

printout

Keystone MacCentral Macintosh Users Group ❖ <http://www.keystonemac.com>

**We're on summer break
until September**



Just hanging out...

Meet us at
Bethany Village Retirement Center
Education Room
5225 Wilson Lane, Mechanicsburg, PA 17055
Tuesday, September 17th 2019 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 © 2019, Keystone MacCentral, 310 Somerset Drive, Shiresmanstown, PA 17011.

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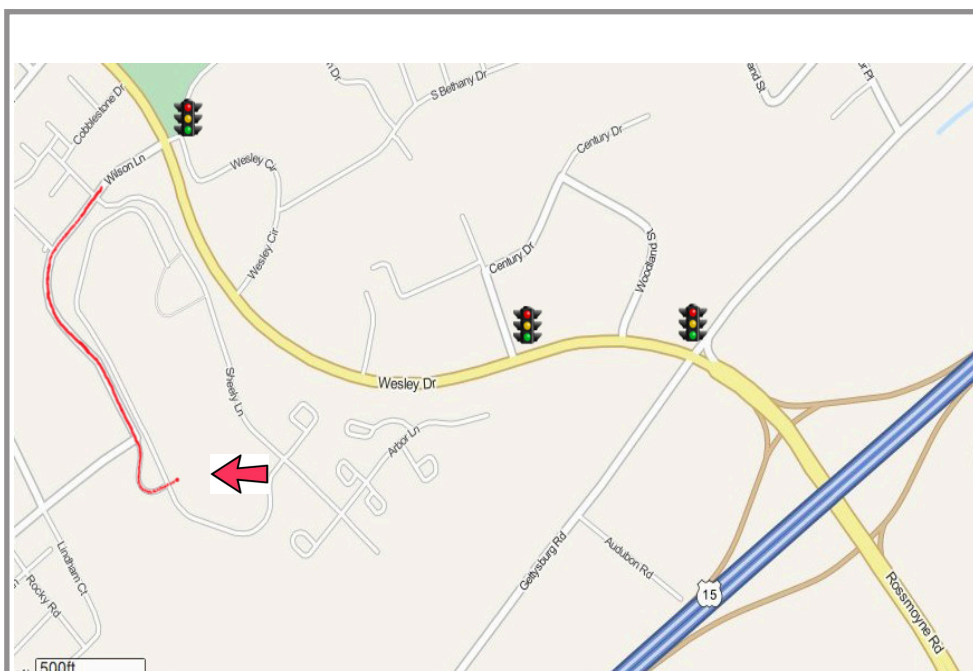
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By Josh Centers

Stop Using Your 2015 15-inch MacBook Pro

Apple has issued a [voluntary recall for certain 15-inch MacBook Pro units](#) sold primarily between September 2015 and February 2017. These are older-model MacBook Pros that predate the Thunderbolt 3 models that Apple now ships.

Apple said that it “has determined that, in a limited number of older generation 15-inch MacBook Pro units, the battery may overheat and pose a fire safety risk.” To see an example of what Apple is talking about, check out the video on Cory Andersen’s [Reddit post](#) and [tweet](#), which shows his

MacBook Pro spewing smoke, with clear burn marks on his wooden deck. We certainly hope Apple will be giving Cory a new 15-inch MacBook Pro for his trouble.

For this reason, Apple says that if you have an affected MacBook Pro, you should stop using it immediately and turn it over to Apple or an Apple Authorized Service Provider for a free battery replacement. To see if your 15-inch MacBook Pro is included in the recall, enter your MacBook Pro’s serial number on [Apple’s recall page](#). 📧

By Josh Centers

Apple Expands Its Repair Partnership with Best Buy

Apple has announced that [it has expanded its repair partnership with Best Buy](#), making every store (nearly 1000) across the United States an Apple Authorized Service Provider. The move is aimed at addressing complaints that Apple can’t keep up with the number of device repairs needed.

But should you take a broken Apple device to Best Buy to be fixed? Apple said in its announcement that Best Buy uses genuine parts and that Apple backs every repair. [Best Buy says](#) it can do screen repairs, battery replacements, and more, often with same-day service, although the fine print on Best Buy’s press release acknowledges that “certain repairs may require a longer mail-in exchange process,” presumably to Apple. In such cases, you may be better off sending the device to Apple yourself.

That said, even Best Buy locations recommended by Apple Support have turned me away when I’ve sought to have devices repaired in the past, and other TidBITS contributors have stories of Best Buy’s Geek Squad techs being unable to resolve standard repair problems. Developer [Michael Tsai wonders](#) if Best Buy will be able to perform MacBook Pro keyboard replacements in-house and if the company will attempt to charge for what are supposed to be free services. Tsai also shares some negative stories about Best Buy’s Geek Squad.

Regardless, if you don’t have an Apple Store in your area, Best Buy might be your best bet for quick turnaround. But if same-day repair isn’t essential, Apple’s mail-in service might be better. 📧

If you go to NYC on the train and come out of Penn Station on 7th avenue you will see these ads on the side of Hotel Pennsylvania:

Charles Palenz



Fix Apple Hardware Problems with Deep Cleaning

Have you ever had something professionally repaired, only to feel like an idiot when you saw how simple the actual repair was? I had that experience recently when we took my wife's iPhone 8 Plus to the Genius Bar. The problem was that the volume out of the earpiece was too quiet, even at full volume. We had tried adjusting various settings to no avail.

I felt like a dummy when the Apple support guy pulled out a lens brush, stabbed and brushed some crud out of the top speaker (the one that looks like a line above the screen), and handed the phone back to my wife. Calls were once again crystal clear! What made me feel even dumber is that I bought her the iPhone 8 Plus to replace an iPhone 6s that had suffered from a similar problem (on the plus side, that iPhone is now a great iOS 13 test device).

So I decided to see if I could fix that old iPhone 6s with a little spring cleaning, which led to a series of cleanings that fixed some long-standing hardware issues.

Assemble Your Gear

Before we get started, there are a few tools you'll want to find from around the house or purchase. They include:

- Lens brush
- Lens blower
- Cotton swabs
- Rubbing alcohol
- Paper towels
- Wooden toothpicks
- Vacuum cleaner with brush and crevice attachments
- Microfiber cloth
- Compressed air

If you lack a lens brush, lens blower, and microfiber cloths, you can buy a lens cleaning kit for under \$10.

Increase Call Volume by Cleaning Your iPhone's Top Speaker



Thankfully, I happen to have a lens brush. If you don't have one, they're inexpensive and handy for electronics cleaning. In a pinch, you could use a soft-bristle toothbrush, but be very gentle with it.

I started by doing what I saw the Apple guy do: "stabbing" the ear speaker with the brush. That seemed to provide some improvement, but after several stabs and sweeps, it still wasn't nearly as loud on a test call as I had hoped.

Next, I pulled out a cotton swab and used it to scrub the speaker. That resulted in black lines on the swab, which, along with some modest volume improvement, told me I was on the right track. I decided to pull out the big guns and add a little alcohol to the swab.

You always need to be careful when mixing liquids and electronics, even with rubbing alcohol, since it can be up to 30% water. The goal is to have the swab damp enough to clean, but not so wet that it could drip into whatever you're cleaning. I dip the swab in the alcohol and then squeeze it out into a paper towel, leaving the swab just barely damp with alcohol.

Scrubbing with the damp cotton swab produced big black streaks on the swab. After that, I stabbed the speaker a bit more with the brush and finished by blowing the speaker out with a camera lens blower. Don't use compressed air here, since it can leave moisture behind and damage delicate parts with its high pressure. That combination of techniques worked—the speaker once again put out full volume.

iMac: Fix Performance Issues with a Vacuum Cleaner

Ever since installing macOS 10.14 Mojave on my 27-inch iMac with Retina display, it had been suffering slowdowns and beachballs. I wondered if CPU temperatures had something to do with it. I installed iStat Menus, a great utility that's included with MacPaw's Setapp subscription service, and was alarmed to see idle CPU core temperatures between 90° and 100° C. I haven't been checking to see what "normal" temperatures are in this iMac, but that seemed too high for idle. (Adam Engst's identical iMac seems to idle around 70° C and may need some cleaning too.)

Over time, as fans and heatsinks accumulate dust, they don't remove heat as well as when they were clean — the dust acts as an insulator. That heat buildup makes the CPU

less stable and prone to damage, so the CPU will throttle itself in an attempt to bring the temperature down. In other words, something as simple and commonplace as dust can make your Mac slower and less stable.

In a traditional tower design like the old Mac Pro and Power Mac models, cleaning is easy: open it up and blow out the dust. In a sealed-up iMac, that isn't so easy. Sure, you could take it apart and clean it out, and some technomasochists do that, but I wouldn't recommend going that far unless there was something seriously wrong, because it's far from simple and you could easily cause new problems.

The standard advice here is to use compressed air to blow out the vents, but that's a terrible idea since doing so doesn't remove the dust but instead spreads it around the inside of the iMac. For a better approach, employ a vacuum cleaner.

I know what some of you are thinking: vacuum cleaners can produce a lot of static electricity, which can be dangerous for sensitive computer components. However, vacuuming should be safe as long as the case is on and you're not touching bare circuit boards.

The iMac has two sets of vents. The first set, a series of slots along the bottom of the display, sucks in room-temperature air. The second set on the back of the display, just behind where the stand connects to the display, expels warm air. You might notice some dust inside those vents if you look closely.



The iMac's rear vents.



The iMac's bottom vents.

Here's how to clean those vents:

- Power down your Mac.

- Disconnect all peripherals and set them aside.

- Clear any extra junk off your desk.

- Lay a blanket or towel down on your desk, and carefully lay the iMac face down on it.

Scoot the iMac so that the bottom vents hang over the edge of the desk so you can easily vacuum them.

Vacuum the bottom intake vents, which extend the width of the display. A notched crevice tool is handy for this, or you can use a soft brush attachment.

Vacuum the exhaust vents, again with either a soft brush attachment or the crevice attachment. It might be a little tricky because the stand hinge is in the way, but do what you can.

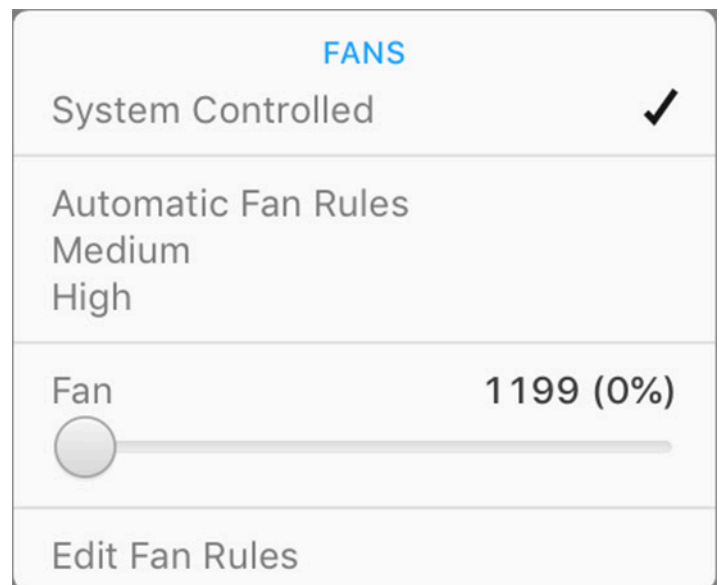
Vacuum the ports on the back of the iMac, along with vents on any external hard drives, monitors, and other peripherals.

While you have the vacuum out, clean the entire area on the desk and around the computer to reduce the amount of nearby dust that could be sucked into the iMac.

Stand the iMac back up (you may need a helper to pull the towel or blanket out from under it), reconnect everything, and power it on.

Once I did that, iStat Menus reported CPU temperatures between 50° and 80° C during a normal workday.

If you have iStat Menus, here's one last thing you can do after vacuuming to get even more dust out. Click the iStat Menus temperature in the menu bar, choose Fans, and click High. That runs the fans on their highest setting, which will help expel more dust. Let that run for a few minutes, and then you can set it back to System Controlled.



iStat Menus lets you control your system fan speed, which can help expel more dust.

AirPods: Fix Charging and Connection Issues

AirPods are amazing. They're also disgusting. In your pocket, they're little dirt magnets, and in your ears, the speaker openings seem to double as wax scrapers. I had begun to have trouble charging my AirPods and getting them to connect after being removed from the case, but after a good cleaning, those problems went away.

First, you'll want to clean the case. A microfiber cloth is fine for the outside and much of the inside. Use a wooden toothpick to scrape gunk out of crevices and a cotton swab for larger crevices, like where the AirPods fit into the lid.



Pay special attention to the holes the AirPods fit in, since the charging connectors are at the bottom. I like to spray compressed air into those holes and then run a cotton swab down there to pick up any remaining debris.

Finally, there are the AirPods themselves. Start by wiping them all over with a microfiber cloth, especially the metal charging connectors on the bottom. Now here's the crucial part: take your toothpick and scrape carefully around the edges of the speaker grills. Each AirPod has three sets, two on the inside and one on the outside, and they will almost certainly be caked with earwax and other gunk. Also, note the tiny microphone hole below the outside speaker grille. You can insert the tip of your toothpick into that to clear out any gunk. I also used a lens blower to blow the hole out.



Once that ugly business is done, use a lens brush to clear any debris from the speaker grilles and finish off with a lens blower to blow away debris that remains.

Other Problems You Can Fix with Cleaning

In addition to these problems above, there are a few others that you can often resolve with a little cleaning:

Bad Lightning connections can often be fixed by picking lint and other crud out of an iPhone's or iPad's Lightning port with a wooden toothpick. Follow it up with a blast of compressed air. Be careful to avoid the pins in the port, and avoid using a metal tool that could damage the pins.

If you have an old iPhone or iPad with a sticky Home button, try cleaning the rim with an alcohol-soaked cotton swab while depressing the Home button. That often fixes it. As noted above, blot the swab with a paper towel first to remove excess liquid.

If you have a MacBook with a troublesome butterfly keyboard, you can vacuum the keyboard with a soft brush attachment to reduce the chance of dust and crumbs from getting into the sensitive mechanisms.

I fixed a sticky Tab key on my 2016 MacBook Pro using the same method as with the Home button above, rubbing around the key with an alcohol-soaked cotton swab while pressing the key down. But if you're having more significant problems, remember that Apple has a repair program for those models (see "[Apple Announces Service Program for Butterfly-Switch Keyboards](#)," 25 June 2018). 🗑

By Josh Centers

A Million Streams and Nothing to Watch? Reelgood and JustWatch to the Rescue!

More and more of us now get our video content from streaming services. But unlike the "good old days," you can't just look at TV Guide to see what TV shows and movies are on. (Nor do you have to adjust your 19-inch TV's rabbit ears or climb on the roof to move the antenna, so no complaining.) Sure, most of

these services have at least passable browsing and search capabilities (albeit tainted by user-hostile interfaces — see "[#DeathToAutoPlay—No More Audio and Video That Plays Automatically!](#)," 6 February 2019), but you never know which service has the show you want.

Apple has tried to solve this with the Apple TV app, but since not every service (mainly Netflix) participates, it's just an extra, unhelpful layer. And Netflix itself doesn't make content easy to find. It often seems like Netflix shows you what it wants you to see instead of what you want to see. To a degree, that makes sense. Netflix would prefer that you get hooked on its original shows, instead of something like Friends that it has to [pay \\$100 million per year](#) for and [will lose anyway](#).

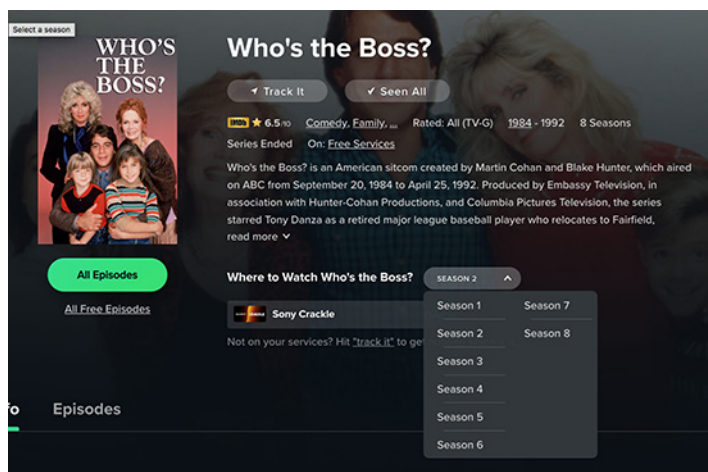
I used to use the Can I Stream It? Web site to find content, but it seems to have been abandoned. As it turns out, there are a number of these services now, but two have been recommended to us: [Reelgood](#) and [JustWatch](#). Both are free to use, offer iOS apps, and don't require an account, though they provide more features to those who sign up.

We found that it's usually worth checking both services to find the content you want to watch, since both have gaps in their data. Here's what they help you do.

Search Across Multiple Streaming Services

The marquee feature of both Reelgood and JustWatch is that they can search across multiple streaming services for content. How many? By our count, Reelgood is the clear winner on that metric, searching 71 services, while JustWatch searches across just 47. The reason for the difference is that Reelgood supports more streaming services tied to TV channels, like Adult Swim, BBC America, and Fox. Reelgood also supports anime streaming service Crunchyroll and independent movie service IndieFlix while JustWatch doesn't.

You might think of this as an instant win for Reelgood, but not so fast. Although JustWatch doesn't have as extensive a database or as slick an interface, its search results are often more useful. For instance, if you search for the 1980s sitcom *Who's the Boss?* on Reelgood, you first have to click the search result, and then drill down into the specific season you want.



*Reelgood looks good
but requires additional clicking around.*

As it turns out, the only place to stream *Who's the Boss?* is Crackle. Reelgood tells me that Crackle has four seasons available when it only has two. Meanwhile, JustWatch correctly tells me from the search results page that it's on Crackle and there are only two seasons.

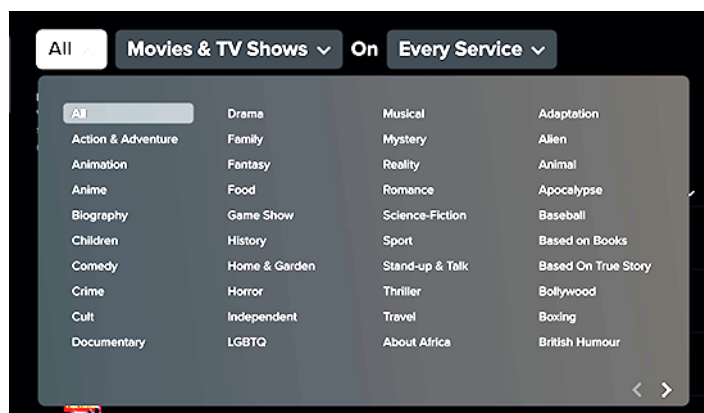


*JustWatch isn't quite as pretty,
but it seems a bit more direct and accurate.*

Look for a Show by Browsing Genres

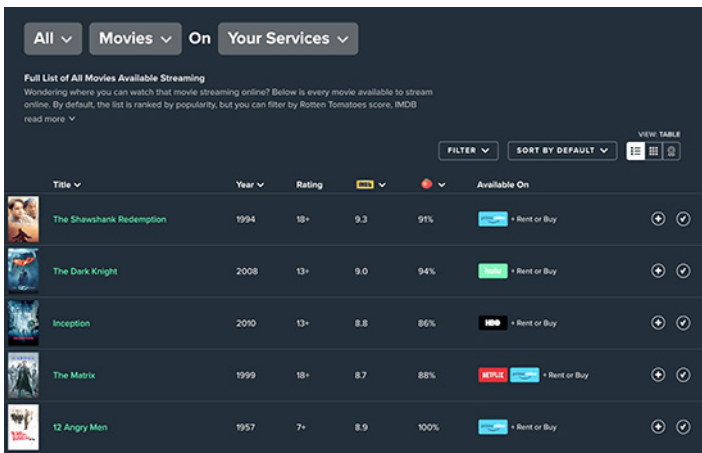
A lot of times, when you turn on the TV, you know exactly what you want to watch. But sometimes you don't, so it's useful to have a way to browse content by genre.

Reelgood enables this with a filterable list, which you can filter by genre, media type (movie or TV show), and service. The selection of genres offered by Reelgood is surprisingly broad, including categories like alien, apocalypse, Greece, robot, tank, and time travel (I wonder if there's a movie that hits all of those?).



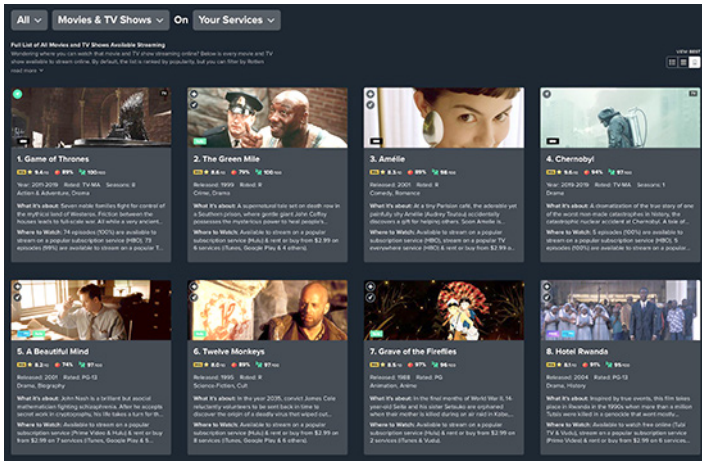
Look at all those genres in Reelgood!

You can sort the results of browsing or searching by title, year, IMDB rating, and Rotten Tomatoes rating. Annoyingly, although Reelgood includes an age rating, you can't sort by it.

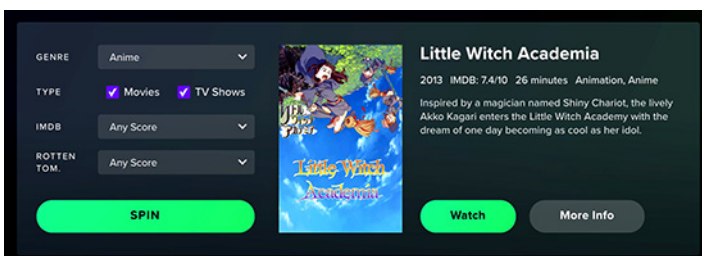


Click column headers to sort Reelgood's title list by a variety of options.

You can also switch the Reelgood title list to Grid layout, which retains the sort option from list layout, but even more interesting is its Best layout, which sorts by a Reelgood 100-point score that seems to combine IMDB and Rotten Tomatoes ratings.

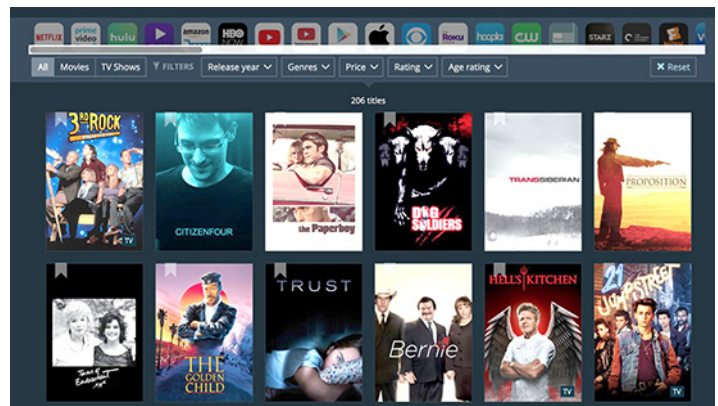


Completely at a loss for what to watch? Let Reelgood's [Netflix Roulette](#) pick for you. Choose a genre, a media type, an IMDB score, or a Rotten Tomatoes score and click Spin. Click Watch to go directly to that entry on Netflix.



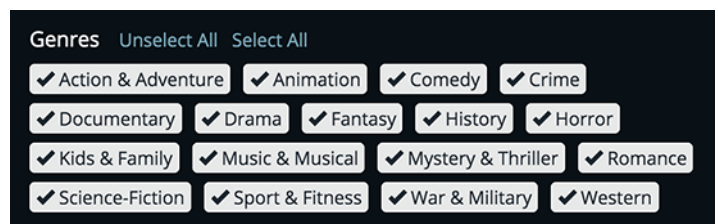
"Feeling lucky?"

In comparison, JustWatch is again all about expediency. From its home page, you can filter its entire title list by media type, release year, genre, price, rating, and yes, age rating.



JustWatch lets you filter the available titles right from its home page.

Unfortunately, JustWatch's genre list pales in comparison to what Reelgood offers.

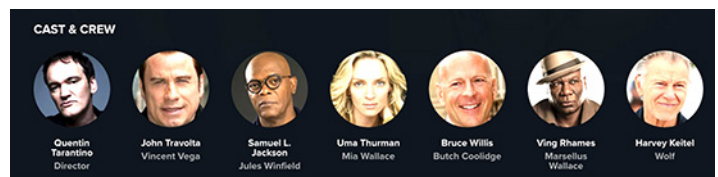


JustWatch doesn't provide many genres.

Find All Titles Related to a Particular Person

Maybe you want to watch something with a particular actor or director. The obvious thing to do is search. Unfortunately, this doesn't work well with Reelgood. Searching for "Tarantino" brings up a few movies with the name in the title and some unrelated stuff. JustWatch works significantly better — searching for "Tarantino" mostly brings up his movies, along with a few tangentially related titles.

Browsing through a particular person's work operates similarly on both services: pull up a title involving that person and click their name. Reelgood makes that more accessible, thanks to headshots and generous spacing.



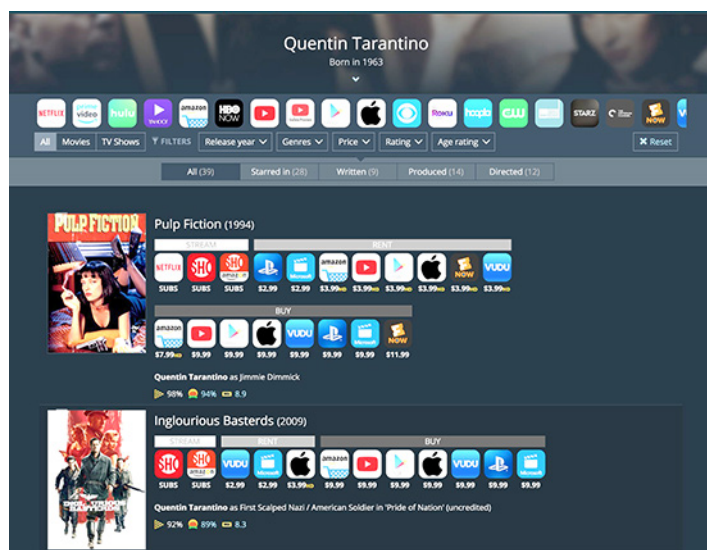
Reelgood's Cast & Crew list is attractive and easily navigated.



As with so many other things, JustWatch's Cast list is less fancy.

Although Reelgood makes it easier to get to a person's filmography, JustWatch's results once again provide more capabilities on a single screen, listing stream, rent, and buy options for all available services and letting you filter the

results by all the aforementioned criteria. Reelgood presents a table just like the genre table described above, which you can switch to Grid or Best layout.



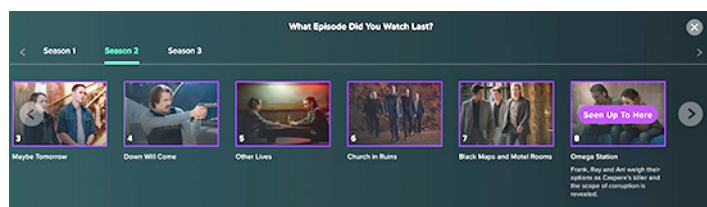
JustWatch's artist detail screen is overly busy but gives a lot of options in one place.

Make a Watchlist

People like making watchlists (even if they [seldom watch what they put on them](#)) for tracking what they want to see and may wish to watch again. JustWatch's watchlist feature is straightforward: click the bookmark icon on a title to add it. You don't need an account to create or maintain a watchlist, just to sync it between devices. The JustWatch watchlist displays movies and TV shows side by side, though you can filter them with the usual JustWatch options.

Reelgood doesn't offer a unified watchlist. Instead, it provides three: one for TV shows, another for movies you want to see, and a third for movies you've seen. That complexity can be irritating, but it pays off when tracking TV shows.

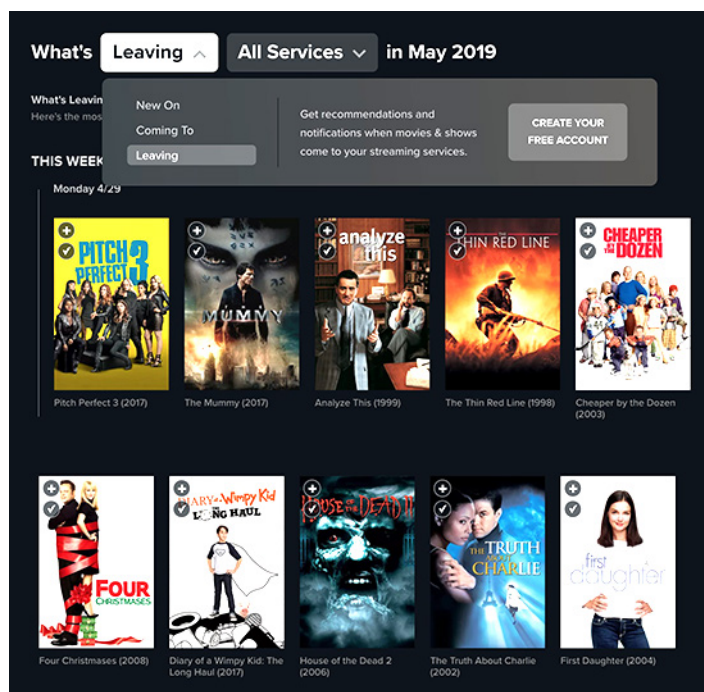
When you add a TV series to your Reelgood list (by moving your mouse pointer over a title and clicking Track Series), the service asks whether you've seen All, Some, or None of a series. If you click Some, Reelgood prompts you to select the last episode you watched. That makes it easy to watch the next episode when you select that series in your TV show list. Both services notify you when added items appear on your services or when your tracked TV shows get new episodes.



Reelgood helps you track where in a TV series you are.

Find Titles about to Expire in Reelgood

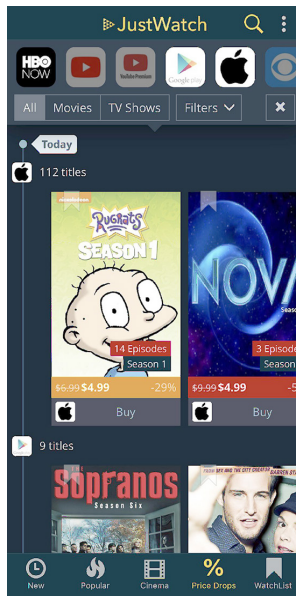
Reelgood can keep you apprised of changes to your streaming service lineup with its [New, Coming, Leaving](#) feature. A lot of times titles will leave a streaming service before you even knew they were there, so this feature helps you catch those gems before they disappear. Likewise, you can filter by New On to see what has arrived recently, or Coming To to see what to look for in the future. I have a knack for renting movies just before they hit streaming, so I particularly appreciate this list. JustWatch has no equivalent.



Peer into the future with Reelgood's New, Coming, Leaving feature.

Track Price Drops with JustWatch

In the "turnabout is fair play" category, the JustWatch iOS app has a tab that tracks price drops of purchases and rentals from services like iTunes, Amazon, and Google Play. You have to select the services you like to purchase from at the top for results to show. Reelgood has no equivalent.



Turn to the JustWatch iOS app to track rental and purchase price drops.

More Than Pretty Faces

On the surface, Reelgood's designers have created a better overall interface, especially for browsing, whereas JustWatch's filters can help you quickly find things you might want to watch. My impression is that JustWatch provides better search results, but if you don't find what you want on one service, it pays to check the other, since both have strengths and weaknesses.

The good news is that both services are free, so you can easily give them both a try, even without creating an account. If you find that you greatly prefer one over the other, you can sign up (also for free) to track your favorite shows and keep up with what you've already watched.

How useful Reelgood and JustWatch will be to you depends in part on how you get your TV and movies. 📺

By Curtis Wilcox

Apple to Deprecate Scripting Languages in Future Versions of macOS

When Apple announces major new versions of macOS, the company often includes details not just about the next release but also about what will come further in the future. The first macOS 10.15 Beta Release Notes has a Deprecations section that says:

Scripting language runtimes such as Python, Ruby, and Perl are included in macOS for compatibility with legacy software. Future versions of macOS won't include scripting language runtimes by default, and might require you to install additional packages. If your software depends on scripting languages, it's recommended that you bundle the runtime within the app.

What does this note mean?

The most absolute interpretation is to assume that Apple means "[all] future versions" after Catalina won't include the runtimes necessary to execute scripts written in these scripting languages.

However, Apple has at times deprecated longstanding components without removing them entirely. For instance, when Apple introduced `launchd` in Mac OS X 10.4 Tiger, it deprecated the venerable `cron` scheduling system; ten macOS versions later and `cron` is still humming along, available for users.

So this may all be a tempest in a teapot if Apple doesn't end up following through on this threat. But that won't become clear for at least a year, and in the meantime, we'll

all have to ponder the implications if Apple does kick these languages to the curb.

Why remove these scripting languages at all?

Three reasons: security, efficiency, and focus.

These languages are common in Unix-based systems and have been in Mac OS X since 2001, so why remove them now? Apple has progressively changed macOS to make it more secure, and that is likely the company's primary motivation for this change. Gatekeeper prevents the automatic running of applications from unknown developers, but scripts are just text files that can do a great deal when executed by the scripting language runtime.

Removing scripting languages will also make macOS use less disk space. The runtime programs for each are small, but like all programming languages, they have many code libraries, common tasks script writers can call upon so they don't have to reinvent a particular wheel. macOS comes with thousands of these library files that total over 150 MB. That's not a lot in the scheme of things, but it's also not trivial with an operating system that has to be downloaded millions of times.

Finally, there's a principle that in business, you should focus on your strengths. Maintaining these languages has not been one of Apple's; the company has not kept current with updates to the languages, and users can't easily use

standard tools to find and install additional libraries from the vast repositories available.

Who is affected, and what are their options?

How troubling the loss of these scripting languages will be depends on who you are.

• Script Writers

The people who know these scripting languages the best will be the least affected. Those who write scripts for Web development, scientific analysis, or to get other work done in their preferred language already know that maintaining the default installations is not one of Apple's strengths.

For a long time now, serious users of these languages have been installing separate copies in other folders so they can keep them up to date and easily install libraries from the repositories. That will almost certainly remain possible even after Apple removes the default installations.

• App Developers

Mac apps are written in compiled languages but sometimes contain scripts within their app bundles to perform specific tasks. Apple's deprecation notice recommends that developers include the script's runtime executable within the application; this shifts responsibility to the developers.

Although multiple apps needing their own copies of Perl, for instance, might seem inefficient, developers need to include only the runtime and exact libraries they use, not a full scripting language installation. Some apps have already taken this route to keep using Java, and many modern apps rely on the Electron framework, which includes Node to run JavaScript.

Alternatively, developers can switch to using compiled code, either rewriting scripts from scratch in a different language or using a tool designed to convert a script into a binary executable format.

• Mac Administrators

People who manage many computers for a school or business rely on automation, and automation, in turn, makes heavy use of scripting. While most app developers are already accustomed to dealing with Apple's security measures for compiled code, Mac administrators are not, so it will be much harder for them to kick the scripting habit.

While some admins are fluent in one or more of these scripting languages, many more are like me, knowing just enough to get by and use scripts shared by the community. For instance, Greg Neagle's Munki is a popular open-source tool for managing Mac software installs written in Python, but you don't have to be fluent in Python to use it. Admins currently tend to accumulate useful scripts written in a variety of languages, but installing and maintaining multiple languages on every Mac is too much work, so in the future, admins are likely to choose just one, limiting the number of

usable tools. For simpler tasks, admins can also switch to using shell scripts, which will be around at least as long as macOS includes the Terminal app.

• Apple

Before removing these scripting languages from macOS, Apple will need to address its own reliance on them. Xcode includes many libraries in all three of the mentioned languages, but it should be trivial for Apple to add the runtimes to Xcode's already enormous install. iMovie includes a lone Perl script, and it wouldn't surprise me if Apple's pro apps like Final Cut Pro X and Logic Pro X also contain some.

In addition to Apple's apps, macOS 10.14 Mojave contains over 175 scripts outside the folders devoted to Perl, Python, and Ruby. Some are a part of the language, just in a different place, but the rest serve varied purposes. Once I realized how many there were, it seemed much less likely that all three languages would be removed in the macOS version after Catalina.

• Everyone Else

It's hard to say how many everyday users rely on at least one app that contains at least one script. For actively maintained apps, the developer will solve this for the end user. For some open-source projects, particularly cross-platform ones for which macOS is not the primary platform, project contributors may not get around to incorporating a solution.

For those cases and for apps that are no longer maintained, there is a solution: install the scripting language yourself. Each scripting language has its own method of Mac installation, but the simplest and most common method is a general package management system like [Homebrew](#). Homebrew itself is made up of Ruby scripts; I expect its developers will heed Apple's warning and include that runtime before Ruby disappears in a future version of macOS.

If you're curious how many of your applications contain scripts in these languages, try copying this command and pasting it into Terminal:

```
find /Applications -type f | while read in ; do if file -b  
"${in}" | grep -q 'Perl\|Python\|Ruby' ; then echo "${in}" ; fi  
; done
```

The first parameter after **find** is the folder to be checked. On my Mac, Plex Media Server contains many Python scripts and BBEdit includes a couple, as do a handful of other applications, generally from smaller companies or open-source projects.

Start Planning

The point of deprecation notices is to give people time to make changes, but typically these notices don't operate on a fixed schedule. If Apple itself can't prioritize ending its reliance on scripts or if the company hears from significant

constituencies that they're not ready, one or more of the languages may stick around.

Even if Apple removes all the scripting languages from the macOS 10.16 release in 2020, it won't be as significant a change as other deprecations, such as the [end of 32-bit app support](#) coming to fruition in macOS Catalina. Unlike that

change, if Apple removes a scripting language, you can always put it back.

One final note. Swift can be used as a scripting language, and although its runtime isn't currently included with macOS, it's possible that Apple will anoint it as the Mac's scripting language of choice at some point in the future. 🗑

Software Review

Apple Updates

macOS Mojave 10.14.6 Combo Update

Jul 22, 2019 — 3.37GB

System Requirements
macOS Mojave 10.14

The macOS Mojave 10.14.6 update improves the stability and reliability of your Mac, and is recommended for all users.

This update:

- Makes downloaded issues available in the My Magazines section of Apple News+, both online and offline
- Adds all publications in Apple News+, including newspapers, to the catalog at the top of the News+ feed
- Adds the ability to clear downloaded magazine issues in Apple News+ by selecting History > Clear > Clear All
- Addresses an issue which prevents creation of a new Boot Camp partition on iMac and Mac mini with Fusion Drive
- Resolves an issue that may cause a hang during a restart
- Resolves a graphics issue that may occur when waking from sleep
- Fixes an issue that may cause fullscreen video to appear black on Mac mini
- Improves file sharing reliability over SMB

macOS Mojave 10.14.6 Update

Jul 22, 2019 — 2.67GB

System Requirements
macOS Mojave 10.14.5

The macOS Mojave 10.14.6 update improves the stability and reliability of your Mac, and is recommended for all users.

This update:

- Makes downloaded issues available in the My Magazines section of Apple News+, both online and offline

- Adds all publications in Apple News+, including newspapers, to the catalog at the top of the News+ feed
- Adds the ability to clear downloaded magazine issues in Apple News+ by selecting History > Clear > Clear All
- Addresses an issue which prevents creation of a new Boot Camp partition on iMac and Mac mini with Fusion Drive
- Resolves an issue that may cause a hang during a restart
- Resolves a graphics issue that may occur when waking from sleep
- Fixes an issue that may cause fullscreen video to appear black on Mac mini
- Improves file sharing reliability over SMB

About iOS 12 Updates

iOS 12 brings performance improvements and exciting new features to iPhone and iPad. Photos introduces new features to help you rediscover and share the photos in your library, Memoji—a new, more customizable Animoji—make Messages more expressive and fun, Screen Time helps you and your family understand and make the most of the time spent on devices, Siri Shortcuts deliver a faster way to get things done with the ability for any app to work with Siri, augmented reality becomes even more engaging with the ability for developers to create shared AR experiences, and new privacy features help protect you from being tracked on the web.

iOS 12.4

iOS 12.4 introduces iPhone migration to directly transfer data from an old iPhone to a new iPhone, includes enhancements to Apple News+ and improves the security of your iPhone or iPad. This update:

iPhone migration

Introduces the ability to wirelessly transfer data and migrate directly from an old iPhone to a new iPhone during setup

Apple News

Makes downloaded issues accessible in the My Magazines section, both online and offline

Adds all publications in Apple News+, including newspapers, to the catalog at the top of the News+ feed

Adds the ability to clear downloaded magazine issues by selecting History > Clear > Clear All

Other improvements and fixes

Includes a security fix for the Walkie-Talkie app on Apple Watch and re-enables Walkie-Talkie functionality

This release also includes support for HomePod in Japan and Taiwan.

iOS 12.3.2

iOS 12.3.2 resolves an issue that could cause Camera to capture Portrait mode photos without depth effect on some iPhone 8 Plus devices.

iOS 12.3.1

iOS 12.3.1 includes bug fixes for your iPhone and iPad. This update:

Fixes an issue that could prevent making or receiving VoLTE calls

Fixes issues in Messages that could cause messages from unknown senders to appear in your conversation list even though Filter Unknown Senders is enabled

Fixes an issue that could prevent the Report Junk link from appearing in Messages threads from unknown senders

iOS 12.3

iOS 12.3 includes support for AirPlay 2-enabled TVs and features a redesigned Apple TV app. This update also includes bug fixes and improvements.

AirPlay 2

AirPlay 2 now supports sharing videos, photos, music and more from your iPhone and iPad directly to your AirPlay 2-enabled smart TV

One-tap playback automatically plays your chosen TV show or movie on the last screen you used based on time and location

Siri Suggestions to watch movies and TV shows now include an option to AirPlay

Intelligent suggestions are all done on-device so your personal information stays private

Apple TV app

The Apple TV app features an all-new design that highlights expertly curated collections and personalized recommendations

Apple TV channels offer subscriptions to HBO, Showtime, Starz, and more, available to watch directly in the Apple TV app, online or off

Subscriptions to Apple TV channels can be shared with up to six family members, with no new apps, accounts, or passwords needed

New release movies are available to buy or rent in the Apple TV app, including the full catalog of over 100,000 movies and the largest selection of 4K HDR titles

A new dedicated kids section helps you discover editorially handpicked shows and movies safe for kids of all ages

The Apple TV app can now intelligently suggest playing to the most likely Apple TVs or AirPlay 2-enabled TVs nearby

This update also includes bug fixes and improvements. This update:

Adds the ability to follow a magazine from the Apple News+ catalog browsing view

Apple Music's For You tab now updates multiple times a day suggesting music based on themes like genres, artists, and moods you love

Disables accessories with insecure Bluetooth connections

Fixes an issue that could prevent Apple TV Remote from pausing video, controlling video, or changing volume on supported receivers

Addresses an issue that could cause calls made using Wi-Fi calling to drop

Fixes an issue where song information from a connected iPhone may not appear in a car's display

iOS 12.2

iOS 12.2 provides support for Apple News+, adds the ability for Siri to play videos from your iOS device to Apple TV, and includes four new Animoji. This update also includes bug fixes and improvements.

Apple News+

Apple News+ is a new subscription service that extends the Apple News experience with hundreds of magazines and top newspapers

Our editors handpick top articles and magazine issues, and you also get personalized recommendations on the topics most interesting to you

Automatic downloads make it easy to read magazine issues offline

Apple News is now available in Canada, with a free experience that includes handpicked Top Stories, a

personalized Today feed, and support for both English and French

Apple News+ is available in the U.S. and in Canada, with dozens of additional Canadian magazines

Siri

Ask Siri on your iPhone or iPad to play any video, show, movie, sports game, or channel on Apple TV. For example, “Hey Siri, play Free Solo on my TV”

Animoji

Four new Animoji — owl, boar, giraffe and shark — are included for iPhone X and later, iPad Pro 12.9-inch (3rd generation) and iPad Pro 11-inch

AirPlay

Dedicated TV controls in Control Center and on the Lock Screen give you quick access to TV controls

AirPlay multitasking for video allows you to browse other apps, as well as play other short form audio and video files locally on your device without interrupting AirPlay

AirPlay destinations are now grouped by content type making it faster for you to find what device you want to play to

Apple Pay

Apple Pay Cash customers can now transfer money to their bank accounts instantly using their Visa debit cards

Wallet app now conveniently displays Apple Pay credit and debit transactions right below the card

Screen Time

Downtime can be configured with a different schedule for each day of the week

A new toggle enables easily turning app limits on or off temporarily

Safari

Website sign-in now occurs automatically after filling credentials with Password AutoFill

Warnings now appear when loading unencrypted webpages

Removes support for the expired Do Not Track standard to prevent potential use as a fingerprinting variable; Intelligent Tracking Prevention now protects against cross-site tracking by default

Smart Search Field queries can now be modified by tapping the arrow icon next to search suggestions

Apple Music

The Browse tab shows more editorial highlights on a single page making it easier to discover new music, playlists, and more

AirPods

Support for new AirPods (2nd generation)

This update also includes other improvements and bug fixes. This update:

Supports Air Quality Index in Maps for US, UK, and India

Includes information in Settings on how much time remains on your device’s warranty period

Supports real-time text (RTT) for phone calls made through a nearby iPhone on iPad and iPod Touch

Displays a “5G E” icon for iPhone 8 and later, iPad Pro 12.9-inch (3rd generation) or iPad Pro 11-inch indicating that users are in an area where AT&T’s 5G Evolution network is available

Improves quality of audio recordings in Messages

Improves stability and performance of Apple TV Remote on iOS

Fixes an issue that prevented some missed calls from appearing in Notification Center

Addresses an issue where a badge notification could appear on Settings even though no action is needed

Addresses an issue in Settings > General > iPhone Storage where the storage size of some large apps, the System category, and the Other category in the storage bar graph could be incorrect

Fixes an issue that could cause Voice Memos to automatically play back recordings after connecting to a car Bluetooth device

Resolves an issue that could cause Voice Memos to temporarily prevent renaming a recording

iOS 12.1.4

iOS 12.1.4 provides important security updates and is recommended for all users.

iOS 12.1.3

iOS 12.1.3 includes bug fixes for your iPhone or iPad. This update:

Fixes an issue in Messages that could impact scrolling through photos in the Details view

Addresses an issue where photos could have striped artifacts after being sent from the Share Sheet

Fixes an issue that may cause audio distortion when using external audio input devices on iPad Pro (2018) Resolves an issue that could cause certain CarPlay systems to disconnect from iPhone XR, iPhone XS, and iPhone XS Max

This release also includes bug fixes for HomePod. This update:

Fixes an issue that could cause HomePod to restart

Addresses an issue that could cause Siri to stop listening

iOS 12.1.2

iOS 12.1.2 includes bug fixes for your iPhone. This update:

Fixes bugs with eSIM activation for iPhone XR, iPhone XS, and iPhone XS Max

Addresses an issue that could affect cellular connectivity in Turkey for iPhone XR, iPhone XS, and iPhone XS Max

iOS 12.1.1

iOS 12.1.1 adds features and fixes bugs for your iPhone and iPad. Features and improvements include:

Notification preview using haptic touch on iPhone XR

Dual SIM with eSIM for additional carriers on iPhone XR, iPhone XS, and iPhone XS Max

One tap to flip between the rear and front-facing camera during a FaceTime call

Live Photo capture during one-to-one FaceTime calls

The option to hide the sidebar in News on iPad in landscape orientation

Real-time text (RTT) when using Wi-Fi calling on iPad and iPod touch

Stability improvements for dictation and VoiceOver

Bug fixes include:

Fixes an issue where Face ID may temporarily become unavailable

Addresses an issue that prevented visual voicemail from downloading for some customers

Fixes an issue in Messages that could prevent predictive text suggestions when typing on the Chinese or Japanese keyboards

Addresses an issue that could prevent Voice Memos recordings from uploading to iCloud

Fixes an issue where time zones may not have updated automatically

This release also adds features and fixes bugs for HomePod including:

Support in China mainland and Hong Kong

HomePod LEDs illuminate during Group FaceTime calls

iOS 12.1

iOS 12.1 introduces Group FaceTime, adds over 70 new emoji, and includes support for Dual SIM with eSIM for iPhone XS, iPhone XS Max, and iPhone XR. This update also includes bug fixes and improvements.

Group FaceTime

Adds support for video and audio calls with up to 32 participants simultaneously

Encrypted end-to-end so your conversations remain private

Start Group FaceTime right from a group Messages conversation, or join an active call at any time

Emoji

Over 70 new emoji, 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

Dual SIM support

Introduces Dual SIM with eSIM which allows two numbers in one device for iPhone XS, iPhone XS Max, and iPhone XR

Other improvements and fixes

Introduces Depth Control in Camera preview for iPhone XS, iPhone XS Max, and iPhone XR

Improves cellular connectivity for iPhone XS, iPhone XS Max, and iPhone XR

Adds the ability to change or reset your child's Screen Time passcode using Face ID or Touch ID

Fixes an issue where the sharpest reference frame was not always selected in front-facing photos for iPhone XS, iPhone XS Max, and iPhone XR

Resolves an issue that caused messages to be merged into one thread when two users were signed in with the same Apple ID on multiple iPhones

Addresses an issue that prevented some voicemails from appearing in the Phone app

Resolves an issue in the Phone app that could cause phone numbers to appear without their corresponding contact name

Fixes an issue that could prevent Screen Time from reporting specific websites in the activity report

Addresses an issue that could prevent adding or removing family members from Family Sharing

Adds a performance management feature to prevent the device from unexpectedly shutting down, including the option to disable this feature if an unexpected shutdown occurs, for iPhone X, iPhone 8 and iPhone 8 Plus

Adds the ability for Battery Health to inform users that it is unable to verify if a genuine Apple battery is in iPhone XS, iPhone XS Max, and iPhone XR

Improves reliability of VoiceOver in Camera, Siri, and Safari

Fixes an issue that could cause MDM Device Enrollment to report an Invalid Profile error for some enterprise users

iOS 12.0.1

iOS 12.0.1 includes bug fixes and improvements for your iPhone or iPad. This update:

Fixes an issue where some iPhone XS devices did not immediately charge when connected to a Lightning cable

Resolves an issue that could cause iPhone XS devices to rejoin a Wi-Fi network at 2.4GHz instead of 5GHz

Restores the original position of the “.?123” key on the iPad keyboard

Fixes an issue where subtitles may not appear in some video apps

Addresses an issue where Bluetooth could become unavailable

iOS 12

Performance

iOS has been enhanced for a faster and more responsive experience across the system

All supported devices see improved performance, going back to iPhone 5s and iPad Air

Camera launches up to 70 percent faster, the keyboard appears up to 50 percent faster and typing is more responsive. Apps launch up to twice as fast when your device is under heavy workload,

Photos

New For You tab helps you discover great photos in your library with Featured Photos, Effect Suggestions, and more

Sharing Suggestions proactively recommend sharing photos taken at events with the people who are in them

Search enhancements make it easier to find your photos with intelligent suggestions and multiple keyword support

Search for photos based on the place, business name, or event where you were when you took them

Improved camera import with faster performance and a new large preview mode

RAW support for editing images

Camera

Portrait mode improvements preserve fine detail between subject and background when using Stage Light and Stage Light Mono effects

QR codes are highlighted in the camera frame, making them easier to scan

Messages

Memoji, a new, more customizable Animoji, make Messages more expressive with personalized characters that are diverse and fun

Animoji now also include T. rex, ghost, koala, and tiger

Make Memoji and Animoji wink and stick out their tongue

New camera effects bring Animoji, filters, text effects, iMessage sticker packs, and shapes to the photos and videos you capture in Messages

Animoji recordings can now capture up to 30 seconds

Screen Time

Screen Time provides detailed information and tools to help you and your family find the right balance of time spent with apps and websites

See the time spent in apps, usage across categories of apps, how many notifications are received, and how often devices are picked up

App limits help you set the amount of time you or your child can spend in apps and on websites

Screen Time for kids lets parents manage how their child uses iPhone and iPad right from their own iOS devices

Do Not Disturb

Turn off Do Not Disturb after a set time, location or calendar event

Do Not Disturb during Bedtime hides all notifications from your lock screen while you sleep

Notifications

Notifications from the same app are automatically grouped together to help you manage your notifications

Instant Tuning gives you control over your notification settings right from the lock screen

New Deliver Quietly option silently sends notifications directly to Notification Center without interrupting you

Siri

Siri Shortcuts deliver a faster way to get things done with the ability for any app to work with Siri

Add shortcuts using the “Add to Siri” button in supported apps, or in Settings > Siri and Search

Siri suggests shortcuts on the Lock screen and in Search

Get motorsports results, schedules, stats and standings for Formula 1, Nascar, Indy 500 and MotoGP

Search for photos by time, location, people, topic or recent trips to find relevant photos and Memories in Photos

Translate phrases in more languages, with support for over 40 language pairs

Check facts about celebrities, such as when they were born, and ask questions about food, including calories and nutrient content

Turn flashlight on or off

More natural and expressive voice now available in Irish English, South African English, Danish, Norwegian, Cantonese and Mandarin (Taiwan)

Augmented Reality

Shared experiences in ARKit 2 let developers create innovative AR apps you can experience together with friends

Persistence enables developers to save and reload experiences right from where you left off

Object detection and image tracking gives developers new tools to recognize real world objects and track images while they move through space

AR Quick Look extends AR throughout iOS, letting you view AR objects with built-in apps like News, Safari, and Files and share them with friends with iMessage and Mail

Measure

New augmented reality app to measure objects and spaces

Draw lines across surfaces or in free space to measure, and tap on a line’s label to see more information

Automatically measure rectangular objects

Capture, share and markup screenshots of your measurements

Privacy and Security

Enhanced Intelligent Tracking Prevention in Safari prevents embedded content and social media buttons from tracking cross-site browsing without your permission

Suppresses ad retargeting by reducing advertisers’ ability to identify iOS devices uniquely

Strong and unique passwords are suggested automatically when creating an account or changing a password in most apps and in Safari

Reused passwords are flagged in Settings > Passwords & Accounts

Security code AutoFill presents one-time security codes sent over SMS as suggestions in the QuickType bar

Sharing passwords with contacts is easier than ever using AirDrop from Passwords & Accounts in Settings

Siri supports quickly navigating to a password on an authenticated device

Apple Books

All-new design that makes discovering and enjoying books and audiobooks easy and fun

Reading Now makes it simple to get back to the book you’re currently reading or find great recommendations for what to read next

Add books to the new Want to Read collection to keep track of what you’d like to read next

The Book Store makes it easy to find your next favorite read with new and popular selections from our Apple Books editors and recommendations chosen just for you

The new Audiobooks store helps you find immersive stories and informative nonfiction books narrated by your favorite authors, actors, and celebrities

Apple Music

Search now supports lyrics so you can use a few of the words to find a song

Artist pages have an easier to browse design with a personalized station of any artist’s music

The new Friends Mix is a playlist of songs you’ll love from everything your friends are listening to

New charts to show you the daily top 100 songs in countries around the world

Apple News

Apple News is redesigned to make it easier to discover new channels and topics

The new sidebar on iPad and Channels tab on iPhone make it easy to jump straight to your favorite publications and discover new ones

Stocks

All-new design lets you easily view stock quotes, interactive charts, and top news on iPhone and iPad

Top Stories section includes articles selected by Apple News editors to highlight the latest news driving the market

Read Apple News stories right in the app, formatted to look great on iPhone and iPad

Watchlist includes color-coded sparklines that let you see daily performance at a glance

See an interactive chart for every ticker symbol, plus key details including after-hours price, trading volume, and more

Voice Memos

All-new design with improved ease of use

iCloud keeps your recordings and edits in sync across all of your devices

Available on iPad with support for both portrait and landscape orientation

TV

Get notified when movies and TV shows are available to watch in Up Next

Share your favorite movies, TV shows, and sporting events with universal links

Apple Podcasts

Now supports chapters for shows that include them

Skip 30 seconds or to the next chapter with forward and back buttons in your car or on your headphones

Easily manage new episode notifications from the Listen Now screen

Accessibility

Live Listen now works with AirPods to help you hear more clearly

RTT phone calling now works with AT&T

Speak Selection now supports using the Siri voice to speak text that you have selected

Other features and improvements

Camera effects in FaceTime transform your look in real-time

CarPlay adds support for third-party navigation apps

On supported campuses, use contactless student ID cards in Wallet to access buildings and pay with Apple Pay

Website icons can appear in tabs on iPad by enabling them in Settings > Safari

Weather includes air quality index in supported regions

Quickly swipe up from the bottom of the screen to go home on iPad

Swipe down from the top right to access Control Center on iPad

Mark Up includes a palette of additional colors and options to change line width and opacity for each tool

Battery usage chart in Settings now shows your usage for the last 24 hours or 10 days, and you can tap a bar to see app use for that period of time

On devices without 3D Touch, touch and hold the keyboard Space bar to turn your keyboard into a trackpad

Maps adds support for indoor maps for airports and malls with indoor positioning in China mainland

New definition dictionary in Hebrew, and bilingual dictionaries in Arabic and English, and Hindi and English

New English thesaurus

Automatic software updates allow iOS updates to be installed automatically overnight

About AirPort Base Station Firmware Update 7.9.1 May 30, 2019

System Requirements

AirPort Extreme and AirPort Time Capsule base stations with 802.11ac.

Firmware update 7.9.1 improves the security of your base station and is recommended for all AirPort Extreme and AirPort Time Capsule base stations with 802.11ac. 📺

