystone MacCentral August Program Aug 17, 2021 06:30 PM

Our program will include Tic Toe Tricks and iPhone Photo Tips

Please see your membership email for the links to this month's Zoom meeting or email us at [KeystoneMacCentral@mac.com](mailto:KeystoneMacCentral@mac.com).



We have virtual meetings via Zoom  
on the third Tuesday of each month.

Emails will be sent out prior to each meeting.  
Follow the directions/invitation each month  
on our email – that is, just click on the link  
to join our meeting..

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Keystone MacCentral is a not-for-profit group of Macintosh enthusiasts who generally meet the third Tuesday of every month to exchange information, participate in question-and-answer sessions, view product demonstrations, and obtain resource materials that will help them get the most out of their computer systems. Meetings are free and open to the public. *The Keystone MacCentral printout* is the official newsletter of Keystone MacCentral and an independent publication not affiliated or otherwise associated with or sponsored or sanctioned by any for-profit organization, including Apple Inc. Copyright © 2021, Keystone MacCentral, 310 Somerset Drive, Shiresmanstown, PA 17011.

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By Josh Centers

# The Real System Requirements for Apple's 2021 Operating Systems

We're all eagerly awaiting iOS 15, iPadOS 15, macOS 12 Monterey, and watchOS 8, but will they run on the devices you have now? Apple continues to do an excellent job of supporting old devices, but many iPhone and iPad features will require at least an A12 Bionic chip. On the Mac side, some of the new features require an M1 processor.

Overall, maintaining support for old devices while restricting certain new features to more capable recent models is a great strategy. That way, fewer people are forced to buy new hardware just to participate, but the new features encourage hardware upgrades for those who want to take advantage of them.

Let's dig into the details, first for iOS 15 and iPadOS 15, moving on to macOS 12 Monterey with side trips for Universal Control and AirPlay on Mac, and finishing off with watchOS 8.

## iOS 15 and iPadOS 15

We cover iOS 15 and iPadOS 15 together since they have so much overlap. Both support an impressively wide range of hardware, with iOS 15 matching iOS 14's capability to run on the iPhone 6s from 2015.

Device	Introduced	Chip
iPhone 12/mini/Pro/Pro Max	2020	A14 Bionic
iPhone SE (2nd generation)	2020	A13 Bionic
iPhone 11/Pro/Pro Max	2019	A13 Bionic
iPhone XR/XS/XS Max	2018	A12 Bionic
iPhone X	2017	A11 Bionic
iPhone 8/8 Plus	2017	A11 Bionic
iPhone 7/7Plus	2016	A10 Fusion
iPhone 6s/6s Plus	2015	A9
iPhone SE (1st generation)	2016	A9
iPod touch (7th generation)	2019	A10 Fusion

And iPadOS 15 will even work on the A8X-powered iPad Air 2 from 2014 and the A8-powered iPad mini 4 from 2015.

Device	Introduced	Chip
iPad Pro 12.9-inch (1st–5th generation)	2015, 2017, 2018, 2020, 2021	A9X, A10X Fusion, A12X Bionic, A12Z Bionic, M1
iPad Pro 11-inch (1st–3rd generation)	2018, 2020, 2021	A12X Bionic, A12Z Bionic, M1
iPad Pro 10.5-inch	2017	A10X Fusion
iPad Pro 9.7-inch	2016	A9X
iPad Air (2, 3rd–4th generation)	2014, 2019, 2020	A8X, A12 Bionic, A14 Bionic
iPad (5th–8th generation)	2017, 2018, 2019, 2020	A9, A10 Fusion, A10 Fusion, A12 Bionic
iPad mini (4, 5th generation)	2015, 2019	A8, A12 Bionic

However, a handful of iOS 15 and iPadOS 15 features require an A12 Bionic or later processor, which means you need one of these models:

- iPhone XR, XS, XS Max and later, including the iPhone SE (2nd generation)
- iPad Pro 12.9-inch (3rd generation) and later
- iPad Pro 11-inch
- iPad Air (3rd generation) and later
- iPad (8th generation)
- iPad mini (5th generation)

Features that require an A12 Bionic or later include:

- Spatial Audio and Portrait Mode in FaceTime
- The “all new city experience” and immersive walking directions in Maps
- Live Text in Camera
- Visual Lookup in Photos

- Siri on-device processing, on-device personalization, on-device dictation, and continuous dictation
- Animated backgrounds in the iOS 15 Weather app

Other features with specific system requirements include:

- **Car keys and home keys:** iPhone XS and later
- **Walking steadiness:** iPhone 8 and later
- **Zoom in QuickTake videos:** iPhone XR, XS, XS Max, and later
- **5G enhanced connectivity:** iPhone 12 models, iPad Pro 12.9-inch (5th generation), and iPad Pro 11-inch (3rd generation)
- **Spatial Audio with head tracking using AirPods Pro and AirPods Max:** iPhone 7 and later, iPad Pro 12.9-inch (3rd generation and later), iPad Pro 11-inch, iPad Air (3rd generation and later), iPad (6th generation and later), and iPad mini (5th generation)

## macOS 12 Monterey

The macOS 12 Monterey situation is more complex, both in terms of models supported and features available only on Apple silicon Macs. These Macs will be able to run Monterey at a base level (follow the links for notes on how to identify your Mac):

- **iMac:** Late 2015 and later
- **iMac Pro:** 2017 and later
- **Mac mini:** Late 2014 and later
- **Mac Pro:** Late 2013 and later
- **MacBook Air:** Early 2015 and later
- **MacBook Pro:** Early 2015 and later
- **MacBook:** Early 2016 and later

Features that will require an Apple silicon processor include:

- Portrait mode in FaceTime
- Live Text in photos
- New city experience and the interactive globe in Maps

- Neural text to speech
- On-device and continuous dictation

A few other features have specific requirements:

- **Spatial audio in FaceTime:** Macs introduced in 2018 and later
- **AR Object Capture:** Macs with at least 16 GB of RAM and 4 GB of VRAM
- **Low Power Mode:** MacBook (Early 2016) and later and MacBook Pro (Early 2016) and later

## Universal Control

To use Universal Control, the feature of Monterey and iPadOS 15 that lets you use a single keyboard and pointing device across several Macs and/or iPads, you'll need one of these Macs:

- iMac (2017 and later)
- iMac (5K Retina 27-inch, Late 2015)
- iMac Pro
- Mac mini (2018 and later)
- Mac Pro (2019)
- MacBook Air (2018 and later)
- MacBook Pro (2016 and later)
- MacBook (2016 and later)

Also, only these iPads work with Universal Control. We list them here instead of with the iPadOS 15 requirements because you must initiate Universal Control from a Mac:

- iPad Pro (all models, apparently)
- iPad Air (3rd generation) and later
- iPad (6th generation) and later
- iPad mini (5th generation) and later

## AirPlay to Mac

The new AirPlay to Mac feature, which lets you broadcast audio or video to a Mac from another Apple device, also has specific system requirements. It requires one of the following Macs to receive content:

- iMac (2019 and later)
- iMac Pro (2017)

- Mac mini (2020 and later)
- Mac Pro (2019)
- MacBook Air (2018 and later)
- MacBook Pro (2018 and later)

Apple says that transmitting content at full resolution requires one of the above supported Macs or one of these devices:

- iPhone 7 and later
- iPad Pro (2nd generation) and later
- iPad Air (3rd generation) and later
- iPad (6th generation) and later
- iPad mini (5th generation) and later

That said, Apple also notes that older iPhone, iPad, and Mac models may share content at a lower resolution when “Allow AirPlay for” is set to “Everyone” or “Anyone on the same network” in System Preferences > Sharing.

## watchOS 8

Finally, watchOS 8 works on the following devices—the same set that supported watchOS 7:

- Apple Watch Series 6
- Apple Watch SE
- Apple Watch Series 5
- Apple Watch Series 4
- Apple Watch Series 3

Apple doesn't go into specifics about what features work on which watches, simply saying “Not all features are available on all devices.” Most of those limitations are undoubtedly related to the lack of necessary hardware, such as the blood oxygen sensor that exists only on the Apple Watch Series 6.

We can hope that watchOS 8 will resolve the issues that make updating watchOS 7 on the Apple Watch Series 3 awkward (see “[Apple Watch Series 3 Update Workarounds](#),” 12 April 2021). 🗑️

By Josh Centers

# How to Keep Facebook from Snooping on Your Photos' Locations

Even many people who are troubled by Facebook's privacy abuses feel they can't avoid using Facebook's iPhone app to stay in touch with their family, friends, and communities. If that's you, first make certain you've turned off Allow Apps to Request to Track in Settings > Privacy > Tracking (see "[Apple Releases iOS 14.5, iPadOS 14.5, macOS 11.3, watchOS 7.4, and tvOS 14.5](#)," 26 April 2021). Also, be sure to set Settings > Privacy > Location Services > Facebook to Never to keep Facebook from tracking your location. Facebook can't track your location anymore, right? Well, not quite.

Zak Doffman, writing for Forbes, [discovered that Facebook extracts location data from any photos you upload](#). It does this by snagging the EXIF data embedded in any photo you take with your iPhone, which includes location, date and time, and camera settings. In normal usage, the Photos app uses that location data to display a map of where you took all your photos.

Facebook extracts your photos' location data in a particularly sneaky way, stripping it out between when you upload the photo and when it's published on Facebook. That might lead you to believe your privacy is being protected. If you download a photo from Facebook, you won't find any interesting EXIF information, but Facebook silently adds it all to its own data trove. Facebook confirmed that practice to Doffman.

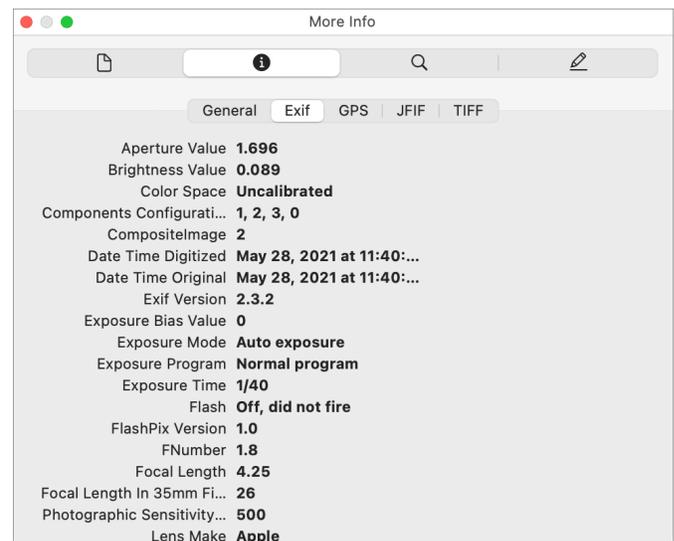
Instagram, which is owned by Facebook, engages in the same behavior, and it's probably safe to assume any Facebook-owned app does so as well. We wouldn't trust any other ad-supported services that accept photos either.

If you're curious about what sort of data is embedded in your photos, you can easily view it on your Mac. To maintain your privacy when sharing photos, we recommend stripping the location data when exporting from Photos on your

Mac, iPhone, or iPad, and we've made an iOS shortcut to share photos without metadata. Finally, just to be safe, you can block an app's access to your photo library in iOS so it can't possibly exfiltrate data.

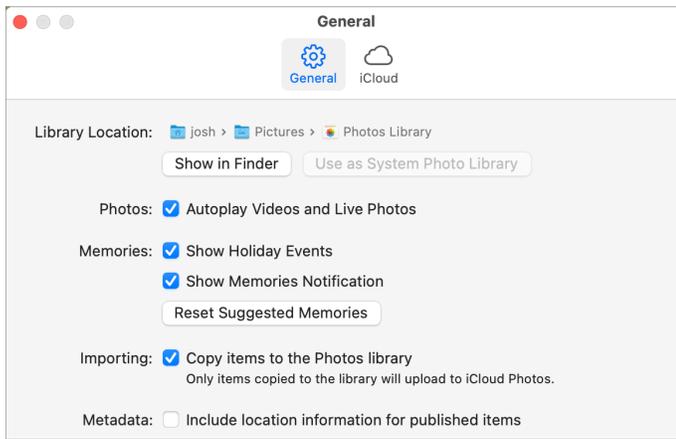
## View EXIF Data on Your Mac

Before you learn how to strip EXIF data, it's helpful to see for yourself what's there. That requires a third-party app on iOS, but Photos, Preview, and even the Finder on the Mac can show you that information just by selecting a photo and pressing Command-I. You'll see the most detailed EXIF data in Preview. Be sure to click the "i" tab, and you can see more EXIF data by clicking General, Exif, and GPS.



## Strip EXIF Location Data from Photos on Your Mac

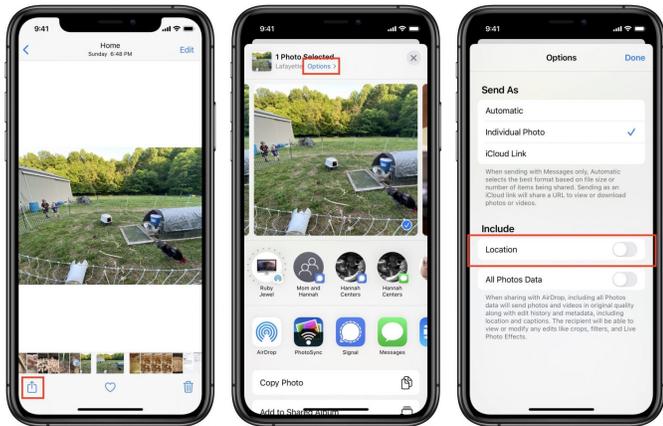
Photos can strip EXIF location data automatically when you drag a photo from Photos into the Finder to export it. This is controlled by a setting in Photos > Preferences called "Include location information for published items." As long as that's unchecked, Photos will remove the location data during the export process.



If you instead use File > Export > Export X Photos, there's a Location Information checkbox that controls whether or not Photos will export GPS location data along with the photos.

## Strip EXIF Data from Photos on Your iPhone or iPad

You need an app to view all the EXIF metadata on an iPhone or iPad, but you can strip location metadata from photos for free. Open a photo in Photos, and tap the photo to reveal the share icon. Tap the share icon and then tap Options at the top. Turn off Location and tap Done. You can then share or copy your photo to send it out into the world without location data.



But it's easy to forget to do that every time you want to share a photo. If you want a technique that is guaranteed to strip the data each time, I've created a [shortcut to share photos without location data](#). Install and open the shortcut, select your photos, and tap Add in the upper-right corner. You can then choose the destination from the share

sheet. If you share photos frequently, you could invoke the shortcut via Siri or even customize it to share automatically to your preferred app.

Some apps like Twitter don't play nicely with the share sheet. For them, I copy the image from the share sheet and paste it into the app.

## Protecting Access to Your Photos in iOS



In its ongoing push to ensure that apps can access only data that the user intends them to access, Apple introduced a privacy feature in iOS 14 that lets you control which photos any given app can access. It's fiddly to select only a subset of photos that you may want to share, and if you're sharing directly from Photos or the shortcut, apps don't need access to your photos anyway.

To cut off access to photos, go to Settings > Privacy > Photos > *App Name* and select None. That way, Facebook and other nosy apps can't access your photo library at all.

## Stripping Location Metadata Should Be the Default

WWDC is only days away, and we'd like to see Apple add better control of location metadata to iOS 15 and iPadOS 15. Photos for Mac can already strip this data on export, and iOS and iPadOS can do it on a per-photo basis. Facebook's behavior shows that this is not enough.

Apple's next step should be to add two switches at the top of Settings > Privacy > Photos. The first would globally prevent all apps with access to photos from reading EXIF data, and the second

would automatically strip location metadata on export, just like in Photos for the Mac. Apps could request permission to override either setting, and the user could grant such permission on a per-app or per-export basis. 🍏

By Adam Engst

## Extracting Data from an Old iOS App Broken by iOS 14.5

So this is embarrassing. Back in 2013, I was looking for an app I could use for diary-like journal entries, and I settled on [Momento](#). I used it for a while, and at some point, it prompted me to upgrade to a new paid version. I didn't want any of the new features, so I dismissed the upgrade notice. The app didn't nag me to upgrade again that I remember, so I kept using it with no problems, apparently for years. Until, that is, Apple released iOS 14.5, which somehow prevented Momento—now called Momento Classic—from launching. Uh oh. (This problem isn't limited to Momento. Several other apps have displayed similar alerts since upgrading to iOS 14.5.)

I wasn't opposed to paying for the current version of Momento in principle, though the app's current approach is a freemium model that would have required a \$16.49-per-year subscription to get the features I used in Momento Classic. However, the question of whether the subscription was worthwhile wasn't really at issue. When I downloaded the current version of Momento and tried to import data from Momento Classic, I got the same error dialog as when I tried to launch Momento Classic under iOS 14.5. Presumably, the new version needs to communicate directly with the old version to import data.



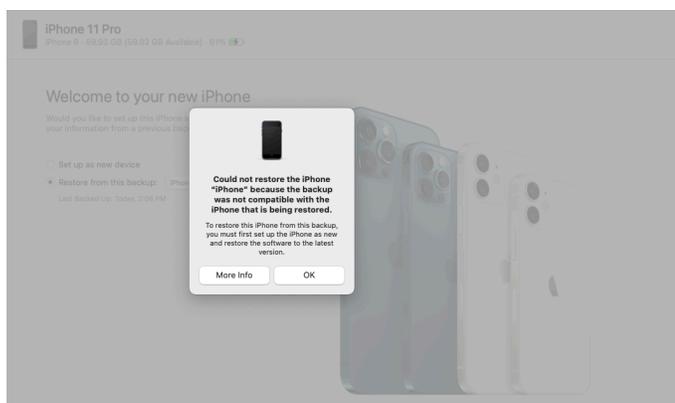
Email to Momento's developers generated a Zendesk auto-reply but no ideas for how to transfer the data. I wasn't particularly bothered by losing the data, but all things being equal, I'd prefer to keep it. So after waiting three weeks, I decided to see what I could do on my own. (Momento support finally replied to my initial message, suggesting only that if I had a separate backup of the Momento Classic data, which I don't, I could potentially work with that on an iPhone running an older version of iOS.)

## Restore to an Older iPhone

My first thought was to see if I could restore the Momento data from a backup of my iPhone 11 Pro to an old iPhone 6s that was still running iOS 12 and could thus run Momento Classic. I erased the old iPhone and set it up again, first trying to restore from an iCloud backup and then from a local backup made in the Finder. In both cases, the iPhone insisted on upgrading itself to iOS 14.5.1. I blocked it both times since I assumed the upgrade would render Momento Classic inoperable again, but then my only choice was to erase and start over.

I was able to restore a 2014 backup made when I had an iPhone 5, and that even had some of the Momento data I was looking for, but of course, nothing since 2014. So I could theoretically get Momento Classic working again, but not with the current data.

For giggles, I tried restoring an iPhone 11 Pro backup from iOS 14.5.1 onto an old iPhone 6 running iOS 12.4. That failed too, unsurprisingly, but the fact that it didn't work is worth keeping in mind. An old iPhone that can't run the current version of iOS isn't worth much as a backup device since you would be limited to the data on it as of the last time you had used it, however many years before.

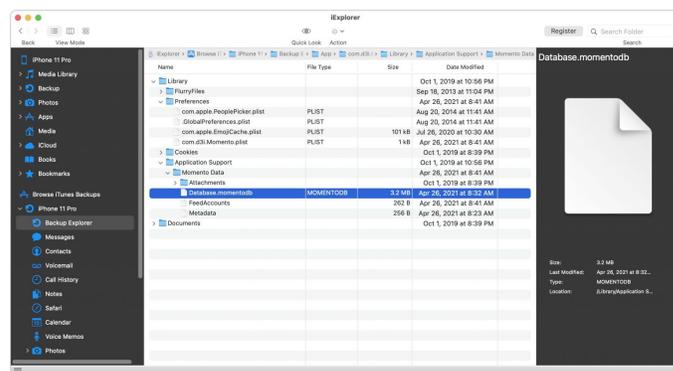


## Extract Data from the iPhone Backup

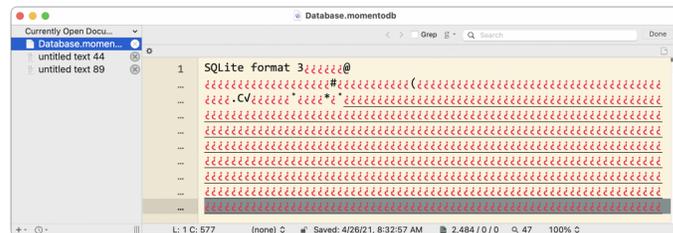
Working with the backups got me thinking that perhaps I could extract the data from a recent backup of my iPhone 11 Pro. I normally back up only to iCloud, but I had made a local (unencrypted) backup on my Mac while trying to

see if I could restore that without upgrading to iOS 14.5.1. That backup would be up-to-date, at least, and getting the data out turned out to be surprisingly easy.

I downloaded the demo version of [iExplorer](#), launched it, opened its Backup Explorer view, and did a search on "momento." That revealed Documents and Library folders, and a few seconds later, I had discovered `/Library/Application Support/Momento Data/Database.momentodb`, with a recent modification date. I dragged the file to the Desktop and had my data back. Eureka! (I later tested [iPhone Backup Extractor](#), and it too was perfectly capable of extracting that file; I assume [iMazing](#) and [AnyTrans](#) would have been similarly useful.)

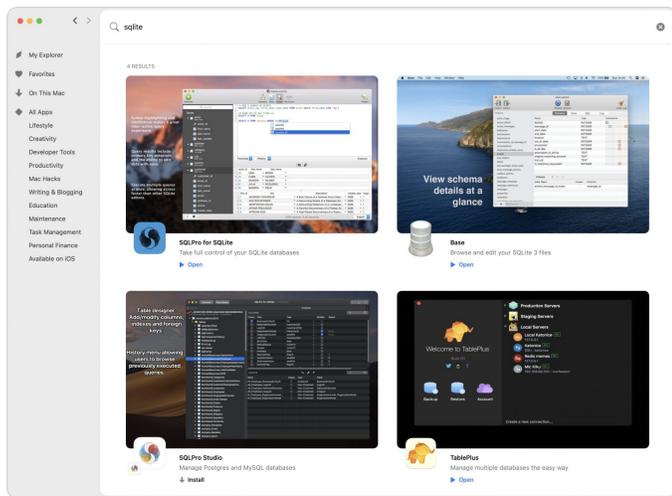


The next question was what format Momento used for its database. I dropped the file on BBEdit, which is happy to display nearly anything, and got my answer instantly: SQLite 3. I also scrolled down in the file and confirmed that it did indeed hold my text. So at the very least, I could write some grep searches to clean up the file to get my text back.



But could I do better? I'm no database expert, but I've had to fiddle with MySQL databases for the old TidBITS Publishing System and our current WordPress content management system, so I knew there were good Mac apps for working with

databases. I opened Setapp and searched on “sqlite” to see what it had. A cornucopia of riches!



I picked [Base](#) at random, launched it, opened my database, and after a few minutes of poking around, found my data. A quick trip to File > Export, and I had my data back in a delimited text file. (I later confirmed that at least [SQLPro for SQLite](#) provided the same capabilities for opening and exporting the Momento database file.)

So at long last, I had my data back, if not in its pretty Momento interface.

### Could I Inject Data into a Backup?

The fact that I was so easily able to extract data from a local unencrypted iPhone backup got me thinking. Since I now had my data outside of Momento Classic, perhaps there was a way to get it back in, either to Momento Classic or the new version of Momento. For this to work, I'd need to modify data in an unencrypted backup on my Mac and then restore that backup to an iPhone.

To make a long story short, I struck out, despite my extreme cleverness in finding the necessary inscrutably named file in the local iPhone backup and replacing it with an identically named version of the extracted SQLite database. For one test, I modified the database slightly; for another, I replaced the 2014 version with the 2021 version. With the modified version of a database injected into the new version of Momento, it launched fresh, with no entries at all. Replacing the 2014 database

with the 2021 version seemingly corrupted the backup because the restore included only a single third-party app, not the large collection that should have been there.

I guess I'm not surprised that injecting data into a backup and restoring doesn't work because it feels like it could be a security vulnerability. After I published this article, the developer of iPhone Backup Extractor said that [it could have recalculated the necessary checksums](#) after updating the data in the backup. However, that didn't prove to be necessary.

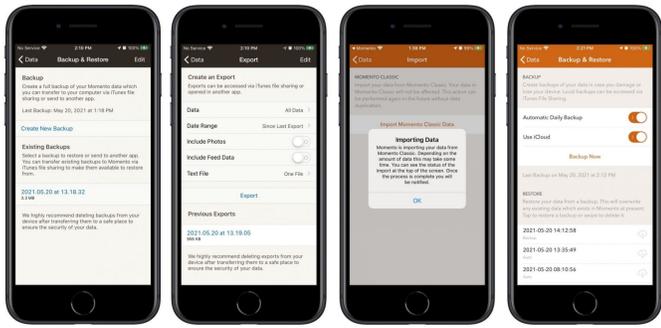
### A Happy Reversal of Fortune

Remember how I had assiduously prevented the iPhone 6s from upgrading from iOS 12 to iOS 14.5.1? I did that because Momento Classic stopped working in iOS 14.5. However, I had also pulled an iPhone 7 running iOS 14.0 out of the closet while figuring out what I had available for testing. It didn't contain the latest version of Momento Classic's data, but the app still launched. As part of the testing to see if I could inject data into a backup, I brought the iPhone 7 into play, figuring that I could restore a modified iPhone 11 Pro backup to it. As before, I was stymied by the need to upgrade to iOS 14.5.1, but this time I let it upgrade itself. The injection test failed, but you can imagine my surprise when Momento Classic launched, even if it had no data in it. Wait, what?

Apparently, whatever prevented Momento Classic from launching in iOS 14.5 was also related to running on an iPhone 11 Pro. Trying it on an iPhone 7 changed the underlying elements such that it could launch.

I erased the iPhone 7 again—I can't tell you how many times I did this—and restored it from the previous night's iCloud backup from my iPhone 11 Pro. Once it was operational, I checked Momento Classic again, and again it worked, letting me create a separate backup and export the data as a text file as well. Next, I opened the new version of Momento and imported the data from the old version. And finally, I made a backup from the new version on the iPhone 7 and was able to restore it

into the version I have on the iPhone 11 Pro.  
Success!



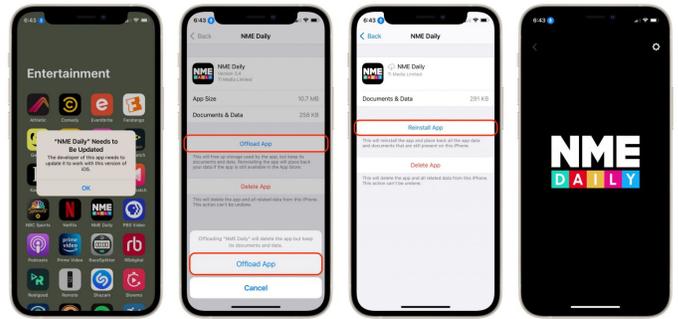
All's well that ends well, but you know how I say that upgrading isn't really optional, even if you can put it off temporarily? (If not, go read "[Why You Should Upgrade \(On Your Own Terms\)](#)," 4 September 2015.) This experience is yet another reason why you can't fall too far behind with upgrades. I made one decision not to upgrade long ago and then failed to think about it again. It's possible that Momento warned me subsequently, though I have no memory of that happening; regardless, I knew I was using an ancient app and have no one to blame but myself for what happened.

### A Late-Breaking Better Solution and Clue

After I published this article (but before it appeared in a TidBITS issue, after which we don't make changes), [Steve Nicolai left a comment](#) saying that he had solved a similar issue with an old app refusing to launch under iOS 14.5 by offloading and reloading it. Initially, I read that as deleting and reinstalling. In a test with Momento Classic on my iPhone 11 Pro, I confirmed that he was correct, but deleting the app erased its data too. Data loss aside, this was a significant step forward, since it brought a previously inaccessible app back to life in situ.

Then Steve set me straight. He was referring to the process of offloading an app to save space, which you do in Settings > General > iPhone Storage. Tap the magnifying glass icon at the top to search for the app you want, tap Offload App, tap Offload App again in the prompt, and once it has been removed from your iPhone, tap Reinstall App.

When I did that with the NME Digital app, it came back to life!



This process didn't work with several other apps in this situation because they were no longer available for download in the App Store. None were important to me, so I just deleted them. Had they contained useful data, I might have tried to extract it. I don't know why only some older apps remain in the App Store—it's likely up to the developer.

Steve's insight explains why Momento Classic and these other apps that stopped working in iOS 14.5 were able to launch on the iPhone 7 after I restored it from the iPhone 11 Pro's backup. iOS's backup and restore process doesn't include the apps themselves; instead, it downloads fresh—and functional—copies from the App Store. (That strategy makes a ton of sense since Apple can maintain one copy of an app in the App Store rather than backing up millions of copies installed on iPhones around the world.)

The fact that merely reloading an app allows it to launch suggests that the actual problem was some sort of expired certificate, not corruption or incompatibility with iOS 14.5. When you try to launch an app with an expired certificate, iOS 14.5 says it needs to be updated by the developer because that process would provide it with a new certificate. My guess is that the App Store itself automatically applies a new certificate to old apps when they are redownloaded, which explains why reloading or restoring from backup both bring affected apps back to life.

Regardless, now you know what to do to revitalize at least some old apps that suddenly stop working in iOS 14.5. 🗑️

# Ten “It’s About Time!” Features from WWDC 2021

**Apart** from watchOS 8 and iPad-specific (see “[iPadOS 15 Improves Multitasking, Adds iPhone Features](#),” 7 June 2021) aspects of iPadOS 15, nearly everything Apple discussed during the WWDC keynote was spread across multiple operating systems. Worries that Apple would deprecate macOS in favor of iOS have proven unfounded, but the company is clearly spreading features across as many of its operating systems as possible. More so than ever before, Apple is emphasizing the power of buying into the overall Apple ecosystem. It may be [a walled garden](#), but it’s awfully pleasant inside.

As such, it doesn’t make much sense to write an article about what’s new in iOS 15 or even macOS 12 Monterey (yes, that’s the name). Instead, we’re focusing on a word that kept cropping up as we were watching Apple’s recorded WWDC keynote in SlackBITS with numerous other TidBITS readers. “Finally!”

A grid view in FaceTime, AirPlay to the Mac, multiple timers on the Apple Watch—here we’ll look at the top ten features that we’ve wanted for years. We won’t belabor the point, but after every feature listed below, join us in saying, “It’s about time!” (And yes, there may have been an expletive before “time” while we were brainstorming the article.)

## FaceTime Adopts Features from Zoom

That brainstorming call? It took place in Zoom because Zoom is fast and easy, and it just works. FaceTime has long been weak in the videoconferencing space (see “[Videoconferencing Options in the Age of Pandemic](#),” 2 April 2020), but Apple may be turning FaceTime into a contender with these features, which are commonplace in other videoconferencing apps:

- **Grid view:** FaceTime will finally get grid view. ‘Nuff said.

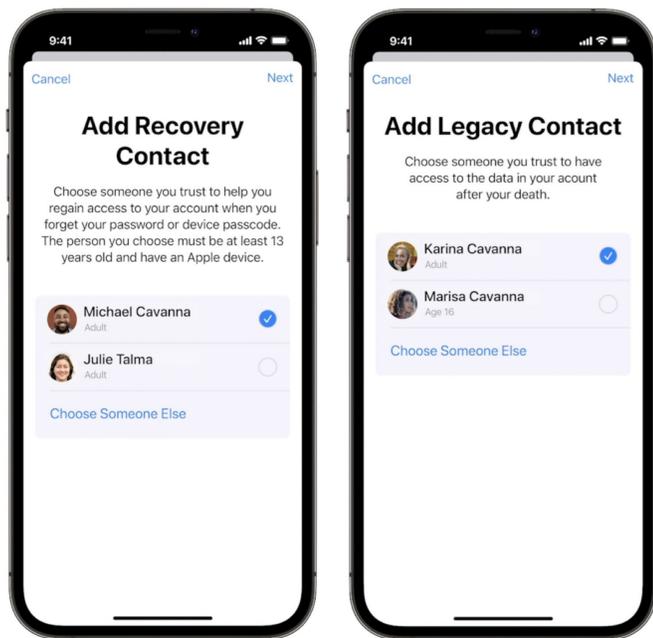
- **Portrait mode:** Although Apple said nothing about virtual backgrounds, FaceTime will provide a Portrait mode effect that blurs the background.
- **FaceTime links:** You will no longer be limited to adding contacts within the Apple ecosystem to FaceTime calls. With the new operating systems, you’ll be able to create FaceTime links and share them with Windows and Android users who have a Chrome-derived browser like Brave, Google Chrome, or Microsoft Edge.
- **Scheduled calls:** FaceTime links can also encapsulate time, so you can now schedule calls and have them appear in your calendar with a Join button, just like Fantastical.
- **Mic modes:** FaceTime will provide Voice Isolation mode to focus on your voice and cut out background noise, whereas Wide Spectrum leaves ambient sound unfiltered. Zoom’s similar features have been important to families switching between one-on-one meetings and kids taking music lessons, for instance.

## Designate Account Recovery and Legacy Contacts

If someone you know forgets their Apple ID password, there isn’t much you can do to help at this point, apart from walking them through the [account recovery process](#). However, once the 2021 versions of Apple’s operating systems come out, people can designate one or more people as an Account Recovery Contact. Once someone has listed you as an Account Recovery Contact, if they lose access to their account, you’ll be able to help them reset their password and regain access to their account. Many of us are already pondering which elderly relatives need to enable this feature once it’s available.

Apple also took this feature to the next level, allowing you to designate people as Legacy Contacts. Then, in the event of your death, those

people can access your account and personal information. Back when we were running Take Control Books, Joe Kissell wrote *Take Control of Your Digital Legacy* to cover issues like this (see “[Aunt Agatha Ponders Her Digital Legacy](#),” 30 January 2017), and more recently, we explained “[How to Request Access to a Deceased Family Member’s Apple Accounts](#)” (17 June 2020). Having had to help a friend access her late husband’s account recently, we strongly recommend that everyone designate several Legacy Contacts as soon as possible.



## AirPlay Audio and Video to Macs

For nearly a decade, it has bothered us that you couldn’t send audio or video to a Mac using AirPlay. That’s changing in macOS 12 Monterey, with support for sending content to a Mac from an iPhone, iPad, or another Mac. Macs will also function as AirPlay 2 speakers, allowing you to use one as a secondary speaker for multi-room audio.



Now you’ll be able to do things like:

- Start a podcast on your iPhone, maybe in an app like Overcast, and AirPlay the audio to your Mac when you get back to your desk. This is a more straightforward solution than using a cloud-based podcast player, and you can simply switch audio back to your iPhone if you need to step away.
- AirPlay a Keynote presentation from your MacBook Air to a large-screen Mac in an office you’re visiting.
- Start watching a live-streamed video on your iPhone at lunch, and then AirPlay it to your Mac when it’s time to return to the office.

There are other solutions to these desires, and some third-party apps can turn your Mac into an AirPlay receiver, but official support has been long overdue. There’s just never been a good reason your Mac couldn’t be an AirPlay receiver.

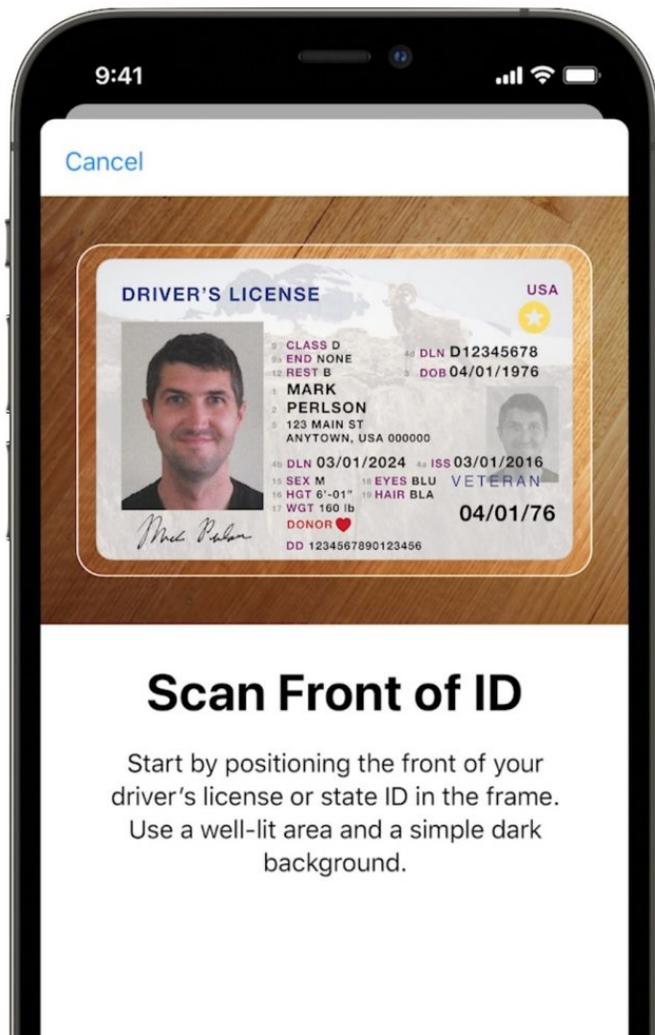
## AirPods Pro and AirPods Max Get Find My Network Support

You’ve been able to find lost AirPods using the Find My app for a while, but the feature has been limited. Since the AirPods could only transfer location information through your iPhone, what you see on the map is the last location your AirPods were connected to your iPhone. Josh once used this to recover his AirPods when they slipped out of his pocket on a family member’s couch, but that was pretty lucky.

Now the AirPods Pro and AirPods Max can tap into Apple’s extensive Find My network—the same network of Apple devices that powers AirTag—to

keep tabs on lost AirPods. It will provide only an approximate location, but hopefully, that will be enough to get you within Bluetooth range so you can play a sound and locate them. Sadly, Apple said nothing about this feature coming to the plain old AirPods, but perhaps the company is working on a new version of those that will incorporate it and other new features.

## Store Digital IDs in Wallet



We've all gotten used to having credit cards and tickets in the Wallet app, but Apple is now promising that you'll also be able to add your driver's license and state ID to Wallet, at least in some states in the US. Wouldn't it be nice if the Wallet app could really replace your wallet? Apple says you'll be able to present the digital version of

your ID at TSA checkpoints using an iPhone or paired Apple Watch.

But will we actually be able to stop carrying a couple of physical cards at all times? Would you feel comfortable giving your iPhone to a state trooper who just pulled you over? And would they accept it? Plus, it's not like Apple Pay support is universal—for instance, [Home Depot doesn't take it](#). Apple's moving in the right direction, and with the company's clout, we might get there eventually, but we doubt iOS 15 will eliminate the need to carry cards. See "[Two Wallet Cases: Twelve South BookBook Vol. 2 and Ekster iPhone 11 Pro Case](#)" (12 December 2019) and its comments for some suggestions for wallet cases.

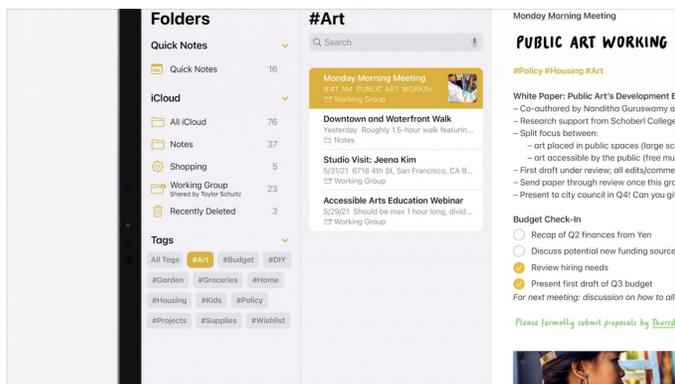
## Siri Speech Recognition Takes Place on Your Device

With iOS 15, Siri will work like [Voice Control](#) and process all speech on the device itself, instead of sending every query to Apple's servers, even for commands as simple as pausing music. This change should increase performance by eliminating the need to talk to Apple's services. It should also improve reliability for those who live in areas where cellular Internet access isn't universal. Plus, it eliminates one of the biggest privacy concerns about Siri. Apple was once trounced in the media for having contractors listen to Siri voice recordings, forcing the company to make changes (see "[Apple Announces Siri Privacy Reforms](#)," 29 August 2019). The big question is if Siri's dictation will also crib from Voice Control, which has long done a better job (see "[How iOS and macOS Dictation Can Learn from Voice Control's Dictation](#)," 31 August 2020).

## Notes Gets Tags and Mentions

Notes is a good note-taking app, but it has long lacked a feature that's been standard in most other note-taking apps for years: tags. Tags are one of those things you either get or you don't, but for those who do, they're a helpful way of grouping notes together without having to put them in a folder manually. For instance, if you make

shopping lists for different stores, you could tag them with #Shopping to see them all.



Another useful new feature in Notes that's commonplace in other collaborative systems is @mentions. If you're sharing a note with others, you can add an @mention to the text to call their attention to it.

support from Schoberl College MA students between:  
ed in public spaces (large sculptures, murals)  
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nder review; all edits/comments needed by June 28, 2021  
r through review once this group has reviewed second draft  
city council in Q4! Can you give the final go-ahead? @Amy

## Launch Content on Apple TV with Siri on a HomePod mini

With tvOS 15 and the upcoming HomePod update, you'll be able to tell a HomePod mini to play a specific show. For example, say, "Hey Siri, play *Game of Thrones* season 2, episode 3." Apple didn't mention the original HomePod, so we're unsure if it'll be able to do that or not. We also don't know if it will work with Netflix, given that the Apple TV app has no insight into Netflix's programming, or with shows displayed through cable provider apps.

Competing streaming media players have had features along these lines for a while. For example, Google Home smart speakers could play content to Chromecast dongles, and Amazon sells a Fire TV box with built-in Alexa. Sure, you can use Siri directly on the Apple TV and tell Siri on an iPhone to AirPlay content to an Apple TV, but there is something magical about speaking a command to the air to start playing a show on your TV.

## Autofill of Two-Factor Authentication Codes

Apple didn't mention this feature during the keynote, but it's one of our favorites. If a website offers two-factor authentication, you'll be able to set up verification codes in Settings > Password in iOS 15 and iPadOS 15, or in the (new) Passwords pane of System Preferences or Safari in macOS 12 Monterey. Once you do that, the necessary verification codes will autofill whenever you sign into the site.

## Temporary iCloud Storage Facilitates New Device Setup

If you're running low on iCloud storage when you buy a new device, you may not be able to use iCloud Backup to move your data to the new device, an annoying Catch-22. With iOS 15 and iPadOS 15, iCloud will provide you as much storage as you need to complete a temporary backup for free for up to 3 weeks. It's embarrassing that iCloud accounts come with only 5 GB of free storage, rendering them useless for many things, but this change should improve the setup experience for many users who wouldn't otherwise need to purchase additional iCloud storage. 🗑️

By Adam Engst & Josh Centers

# Ten Cool New Features Introduced at WWDC

Although we mocked Apple somewhat in "[Ten "It's About Time!" Features from WWDC 2021](#)" (7 June 2021) for the many features that feel as though they're either catching

up with the competition or have been obviously missing for years, numerous other features announced at the WWDC 2021 keynote feel more innovative. Here are our ten favorites. (And no,

Apple didn't say anything about future Apple silicon chips. We're disappointed too.)

For a complete list of all the features in Apple's new operating systems, see the preview pages for [iOS 15](#), [iPadOS 15](#), [macOS 12 Monterey](#), and [watchOS 8](#).

## SharePlay and Screen Sharing

Apple made a big deal about a new technology called SharePlay that promises to allow media and screen sharing to FaceTime conversations. That may not be something you've imagined wanting, but for the teenage set, being able to listen to music or watch videos together has become more of a thing during the pandemic. SharePlay syncs shared media so everyone can watch the same video at the same time, and everyone can control the playback with everyone else staying in sync the entire time. It also leverages the Apple ecosystem, so you can connect with others over FaceTime on an iPad while watching video on an Apple TV or listening to music on a HomePod.



More interesting for the older set is SharePlay's option for sharing screens, which might be a good addition to the tools we already have for helping friends and relatives with technical problems. The younger folks will probably watch each other playing games.

## Tap to Enter Locks

HomeKit smart locks have been a thing for a while, but they're a pain to use. To unlock them, you either need to fumble with a key or tap a button in an app on your iPhone, which is awkward when your hands are full of groceries. With iOS 15 and watchOS 8 and a compatible smart lock, you can

add the "key" to Wallet and simply tap your smart lock with an iPhone or Apple Watch to unlock it. Hotel chains also plan to support the technology, starting with Hyatt, which may eventually provide a welcome end to flaky card keys.



## Live Text Reads Text from Photos

We've been playing with an app from longtime developer Alco Blom called [Photos Search](#) for the Mac and iOS. It scans your entire photo library for text in images and lets you search through the results, among other features. Sadly, once iOS 15 and macOS 12 Monterey ship, Photos Search will have competition from Apple's Live Text feature. It treats text in photos like text anywhere else, enabling you to use functions like copy and paste, lookup, and translate—and presumably Spotlight search. However, you will need an iPad with an A12 Bionic chip or later or an M1-based Mac (it presumably works on all iPhones that can update to iOS 15). Perhaps Alco Blom will be able to leverage Live Text to make Photos Search into a better front end for exploring the text embedded in your photos.



## Conversation Boost Helps with Mild Hearing Loss

Once Apple updates the AirPods Pro with support for Conversation Boost, it might become commonplace to see senior citizens wearing their AirPods alongside high school seniors. For those who have mild hearing loss, Conversation Boost will focus the AirPods Pro microphones on the person sitting in front of you and reduce ambient noise that makes hearing their voice harder.

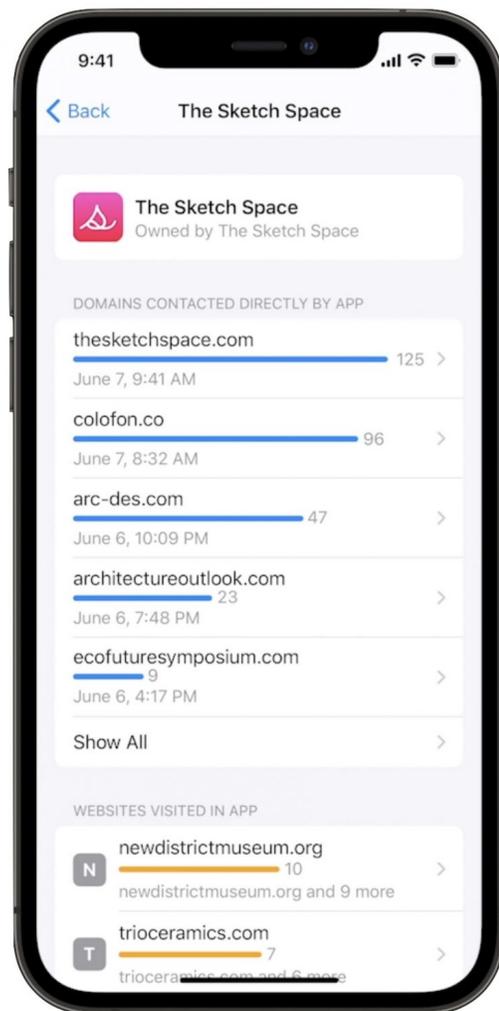


Apple already has [Live Listen](#), which lets you use your iPhone as a microphone for any version of the AirPods to hear the conversation better; Conversation Boost seems to be an enhanced version of that technology embedded within the AirPods Pro themselves.

And to give credit where credit is due, Jeff Porten wrote about using an iPhone and headphones to work around his lousy hearing over a decade ago in [“iOS Hearing Aids... or, How to Buy Superman’s Ears”](#) (8 February 2011).

## App Privacy Reports Summarize App Behaviors

iOS 14 introduced website privacy reports in Safari and introduced App Tracking Transparency to prevent apps from sharing your information with third parties. Now Apple is taking things a step further (and undoubtedly driving Facebook even crazier) by adding elaborate App Privacy Reports to Settings. The reports will show you what system resources the app accesses, like photos or location, and with whom the apps share your data.



Perhaps the App Privacy Reports will tell us once and for all if the Facebook app is listening in on your conversations through your iPhone's microphone!

## Private Relay Promises Snoop-Proof Communications

As part of Apple's iCloud+ online service, you'll have access to a technology called Private Relay that redirects all of your Internet traffic through two encrypted relays. Apple says neither it nor any other party other than the ultimate destination will be able to see your Internet activity. As far as we can tell, Private Relay isn't so much a virtual private network as a custom implementation of "onion routing," popularized by [Tor](#). It will be beneficial when you're connected to questionable Wi-Fi access points or if you're concerned about a nosy ISP. However, private communications can be used for evil as well as good. If the FBI wasn't happy about Apple's iMessage encryption, they're going to be apoplectic about Private Relay.

## Universal Control Provides Mac and iPad Integration

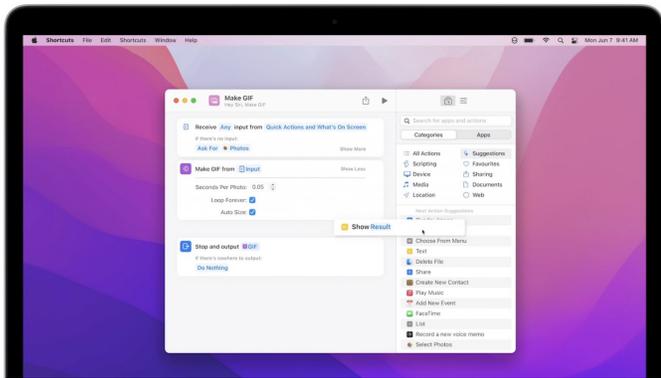
Long ago, I used a utility called Teleport to share a single keyboard and mouse between two Macs (see "[Tools We Use: Teleport](#)," 27 August 2007), and there's a modern app called [1Keyboard](#) that offers similar functionality across multiple devices. Apple's getting into the game now with Universal Control, which promises to let you use a single keyboard and pointing device across multiple Macs and iPads. Apple first showed a MacBook Pro's keyboard and trackpad taking over an iPad sitting nearby and then added an iMac to the mix, dragging a graphic from the iPad to the MacBook Pro and then over to an app on the iMac. It was pretty impressive, but the devil is in the details with such features, and we'll see if it works as fluidly in the real world as it does in a canned demo.



## Shortcuts Migrates from iOS to the Mac

Apple has been slow to modernize the Mac's automation tools, with AppleScript and Automator stagnating for years, particularly in the wake of automation guru Sal Soghoian leaving (see "[Sal Soghoian's Automation Legacy](#)," 7 June 2018). Peter Lewis's [Keyboard Maestro](#) has long been the mainstay of automation for Mac users, and while we don't expect that to change, we'll have a new tool to exploit: Shortcuts. That's right, Apple is bringing the Shortcuts app from iOS to macOS 12 Monterey.

The editor looks as though it takes advantage of large windows on the Mac, which should make it a lot easier to edit complicated shortcuts than it is on the iPhone today. You may be able to treat the Mac as an editor for iPhone shortcuts since they automatically sync across all your devices. Shortcuts will be cross-platform, with M1-based Macs running iPhone and iPad shortcuts in their native apps and Intel-based Macs sending them to Mac Catalyst apps. It's hard to imagine that all iPhone shortcuts will work on a Mac and vice versa, but some won't make sense on the other platforms anyway.



You'll be able to convert existing Automator workflows into shortcuts, and advanced users can enable AppleScript and shell script compatibility.

## Tab Groups

Apple made much of how it redesigned the look and feel of Safari, and we'll have to see if those changes actually improve the user experience or not. However, there was one new feature that could be welcome for those of us who are inveterate tab collectors: tab groups. If you find yourself opening a bunch of tabs as part of a research project, you can add them to a group so you can focus on them at the appropriate time. And, perhaps more to the point, that hides tabs not in the current tab group so they don't distract you or clutter Safari's window. Tab groups sync across all your devices so you can access them from anywhere.

The question with tab groups is if managing them requires too much effort. The entire point of tabs is

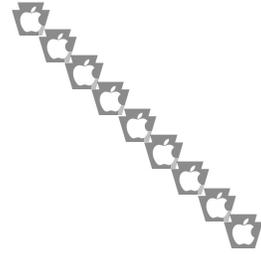
that they're somewhat ephemeral, and if you wanted to make a collection, you could always create bookmarks. Will tab groups be a welcome organizational and focus tool, or will they require more interaction than tabs are worth?

## Sharing Watch Health

A common reason to buy an Apple Watch is as a health-monitoring device for a loved one (see "[I Bought an Apple Watch as a Gift. It Turned into a Tech-Support Setup Nightmare](#)," 28 October 2020). However, with iOS 15 and watchOS 8, the Apple Watch becomes a better gift because your loved ones can share their health data with you, including high heart rate, irregular heart rhythm, and low heart rate alerts. This data sharing could make it easier to take care of your elderly relatives—or help them take care of you.



# Apple Updates



# Graphics Hold Area

## Apple Updates

