

November Presentations

We should have another of Dennis' very interesting and illuminating presentations this month.

Meet us at

Bethany Village Retirement Center

Education Room 5225 Wilson Lane, Mechanicsburg, PA 17055

Tuesday, November 20th 2018 6:30 p.m.

Attendance is free and open to all interested persons.

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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 © 2018, Keystone MacCentral, 310 Somerset Drive, Shiresmanstown, PA 17011.

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Apple Categorically Denies Businessweek's China Hack Report

Color us confused. Last week, Bloomberg Businessweek published a long, detailfilled story alleging that Chinese spies had compromised America's technology supply chain by inserting a malicious chip into servers used by as many as 30 major technology companies, including Apple.

It's a bombshell of an article, but an odd one, simultaneously specific in places while vague about what these alleged chips actually did. Plus, all sources were anonymous, which isn't unusual for an article that involves governmentlevel industrial espionage and national security, but it's surprising that the article doesn't quote any outside experts on the record.

In response, Apple released a public statement, saying bluntly that everything the article claims about Apple is completely untrue:

On this we can be very clear: Apple has never found malicious chips, "hardware manipulations" or vulnerabilities purposely planted in any server. Apple never had any contact with the FBI or any other agency about such an incident. We are not aware of any investigation by the FBI, nor are our contacts in law enforcement.

and

Finally, in response to questions we have received from other news organizations since Businessweek published its story, we are not under any kind of gag order or other confidentiality obligations.

Apple's statement has none of the tenor of a company trying to cover up untoward behavior, and if anything, it

sounds as though the company is fed up with Bloomberg's questions and allegations. Since then, both the US Department of Homeland Security and Britain's National Cyber Security Center have said that they have no reason to doubt Apple's statement. Plus, BuzzFeed's John Paczkowski reported that multiple senior Apple executives "all denied and expressed confusion" with the report. And Apple has now sent a letter to Congress reiterating these denials.

In addition, Apple and Amazon, which also denied the article's scenario, are both \$1 trillion public companies that routinely face and sometimes lose lawsuits over product representations. Their statements are so specific, cover so much, and are so definitive that both companies would have an enormous liability should it come out that they were lying.

Although there have been some suggestions that such an attack is technically feasible, our contacts with hardware manufacturing experience are extremely dubious that this particular one could have taken place as described without anyone noticing, and our contacts in security reporting haven't heard anything about this from their sources. So we are currently assuming that Apple is telling the truth about not having found malicious chips in its servers.

But Businessweek isn't a fly-by-night publication, and there are too many sources quoted and details given for the reporters to just be confused. So unless it's all an elaborate fiction that somehow snuck by the publication's editors, we remain unable to explain why Businessweek published the piece in the face of such categorical denials.

by Rich Mogull

I'm a Paramedic: Here's How the Apple Watch Series 4 Will and Won't Save Lives

I saw my first dead body in the fall of 1990. I was in Emergency Medical Technician school a couple of nights each week and on my first ride with a real ambulance crew in Boulder, Colorado. The guy's neighbors were worried and called 9-1-1. We came and left. We didn't know why or how this man died, just that he appeared to have fallen down due to whatever killed him, and there wasn't anything we could do.

Later on, I finished EMT school, volunteered with a local fire department and ambulance, moved on to Paramedic school, and spent a couple of years working full-time in emergency medical services. Eventually, I scaled back to finish college and spent more time with mountain rescue and ski patrol, and on a disaster response team, which I still do today.

I've seen strokes from atrial fibrillation (AFib), slip and falls, mountain biking mishaps, and the usual menagerie of human frailty and stupidity. While I worked full-time for only a few years, I've been a part of the EMS system in one form or another for over 25 years.

Thanks to its health monitoring features, the new Apple Watch Series 4 will save lives, probably within weeks of launch. I've been on real calls that might have had happier endings had the person been wearing one. I don't know if wearing one would have saved that first victim—probably not — but Apple should get full credit for building a mainstream device that will save some lives.

That doesn't mean it's perfect. The Apple Watch Series 4 is far from a comprehensive life-saving device. It suffers from some serious limitations and faces some very real obstacles, especially cost and battery life, but in the end, some people will live longer because they wear one. Over time these features will become more reliable, more affordable, and more comprehensive, especially as Apple's competitors catch up.

The Apple Watch Series 4's three key health-related features are fall detection, atrial fibrillation detection, and a simplified electrocardiogram (ECG). Here's how they might help, the limitations they face, and where Apple might go next.

Fall Detection

I responded to countless "slip and fall" calls over the years. These are one of the most common calls for paramedics. Particularly for the elderly, the consequences of a fall can be fatal even when there's a quick response. Head injuries are frequent and serious, but hip fractures are even more common and can lead down a path from which it's very difficult to recover.

You can purchase medical devices that monitor elderly family members while still giving them personal freedom. Anyone of a certain age remembers those "Help, I've fallen, and I can't get up!" commercials. Typically, the patient needs to activate the device by pressing a button. Many of these devices are restricted to home use since they tie into a landline.



Life Call Commercial "I've fallen and I can't get up!"

The Apple Watch Series 4 works similarly, detecting falls with its integrated accelerometer and gyroscope — see Joanna Stern's Wall Street Journal video with a Hollywood stunt double for examples. It will then call for help if the wearer doesn't respond to an alert within 1 minute. Since the Apple Watch knows when it's on your wrist, there shouldn't be any false alarms triggered by dropping it on your nightstand. It won't detect all fall scenarios, and certainly not non-slip situations like slumping after a stroke, but the subset of what it can detect will likely rack up immediate saves. It can also work anywhere, not just in the home, like previous landline-tied solutions.

If you buy an Apple Watch Series 4 for a family member, make sure they wear it in the shower, when they're most likely to have an accident. Yes, it's sufficiently waterproof.

I'm not worried about there being too many false positives. First, it's on by default only if the user has identified themselves as being over 65 in the Medical ID screen of the Health app; otherwise you turn it on in the Watch app. Second, there is a subset of falling patterns that is pretty distinct, and the combination of a fall, no movement for 1 minute, no response to an audible alert, and no response when 9-1-1 calls back should filter most of those out. False positives are a fact of the job, and EMTs deploy all the time on faulty fire alarms and injury-free car accidents. It bothered me only when I had just sat down to dinner.

Unfortunately, not every detected fall will result in a positive outcome. But it's better to have someone respond right away than days later.

There are three significant inhibitors to the fall-detection feature. The first is cost, especially since all Apple Watches need an iPhone companion. That first inhibitor leads into the second, which is the complexity of both an iPhone and the Apple Watch in a demographic where the primary users may also be battling mental degradation. And this second issue ties to the third, which is the effort of keeping the Apple Watch charged and wearing it consistently. Again, this is likely a challenge for the most vulnerable population.

None of these is Apple's fault; they're just real-world limitations of the technology. The only thing Apple could change would be to remove the requirement that the Apple Watch be associated with an iPhone.

On the whole, I'm incredibly excited about this feature because it will save lives. Sometimes hyperbole is reality.

A Primer on Cardiology and Atrial Fibrillation

Before I discuss the next two features, it will help to understand the basics of how the human heart works. I'm oversimplifying intentionally—any cardiologists reading this article should skip this part to avoid increased blood pressure.

The heart has two halves and four chambers. The right side pumps blood to the lungs, and the left side serves the rest of the body. The top chambers on each side, the atria, are the "staging pumps" that load up the lower chambers, the ventricles, that do the real work. Without the atria, the ventricles can still move blood, but not as efficiently.

Heart cells are pretty wild and have something called automaticity. That means they can generate their own electrical signals and contract on their own without relying on nerve cells, as do most other muscles. Heart cells will beat on their own without external influence. They also work like a mesh network and influence the other cells around them. To keep everything coordinated, the heart has two pacemakers, bundles of cells that send out strong electrical signals so all the cells work together and squeeze when they are supposed to: the SA node (sinoatrial) in the atria, and the AV node (atrioventricular) for the ventricles.

The SA node fires and triggers the atria like the drummer in a band keeping time. This signal then shoots down special conductive pathways to the AV node, which sends a signal out and around the ventricles on different pathways to trigger the bigger contraction that moves the blood around the body.

Many things can mess up this process, and one of the more common is when something happens to the SA node, or the cells in the atria stop cooperating and get out of sync. That can lead to atrial fibrillation (AFib), where the cells of the atria stop working together and start contracting randomly. That causes the atria to stop pumping blood, leaving the ventricles on their own. While the ventricles can keep things moving by working harder—which also isn't good—the worst issue is that blood can pool around and coagulate in the atria or the less-filled ventricles. This coagulated blood creates a clot, which the ventricles will happily shoot off to other parts of the body. If it blocks blood to the brain, that's a stroke.

AFib can also cause weird effects like a dangerously high heart rate. Some of those random signals can, in turn, confuse the AV node, which is what causes the irregular beating of the ventricles, and thus an irregular pulse. If the ventricles beat too quickly, that becomes a medical emergency since your heart can only go so fast for so long. The high heart rate is also less efficient and further increases the chance of stroke.

Ventricles can also fibrillate. But if that happens, blood stops circulating, and you'll die quickly. If you're lucky, you get to wake up after someone yells "Clear!"

Detecting AFib with an Apple Watch

Apple worked with Stanford University on a study to refine the Apple Watch's atrial fibrillation detection. AFib characteristically causes an irregular heart rate as those random signals hit the AV node or other parts of the ventricle. If the atria just stop working at all (it happens) or the random signals are blocked, those are different arrhythmia (electrical problems), and the AV node and ventricles will keep firing their signals at a regular, albeit inherently slower, rate. All versions of the Apple Watch can detect your heart rate using special lights on the back of the watch that shine into the skin on your wrists. Other sensors detect subtle changes in the light coming back and measure differences in blood flow which directly correlate to your heartbeat. If this approach seems a little sketchy, it is—wrist-based heart rate monitors aren't known for being highly accurate.

However, to detect atrial fibrillation, the exact pulse rate isn't important. Instead, the Apple Watch looks for an irregular pulse, taking into account inherent noise due to the watch moving on the wrist or changing light conditions. If it detects a pattern of irregularity that matches AFib enough times, it alerts the wearer.

Atrial fibrillation is one of the most common cardiac issues, especially as we age, and a leading cause of stroke. Unless you go into rapid AFib (technically, AFib with rapid ventricular response), you might not know you ever have it. Early notification of asymptomatic AFib is a major deal since it is a manageable condition. Far more manageable than a stroke.

The Value of an ECG on the Wrist

Because the heart sends out strong, coordinated electrical signals, they can be detected fairly easily using an electrocardiogram, which produces a graph like the one below. The basics are easy to read. The first bump is the SA node firing—it's called the P-wave. Then there's a pause as the signal goes to the AV node, where you see a spike for the QRS complex, which shows the AV node firing and the signal triggering the ventricles to contract. The last bump is the T-wave, which shows the ventricles recharging to beat again.



My annotated ECG, taken using my iPhone and AliveCor's Kardia device and app.

A traditional ECG measures all this activity with electrodes attached to your skin that detect those voltage changes. When I first started as a paramedic, we used 3-lead ECGs in the field, which let us detect only the most obvious arrhythmias. Attaching one lead on the right arm, another on the left, and one on the left leg creates something known as Einthoven's Triangle and provides multiple views of how the signal moves around. These days we use 12-lead ECGs that offer a lot more angles and let us potentially detect things like heart attacks.



Einthoven's Triangle, which shows the direction in which ECG leads read the heart's electrical signal. Lead I, which the Apple Watch Series 4 uses, looks across the top while Lead II more closely follows the same vector as the heart.

The Apple Watch Series 4 includes a Lead I ECG, invoked by holding your finger on the Digital Crown. It gives a decent view of the heart, but Lead II's data is usually cleaner since it captures a better angle that's more aligned with the heart's conduction path and thus shows the strongest signal. Given the inherent limitations of the Apple Watch's sensors, or any single lead ECG, the Apple Watch Series 4 will only be able to detect basic arrhythmias and perhaps some interesting fitness data.

It should be possible to identify AFib because it shows up quite obviously on an ECG as a missing P-wave and a bunch of squiggly lines as the uncoordinated cells all fire on their own. Being able to identify AFib on demand will give doctors a much better view than the optical detection that sees only an irregular pulse.

However, a Lead I ECG can't detect a heart attack. It can detect some other issues, but many of those require knowing things like the exact timing of the distance between the P-wave and the QRS complex. I suspect Apple won't be providing warnings of such conditions anytime soon, since even experienced medical professionals can miss those issues, especially with only a single lead.

I think the most significant immediate value to the Apple Watch Series 4's ECG capability will come in refining AFib detection and letting doctors better monitor known AFib patients. Over time, I'm sure more studies will look for additional issues that can be detected with the Apple Watch's Lead I ECG, but they will always be limited to a few well-known and major arrhythmias that are both detectable and actionable. Ventricular fibrillation, for example, is easy to detect but you probably wouldn't be capable of holding your finger on the Digital Crown because you'd be busy dying.

Nonetheless, I find the Apple Watch Series 4's ECG promising. It will be of most value to physicians keeping track of patients with known issues, especially since the optical AFib detection is more likely to find a previously undiagnosed instance of AFib. Many AFib patients today have small sensors implanted into their chests to track their issue and call doctors if it gets worse, so clearly there is a medical need. It may also be useful in helping patients with heart conditions record ECGs during specific events and then share those ECGs with cardiologists—most heart events don't take place in the doctor's office. Over time I'll be very interested to see if Apple can expand the technology to detect other arrhythmias, but I wouldn't expect that anytime soon.

A New Healthcare Horizon

The Apple Watch Series 4 is a big deal. Fall detection will save lives nearly immediately. AFib detection will help reduce the rate of strokes. And the ECG feature will enable doctors to better monitor and communicate with their patients. Even young, healthy, active people will see benefits ranging from immediate help after crashing on a bike to early detection of congenital or random AFib.

Unfortunately, these features are available only to people with the financial means to afford an Apple Watch and iPhone, who are cognitively capable of using the devices, and who can wear the watch reliably and keep it charged. These are serious inhibitors for broad adoption among the most vulnerable populations.

However, none of this should detract from what Apple has done here. Even if the Apple Watch Series 4's health-monitoring features are imperfect, even if they detect only a subset of issues and incidents, wearing one will allow some people to live longer and healthier lives.

Now that Apple has put its stake in the ground, I expect a few advancements moving forward.

First, it is likely that more insurance companies will start subsidizing or providing Apple Watches to customers. Some companies, like Aetna, John Hancock, and United-Health Group, already do this to get people moving more with the health tracking. This should help reduce some of the financial overhead. Also, the price will go down over time as Apple introduces new versions of the Apple Watch and keeps older versions around at a reduced cost. It will also take a little time for physicians to hook into the ecosystem and start using its features with patients.

Regarding technology advancements, it's best to look at the vital signs that we healthcare professionals always want: pulse, respiratory rate, oxygen saturation, blood pressure, and blood sugar (glucose) levels.

Apple has already nailed pulse. Respiratory rate can be detected electrically, but probably not on the wrist. There have been numerous rumors about solutions for the last three, and the latest devices from Garmin claim to be able to detect oxygen saturation. When combined with pulse detection, low oxygen saturation readings could help identify sleep apnea, which is another major indicator of long-term health issues. Like AFib detection, detecting sleep apnea has the potential for large quality of life improvements. I wouldn't be surprised to see something along those lines within the next two revisions of the Apple Watch.

Blood pressure is also a key indicator of a wide range of health issues, especially stroke. Despite all the rumors, I haven't seen enough science to indicate we are close to being able to detect it without inflatable cuffs. That's a big tech problem that Apple is probably working on, but one that may not have a wrist-based solution.

The same goes for glucose levels, which are critical for managing diabetes. Right now, the only reliable measurement techniques require small blood samples. Accurate detection with a watch would be a massive scientific breakthrough with lasting social impact. But again, it's not something we can predict.

Even without these additional features, the Apple Watch Series 4 encourages a more active lifestyle, can detect the early onset of a potentially debilitating heart disease, and can call for help during certain life-threatening accidents. These are huge advancements that will improve and extend lives. Even in my limited personal experience, I know of real-life incidents that might have had a far better outcome had the individuals involved worn Apple Watches. I'll be buying some for certain family members this year, and even knowing the limitations of the device, I'll sleep better for it.

by Adam Engst & Josh Centers

Explore the Dark Side of Mojave: Understanding, Enabling, and Customizing Dark Mode

Do you find your Mac's screen too bright for comfort, even after you've dropped the brightness setting in System Preferences > Displays? Apple has been sensitive to lighting issues for years, enabling the Mac to adjust screen brightness automatically to match ambient light and adding Night Shift to shift the colors of the display after dark. On the MacBook Pro, even the keyboard is backlit for easier typing in the dark, and it too can adjust its brightness in low light. And in previous versions of macOS, there was an option to make the menu bar and Dock dark.

More significant than these options, though, is macOS 10.14 Mojave's Dark mode, the first major visual change in macOS in a long time. Apple promotes it generally, saying:

Dark Mode is a dramatic new look that helps you focus on your work. The subtle colors and fine points of your content take center screen as toolbars and menus recede into the background. Switch it on in the General pane in System Preferences to create a beautiful, distraction-free working environment that's easy on the eyes — in every way.

It's not clear that Dark mode is a win for everyone, but light-sensitive people such as Josh are thrilled by Dark mode because it radically reduces the amount of light coming from the screen.

Dark mode is easy to turn on and off in System Preferences > General, where you can click Dark or switch back to the traditional look with a click on Light. There's no shortcut for switching, but developer Benjamin Kramser has just released NightOwl, a menu bar utility that makes switching easy and also provides a schedule for automated switching, much like Night Shift. That might be helpful if your work

environment is light during the day, but dark at night, when a bright screen may be less comfortable.

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When you switch into Dark mode, macOS immediately swaps dark text on light backgrounds for light text on dark backgrounds, changing the menu bar, windows, interface elements, and more in the Finder and supported apps. As you can tell by the increased number of releases in our Software Watchlist, developers have jumped on Dark mode with enthusiasm, so nearly every app that claims Mojave compatibility is specifying support for Dark mode. Older apps won't gain Dark mode support without an update.

Josh has made a video showing how to turn it on, and offering some examples of how it looks. Even though not every app supports it, it still makes a big difference!



Precisely what aspects of an app get dark is another question, however, and this is one of Dark mode's challenges. Open a new document in TextEdit or Pages while in Dark mode, and while the toolbar and controls will all be dark, the content area will be the same bright white that it always was before. Same with Safari and many Web sites. Worse, the contrast between a bright content area and dark controls is more jarring than when the controls were on a light background. Help may be available from Denk Alexandru's Dark Mode for Safari, a \$1.99 extension for Safari that gives you control over Web site themes.

Some apps have their own internal settings specific to Dark mode that let you pull back on how dark it is. For instance, when you're in Dark mode, Mail displays a new "Use dark backgrounds for messages" checkbox in Settings > General that lets you choose between dark and light backgrounds when reading and composing messages. Similarly, when running Maps in Dark mode, you can choose View > Use Dark Map to switch the map style between the standard light style and a dark style. You'll have to poke around in your favorite apps in Dark mode to see if they offer such adjustments.



Another challenge for Dark mode is that light text on a dark background doesn't have nearly as much contrast, so it's harder to see, particularly for the majority of the population that isn't light-sensitive. If you find reading text in Dark mode difficult because it seems blurry, but you prefer the dark look otherwise, you may be able to make it more to your liking by changing the font or style to make it bigger or bolder, such as in Mail's Settings > Fonts & Colors settings. For system-wide improvements, though, visit System Preferences > Accessibility > Display.



The Display Contrast slider here lets you make text whiter and backgrounds dark, which goes a long way to improving the readability of text. Select Reduce Transparency to make items like the Dock and menus solid, rather than allowing the background to show through slightly. And to separate dark and light even more, select Increase Contrast—it turns up the brightness on divider lines as well, which can make windows easier to interpret.

Finally, if you're using Dark mode, you'll probably want a dark desktop picture to keep the overall screen brightness down and avoid too much contrast with the dark windows and controls. If you look in System Preferences > Desktop & Screen Saver, you'll find new wallpapers that won't blow out your eyes.



Should you give Dark mode a try? Absolutely! It's trivial to turn on and off again and has no lasting effect on anything apart from your retinas. Most people aren't light-sensitive, and for them, especially during the day when room lighting is generally quite bright, the traditional look will likely be the most comfortable and easiest to read. However, if you recoil in pain from too-bright screens, particularly in dimly lit rooms, Dark mode may be a boon for your eyes. And if you have no issues with either the light or dark look of macOS, feel free to pick whichever you prefer aesthetically.

How to Take Photos and Scan Documents with Continuity Camera in Mojave

One of the cool things about living in the Apple ecosystem is how your various Apple devices can interact with each other through Continuity, which includes features like auto-unlocking your Mac by wearing your Apple Watch, automatically moving copied text across devices, sharing files via AirDrop, and taking calls anywhere with Wi-Fi Calling.

In macOS 10.14 Mojave, Apple has expanded these capabilities with Continuity Camera, a new feature that lets you take pictures or scan documents with an iOS 12 device and have them immediately show up on your Mac either on the Desktop or in a document. If you've ever been working on your Mac and needed to email someone a scan of a receipt that's sitting on your desk, you're going to love Continuity Camera.

Requirements and Controls

As with many system-level features, Continuity Camera requires explicit support in apps. Unsurprisingly, many of Apple's apps offer Continuity Camera in Mojave, including the Finder, Mail, Messages, Notes, TextEdit, Pages, Keynote, and Numbers. I haven't yet heard of any third-party apps that have added support, but let us know in the comments if you run across any.

Continuity Camera has a few basic requirements: the Mac and iOS device need to be on the same Wi-Fi network, have Bluetooth turned on, and they must be logged in to the same Apple ID, which must be set up with two-factor authentication. Check the Apple ID on your Mac in System Preferences > iCloud and in iOS under Settings > Your Name.

How you access Continuity Camera varies somewhat by app, but the most common way is to Control- or right-click where you want the photo or scanned document to appear. If you have only one device, you will see a subhead for the device, like iPhone X, above commands for Take Photo and Scan Documents. If you have multiple devices, you'll see an "Import from iPhone or iPad" submenu, under which those commands will be replicated for each device.

 New Folder

 Get Info

 Import from iPhone or iPad

 Change Desktop Background...

 ✓ Use Stacks

 Group Stacks By

 Show View Options

In many of Apple's apps, you'll also see Import from iPhone as a submenu in the File menu, although that submenu moves to the Insert menu in Pages, Keynote, and Numbers. Plus, in Mail composition windows, there's a drop-down menu on the right side of the toolbar that includes the Take Photo and Scan Documents commands.

For simplicity's sake, I'm going to focus on importing images to the Desktop, but the process is the same regardless of whether you're in the Finder or some other app. If you'd like to watch a quick visual guide to Continuity Camera, check out my short video that explains how to use it.



Take Photos with Continuity Camera

Here's how to take a photo with Continuity Camera:

- Control-click the Desktop, and in the contextual menu, choose Import from iPhone > Take Photo.
- A dialog or popover (the latter in apps) appears on the Mac screen, and a simplified version of the Camera app opens on your iPhone. You don't get many options, but you can switch between the front- and rear-facing cameras, and tap the flash icon to turn the flash on or off, or set it to auto (the default). You can also pinch out to zoom or tap the 2x button on an iPhone with two rear-facing cameras.



Frame your subject in the viewfinder, and tap the shutter button.

Tap Use Photo to save the photo to the Mac's Desktop as a JPEG. Or if the photo isn't to your liking, tap Retake to try again. Note that the photo won't appear in Photos on your iPhone.

Scan Documents with Continuity Camera

For most people, document scanning with Continuity Camera is more useful than taking photos, since you're unlikely to need a one-off photo that you can take while sitting near a Mac. Be sure to have your document ready on a well-lit surface, and then follow these steps:

- Control-click the Desktop, and in the contextual menu, choose Import from iPhone > Scan Documents.
- You see a dialog or popover, and a Camera app variant opens on your iPhone. This one offers a few more options than Take Photo:
- **Flash**: Tapping the flash icon lets you lock the flash on or off. The default is auto.
- **Filters**: Tap the Filter icon to choose which sort of scan to take: color, grayscale, black-and-white, or photo. The default is color.
- **Auto**: By default, the scanner will snap a picture automatically when it detects a document, but tapping Auto lets you change that to manual.
- Once your options are set, center the document in the viewfinder, and if Auto is enabled, the iPhone will capture the image automatically.
- If you're capturing the document manually, tap the shutter button. Drag the four circles to adjust the corners if necessary.
- If the scanner captured an image you didn't want (as happened in my video), tap Retake to go back.

Tap Keep Scan to add the scan to your queue.

For a multi-page document, you can continue scanning subsequent pages. Each additional scan is added as an extra page to the document. When you're done, tap Save to transfer your scans to your Mac as a PDF. The scanned document is not saved on the iPhone.

It's tempting to import directly into apps, and for a quick photo or single-page scan, that should work well. However, you might prefer to import photos and scans to the Desktop first, and then drag them to their eventual destination. That approach gives you another copy of the file, which may provide more flexibility or security—you never know when you'll need a photo or scan again. As with many Continuity features, Continuity Camera can be fussy. Its contextual menu commands sometimes disappear, presumably due to communication lapses. Once when I was scanning, tapping the Save button did nothing — this might have been an indication of a communication failure. And another time, it just threw up its hands.



Nonetheless, we've found Continuity Camera to be among the most useful features of Mojave. Although we're still recommending that most people hold off on upgrading to Mojave, once you take the leap, be sure to give Continuity Camera a try!

Software Review

Security Update 2018-002 (High Sierra) Oct 30, 2018 – 421.1 MB

System Requirements - macOS 10.13

Security Update 2018-002 is recommended for all users and improves the security of macOS.

Security Update 2018-005 (Sierra) Oct 30, 2018 – 421.1 MB

System Requirements – macOS Sierra 10.1

Security Update 2018-005 is recommended for all users and improves the security of macOS.

macOS Mojave 10.14.1 Update Oct 30, 2018 System Requirements - macOS Mojave 10.14

The macOS Mojave 10.14.1 update improves the stability, compatibility and security of your Mac, and is recommended for all users.

This update:

Adds support for Group FaceTime video and audio calls, which support up to 32 participants simultaneously, are encrypted end-to-end for privacy, and can be initiated from a group Messages conversation, or joined at any time during an active call.

Adds over 70 new emoji characters, including new characters with red hair, gray hair and curly hair, new emoji for bald people, more emotive smiley faces and additional emoji representing animals, sports and food.