MLMUG Journal
MAIN LINE MACINTOSH USERS GROUP

FOUNDED MAY 1989
MEETINGS - SECOND SATURDAY OF THE MONTH

SOME WEBSITES

Apple Targets Apps Like Facebook Tracking You. This is a **must read article**, also discussing Apple building more privacy into our Apple devices. You can allow tracking if you opt in! yhoo.it/2MzTMc0.

The Best TV Under $1,000. Excellent review of the TCL 65-inch 6-Series, and very worthwhile read about 4K monitors. bit.ly/2MrJURv.

Buying A Monitor Is Like Navigating A Minefield. Tidbit's review of the LG 27UK850-W. About $400. Good explanation of what to look for in a monitor. bit.ly/2MoEQxo.

And Why Not The Best Ultrawide Monitors. The 34 inchers look great, there's even one for only $299.99, and there's a 49" model for $1,480. bit.ly/39skpIX.

HomePod mini: Is Apple's Smart Speaker Worth Getting For A Dumb Home? And the surprising answer is yes! bit.ly/3clKUSo.

FOCUS - M1 MACS & iOS 14

CUT THE CORD TO MICROSOFT OFFICE WITH APPLE PAGES AND NUMBERS

When Terry Wilson said goodbye to QuarkXPress after retiring from a career in graphic arts, she still found the need to create printed materials for personal use. Moving to Pages also gave her a reason ditch an aging Word app, soon followed by Numbers replacing Excel of the same vintage.

Pages has matured into a competent word processing and page layout application, and Numbers organizes data just fine, with a more intuitive interface.

Terry's presentation will demonstrate how these Apple applications are competent replacements for the two Office apps, and even page layout software.

Terry moved to California in 2011 from New Jersey but Covid has paved the way for her to do Zoom meetings in New Jersey and Pennsylvania after well over 10 years. Terry is a 30+ year member of PMUG and a past presenter and supporter of MLMUG. When we had inperson holiday parties we used her website, WhosBringingWhat.com, which still manages the potlucks.

FEBRUARY "LOCATION"
WE WILL MEET VIA ZOOM. GO TO ZOOM.US/DOWNLOAD TO DOWNLOAD THE APP. CLICK ON DOWNLOAD IN THE BIG BLUE BOX NEAR THE TOP CENTER.

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MLMUG Journal is published monthly by the Main Line Macintosh Users Group and is available online. It is produced using Apple Pages with a Helvetica Neue font (Same as Yosemite).

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Membership Information

Membership dues are $30 for individuals and $40 for families. Memberships are based on your anniversary date, which is the month you joined. You will be e-mailed reminders when membership fee is due.

If you're just visiting to check us out, or if you've been visiting for some time, but haven't joined, consider these **BENEFITS OF MEMBERSHIP**:

- **Monthly meetings**, where you can learn, share, and meet everyone from working Mac professionals to new Mac users from all backgrounds.
- **Monthly newsletter,** which is full of interesting Mac news, tips, and information.
- Useful free items at the monthly **Raffles**.
- **Discounts.** Vendors offer special prices to User Group members.
- **Web Site** with 2-3 years of MLMUG newsletters, meeting information, a member directory, directions to our meetings, and much more! Our web site is www.mlmug.org.
- **MLMUG Mailing List**, to post technical questions or comments to each other and the experts within the group.
- **Reviewers** keep items reviewed.

Are you ready to join? Please make a check payable to MLMUG and bring it to a monthly meeting or mail it to:

Treasurer, MLMUG

P.O. Box 1374

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Typical Meeting Agenda

9:00 - 9:05: Call to order in main meeting room.

9:05 - 10:15: Q&A Panel - 3 or 4 expert members will answer your questions about anything relating to your Mac, iPad, iPhone, iWatch, and any attached peripherals.

Questions can relate to the most basic items, equipment issues, Apple's operating systems, and all applications, including applications for photo, video, audio, and print media.

Answers are amazingly helpful and often in depth, exploring the subject beyond the question.

10:15 - 10:30: Welcome and other business.

10:30 - 11:50: Main Presentation (by a member or guest)

11:50 - Noon: Raffles and silent auctions.

Come join some fellow MLMUG members for lunch after the meeting at a nearby restaurant.

MLMUG Email list

The Main Line Macintosh Users Group has its own email list, hosted at Groups.io. Compose your letter and email it to MLMUG@groups.io and your message will be sent to everyone on the mailing list. Contact Bob Barton (barton@bee.net) if you are a member and you are not on the list.

Please observe good email etiquette. If your message is humor or not Apple-related (off-topic), please include "Humor" or "OT" in the subject line. The Groups.io Terms of Service are at groups.io/static/tos. Look for the section on "Conditions of Use"

The MLMUG list may be used to post Apple-related items for sale, but any solicitation of members through the list is forbidden without the written consent of a MLMUG officer. Violation of the Groups.io terms of service or good email etiquette may result in removal from the list.

New Users SIG

You don't have to wait a whole month to get answers to your basic Mac questions! Get together with other members on the fourth Saturday (i.e., two weeks after each regular meeting) for the Startup Folder Lite.

Many new users have said that they can learn much more from face-to-face meetings than they do from manuals or other sources. That's what this meeting is all about. Go to www.mlmug.org/nusfl.html for details.

Bookmarks

Adobe Flash

By Mark Bazrod

I keep seeing comments on Adobe Flash and I keep getting notifications on my Mac about installing or upgrading Flash so I thought I would write a column about Flash.

History

Adobe Flash is a pretty much discontinued software platform used for production of animations, web applications, desktop applications, mobile apps, mobile games, and web browser video players. Flash allows streaming of audio and video and can capture mouse, keyboard, microphone, and camera input.

End users view Flash content via Flash Player for web browsers, Adobe AIR (for desktop or mobile apps), or third-party players such as Scaleform for video games.

Flash was released in 1996. It was initially used to created fully-interactive websites, but this approach was phased out with the introduction of HTML5. Instead, Flash found a niche as the dominant platform for online multimedia content, particularly for browser games.

in 2010 Steve Jobs wrote an open letter stating that he would not approve the use of Flash on Apple iOS devices due to numerous security flaws.

HTML5 stuck the boot into Flash's dying body, dooming it to irrelevance.

Flash was officially discontinued on December 31, 2020, with many web browsers and operating systems scheduled to remove Flash around the same time. But not all have.

Flash is not secure!

Among the vulnerabilities Symantic discovered in 2009 was a vulnerability affecting both Adobe Reader and Flash which was the second most attacked vulnerability. Additionally, Flash vulnerabilities have been associated with malicious code attacks.

Bugs in the browser software used by Flash gave hackers lots of opportunities to gain access to memory. When they do that, they can cause the browser to jump to a specific memory address and take control of the machine.

Symantic recommended users wherever possible disable JavaScript, Flash, and other content that may present a risk to the user when visiting untrusted sites.

Steve Jobs and others pushed for an HTML upgrade to HTML5 to support video without Flash. That has taken some years to roll out. Adobe finally conceded defeat in July 2017, announcing that it would cease development of Flash and ended support on December 31, 2020.

Flash is still used by 260,000 of the top 10 million websites. Flash could easily run into the millions, if not tens of millions, of websites.

The top 10 Flash websites are Pharrell Williams - Happy, Clouds over Cuba, Bear 71, The Museum of Me, Disney New Fantasyland, Old Spice Music Muscle, We Choose The Moon, Moodstream | Getty Images, Monoface, and Waterlife.

How many have you heard of?

Microsoft, Apple, Google, Facebook, Youtube and Firefox no longer use Flash.

What Took So Long To Kill Off Flash?

It does not make sense why the big media companies in the USA and Europe would cling to Flash. But people in the developing world still have slow Internet and they buy and sell old computers running Windows XP and Windows 7, which do not support HTML5. So it would be logical to assume that TV

stations and other media outlets in those countries would be using video streaming servers that use older non-HTML5 formats.

Of course, the internet won't let all those classic Flash games disappear into the night. The solution is BlueMaxima's Flashpoint, a free, open-source application for Windows (Mac and Linux versions are in the works or done).

How To Disable Flash

The rise of HTML5 has now made Flash totally pointless and those who are still running it are opening themselves up to all kinds of malware attacks. So in the interests of your online safety, it is time to disable Flash once and for all.

Notice I said disable and not uninstall. Although it is absolutely possible to uninstall Flash, there really is no need. Just disable it and leave it be.

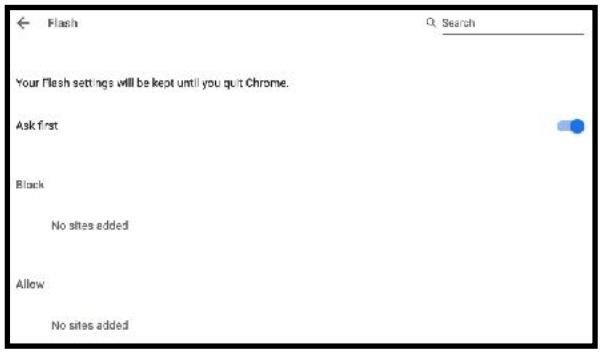
Although Flash is installed on your computer, the problem is actually the browser. That is the point where potential attackers can exploit vulnerabilities and plant malware. So it is at the browser level where you must disable it, and there are two ways to go about it. Apple Safari and Microsoft Edge users don't need to do anything because Flash is disabled by default.

The newer versions of Firefox has removed the Flash browser plugin (although you can still apparently install it if you want).

The older versions of the browser will still have Flash. If you are running an older version (older than Version 52), you need to type into the URL address bar : "about:addons". Then click on the Plugins tab. Find Flash and disable it. A browser restart may be required.

For Chrome, the most recommended plugin is Flashcontrol. For Firefox, you should check out Flash Block Plus. Once the plugin is installed, you might see a few websites do not work because they have not been updated to HTML5.

Alternatively, type the following into the address bar (without http://) chrome://settings/content/flash. That brings up the Flash settings in Chrome. It should look like this.



Slide that blue toggle to the left with your mouse and "Ask first" will change to "Block sites from running Flash (recommended)":

Underneath is an optional blacklist and whitelist. So you can either keep Flash running and just blacklist individual sites (which is rather time-intensive and tedious) or you can block Flash completely and whitelist certain trusted sites.

Conclusions

After 14 years Flash's time has come and gone.

There's no longer a need for Flash in almost all applications and browsers.

Flash is now off by default in Microsoft Edge and Apple Safari.

Flash is no longer in Firefox.

It's easier to disable Flash in Chrome than to uninstall it.

SO GOODBYE FLASH!

January 2021Meeting Minutes

By Mark Bazrod

The January meeting was held by a Zoom teleconference. There were about 22 attendees. Bob Barton acted as host for the meeting and opened the Expert Panel at about 9:00 AM.

Q & A Panel - Bob Barton, Nick Iacona, Mike Inskeep, and Adam Rice.

Carol's friend bought a new iPhone. She has email problems and has spent hours on the phone with Verizon and Applecare. Several solutions were offered - delete the account and start over using the same Verizon email address; go to the Verizon store; check the server settings; and go to aol.com and check in with the Verizon address.

Susan had a SuperDuper problem. After she upgraded the app, she got a message that she did not have ownership of the external hard drive. She eventually downloaded a free trial of Carbon Copy Cloner and no problem. One solution was to do a Get Info and uncheck Ignore Ownership box.

Elliott was blown away by his new M1 MacBook Pro. He got 16GB ram since he has a gigantic spreadsheet which could not even run on his 2010 iMac. It easily ran on his new MacBook. Ram is not later upgradeable so get as much as you can afford. The battery lasts all day.

Virginia asked how to play MP3 music files but not in Apple Music. Use Quick Look. Select the file with a single click and then tap the space bar. You can use the same procedure with graphic, text, PDF, and other files. It's a handy procedure when don't want to launch the app.

Susan is considering buying a used laptop. She asked if anybody knew anything about the blackmarket.com site. No one did. An alternative to a laptop is the new Mac mini.

Larry uses a 55" screen with his old Mac mini. Bob thought screen might be too big when you are too close. Larry also uses a Logitech keyboard with the Mac mini.

Maria cancelled her VPN subscription since she rarely used it. She resubscribed when offered a 50% discount, but it didn't work.. Tech support said to restart her Mac or use Terminal. She restarted and it worked! Nick said when installing a new app you sometimes have to restart your Mac to get it to run.

Bob needed to get a PDF of his 2019 TurboTax tax return, but the app kept trying to do an update which hung it up. He eventually turned off his Internet connection and it ran.

Elliott records a weekly 1.5 hour meeting with QuickTime Player (M4A). He uses Audacity to convert the recording to MP3. I**t took 13 minutes on his old 2010 iMac, but only 19 seconds on his new M1. Wow!**

Maria needed to use a YouTube video to see how to remove links on her new Apple Watch band. Larry said Apple bands are more expensive, but better quality.

David asked about getting a special photo printed on metal. Elliott recommended Adorama and said he got one on aluminum. Cost was about $100. Susan mentioned that she sees TV ads for Fracture to put photos on glass. Nick said it depends upon what finish you are looking for. Adorama has options on its website. If want the photo to pop, use aluminum. If you want to reduce glare, try matte, altho it will be less vibrant. Larry takes photo to Walmart for printing.

Mark Wasserman does his beautiful Xmas cards in Keynote. Jackie Lawson's phenomenal cards can be send to others for $5. Now to send your cards, you need know what OS the receiver uses.

Susan bought a new Subaru Legacy. It came with 5 manuals. She used YouTube videos to learn how to use many functions, such as change the time from Daylite Savings Time, change

measurements from metric to our system, and what to turn off when you go thru a car wash. Susan used the Video Downloader extension for Firefox to download YouTube videos to her iPad. Mike said to check extensions to see what data they are tracking. Some track everything you do. Susan uses Ghostery to block content. Mike uses uBlock Origin.

Larry asked what grocery shopping app he could share with his wife. He currently uses Notes. See below.

Dan Wassink, the owner, trainer, and most everything else of Dan's Tutorials, was our main presenter.

Dan has worked on Macs since 1980 or so. Dan was in magazine publishing for 20 years and stopped 15 years ago. He worked as an Apple Genius for 3 years and wrote several apps. He stopped being a Genius to continue writing apps and then started Noteboom Tutorials. He rebranded it as Dan's Tutorials which he now runs. Dan's Tutorials offers several subscription plans and offers a 50% discount to MLMUG members. Check the List Serve for the code.

He has a question and answer Zoom session every 2 weeks for Dan's Tutorials members - AMA - Ask Me Anything.

Grocery app. Try the Reminders app. Create a grocery list and share it with others. Nick also uses Reminders. He creates subcategories and organizes them by aisle. if you want to get fancy, try the Paprika app to manage lists.

Dan's Tutorials are streaming only, but members can see all tutorials. Newer tutorials will have captions and transcripts. He adds 4 or 5 a month. Major categories are OS Updates, My Latest Tips, My Latest Lessons, Troubleshooting Lessons, Beginner Lessons, and Apple in Education.

He is now working on Big Sur. You can mark tutorials as favorites. You can view tutorials again. You can add notes to tutorials.

Antivirus software works on M1 machines. Dan doesn't think you need antivirus software, but if you want, use a name brand. Antivirus software for iPhone is a "money grab". Apps are sandboxed. Bitdefender and CleanMyMac are good. He uses CleanMyMac for other functions, such as clean up system junk and uninstall apps.

The App Store doesn't have free trials. Dan goes to the app website and tries a free trial if available. He then purchases it from the App Store since purchases often works on multiple computers.

The Apple Firewall. Go to System Preferences> Security & Privacy>Firewall. Different apps use different ports. Firewall can turn off ports. He doesn't use. Cable modems and routers have a primitive firewall.

Dan also doesn't use FileVault which encrypts all files. It once slowed down your Mac, but he is not sure it does anymore. It is now on by default.

Privacy. The functions in System Preferences>Security & Privacy>Privacy can restrict apps from accessing your data, such as location, contacts, and other items in the list at the left. It's also in the iPhone. These items have been expanded in Big Sur.

Uninstall. You typically drag apps to trash, but that doesn't get rid of preference files. To delete all files with the app, get an uninstaller. There are many in the App Store. Dan uses Uninstaller Master. He would stay away from AppCleaner. Can't find developer. Go to Filters and see release date. Look as ratings. He sort of trusts Apple ratings, but not Amazon and others. Take them with a grain of salt. He sorts by most recent.

Screen types. LCD, OLED AND Mini-LED. Last is newest. LCD is backlit so blacks not that good. OLED is not backlit so better black, but more expensive. Mini-LED is brighter but even more expensive. iPhone is OLED. Bright, but not real bright.

Dan doesn't favor Google so he is not a Chrome user. He uses Brave which is based on Chrome, but respects your privacy. If Safari doesn't work on a site, try Firefox. Dan uses Safari as his standard browser.

Facebooks wants to see where you are and to get other data. Apple allow you to opt out. Apple's customer are us. Apple makes money when we buy Apple products. Google and Facebook customers are advertisers. They make money by selling your data to advertisers.

Search Engines. Dan uses DuckDuckGo. Google and Amazon put their ads up top. DuckDuckGo uses Bing. You can always send your current search to Google by putting !g in front of the query. Querys are still private. Target often gives a lower price on website and a higher price in store.

SPEAKER ROSTER FOR
MLMUG'S 2021 MEETINGS

January 11`	Dan Wissink - Dan's Tutorials
February 9	Terry Wilson - Cut the Cord to Microsoft Office - Pages/Numbers
March 13	Michael Blank - Pixlr.com Graphics
April 10	Gary Rosenzweig TBD
May 8	Dave Hamilton - Plex: Stream…
June	Rob Golding TBD
July	Recess - Summer
August	Recess - Summer
September 11	Pending
October 10	Pending
November 13	Bob "Dr. Mac" LeVitus - TBD
December 11	Pending

Dan Wassink on January 18, 2021 posted the following article to danstutorials.com, a member-only site available at a very reasonable rate. © Dan's Tutorials. Dan Wassink is the owner, trainer, and most everything else for Dan's Tutorials. More than 1,000 tutorials.

So, Are Apple's New M1-Based Macs Any Good?

By Dan Wassink

Back in November, Apple unveiled its new M1 chip. They also introduced three new Macs that use it: the MacBook Air, 13-inch MacBook Pro, and Mac mini. The M1-based MacBook Air replaces the previous Intel-based MacBook Air. The 13-inch MacBook Pro and the Mac mini are new models as Apple continues to sell some Intel-based models with beefier specs—most notably a higher memory ceiling.

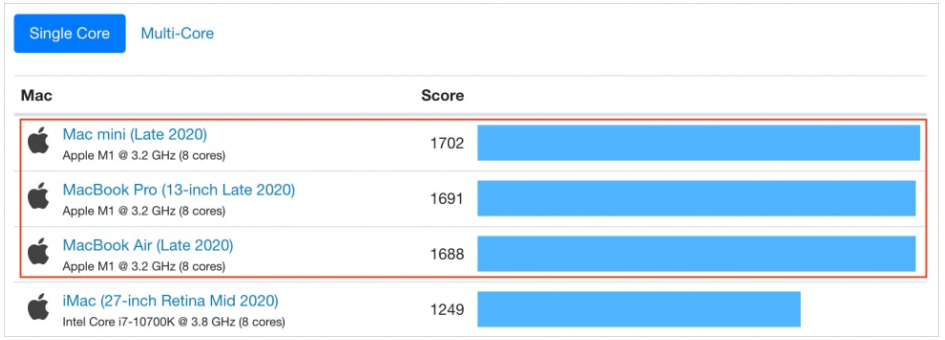
Even though Apple made some impressive performance claims for the new Macs, the community at large was still somewhat skeptical. Were these new Macs as fast as Apple said? Would they be limited in some other way? And the biggest question of all, should we be buying untested M1-based Macs or tried-and-true Intel-based models? Now that these new Macs are shipping and people have had a chance to try them for a while, let's

address these and other questions so you can plan your future Mac purchases appropriately.

Are these new Macs fast?

In a single word: yes. It's hard to overstate just how significant the performance benchmarks for these new Macs are. In single-core GeekBench 5 tests, the M1-based Macs beat every existing Mac by a lot: the most recent 27-inch iMac clocked in at a benchmark score of 1250, whereas the M1 Macs hovered around 1700. (The Mac Pro and iMac Pro are tweaked for faster multi-core performance instead, so they fare even worse on the GeekBench 5 single-core benchmarks.) For many everyday apps, single-core performance is what you'll notice.

Of course, the top-of-the-line 28-core Mac Pro and its siblings outperform the 8-core M1-based Macs in the GeekBench 5 multi-core benchmarks, but if you focus on the new M1 Macs in the multi-core rankings below, you can see that they're just behind the fastest 27-inch iMacs and low-end Pro models. That's doubly impressive when you remember that the Mac Pro in the screenshot below costs $6000, compared to $700 for the Mac mini.



Now that all sounds good, benchmarks don't lie, but they also don't tell the whole story. These new Macs feel fast, but how are they in the real world? Well, apps launch with only a bounce or two of the icon on the Dock. The MacBook Air and MacBook Pro wake from sleep and unlock with an Apple Watch so quickly that they're ready to use by the time you've finished opening the screen. We can't promise you'll never see the spinning beachball wait cursor, but we haven't so far. In some ways, using these new Macs feels more like using a fast iPad or iPhone, where everything happens nearly instantly.

Now on to the apps. Only apps that have been rewritten to support the M1 chip receive the full speed boost. Older apps must be "translated" by Apple's Rosetta 2, which converts apps from Intel instructions to the Arm instructions needed by the M1 (the M1 is an ARM chip). This translation happens at launch. The first launch might be slow, but subsequent launches are faster. Although emulation environments are generally quite slow, early tests show apps translated by Rosetta 2 as running at about

80% of native speed. But let's remember, the Macs are on a new faster chips, so this also means that even translated apps might run faster than the equivalent app running on an Intel-based Mac.

What's the deal with the new M1-based Macs having only 8 GB or 16 GB of RAM?

With the new M1-based Macs, you can choose between 8 GB and 16 GB of RAM, and that's it. In contrast, the current Intel-based 13-inch MacBook Pro lets you go up to 32 GB, and the Intel-based Mac mini can take up to 64 GB.

Although 16 GB of RAM sounds limiting, that doesn't seem to be nearly as concerning as one might think. The reason is that the M1 chips use what Apple calls "unified memory," which is built onto the M1 chip itself and shared by the CPU, GPU, and Neural Engine. A significant performance bottleneck in modern computers is moving data around in memory. Benchmarks suggest that the memory bandwidth on the M1 chip is about 3x faster than on a 16-inch MacBook Pro. The faster that data can be moved around in memory and shared between the processing cores, the less memory is needed.

The speed of their SSDs also lets the M1-based Macs get away with less memory. When macOS uses all its physical RAM, it falls back on virtual memory, which effectively involves moving data on and off the SSD as needed. When Macs used hard drives, swapping memory to and from disk was very slow, but modern SSDs are fast enough to hide swapping delays.

To be fair, there are still memory-intensive tasks that will run better on Macs with lots of physical RAM. That's a big reason Apple kept the Intel versions of the 13-inch MacBook Pro and Mac mini for sale. On the very high end, you can put a whopping 1.5 TB of RAM in a Mac Pro, and if you need that kind of RAM for your work, you'll need to stick with Intel-based Macs for now.

How will the M1-based Macs fit into a workflow?

Here's where things get tricky. Here are a few reasons you may not want to get the new M1 Mac yet.

- **Big Sur:** The M1-based Macs require macOS 11 Big Sur. You may not be ready to upgrade to macOS Big Sur. Also, if you work in an environment with a number of Macs, mixing versions of operating systems and apps can lead to interoperability problems.
- **Apps:** Although Rosetta 2 appears to do a good job translating older apps, there may still be quirks or performance hits, particularly for complex apps. If you rely on an app, ask the developer how it is supported on the new Macs. The developers are moving fast with making their apps fully compatible, and Rosetta 2 is good, but it can't hurt to ask.
- **Memory:** As mentioned above, there are some tasks where lots of physical RAM is essential, and there's currently no way to go above 16 GB on an M1-based Mac.

So why get an M1? Apple very intentionally focused its initial M1-based Mac models on the low end of the Mac product line. These Macs are ideal for students and individuals, or as auxiliary or traveling Macs for office workers, particularly given the laptops' startlingly good battery life. They won't be replacing a Mac Pro or even a 27-inch iMac right now, but no one would have replaced such a machine with a MacBook Air, 13-inch MacBook Pro, or Mac mini before either.

In the end, I'm bullish on these new M1-based Macs. They've redefined what the most inexpensive Macs can do, making them compelling for those who don't require more than 16 GB of physical RAM or need to slot them into highly specific workflows. I personally will be getting the MacBooks Pro M1 when Apple releases that.

Jason Snell posted the following article to macworld.com on November 22, 2020. tinyurl.com/mh427l5. © Mac Publishing, LLC. Jason was lead editor at Macworld for more than a decade and now writes about Apple at Six Colors, podcasts at Relay FM and has been a technology writer for more than 20 years.

With M1 Macs, Memory Just Isn't What It Used To Be

Apple has changed the way RAM is used in a computer.

By Jason Snell

The first Macs powered by Apple-designed processors are finally here. And from the outside, they're almost dead ringers for the Intel-based Macs they're replacing.

But on the inside, they're not like other computers. Apple has brought its approach to system design, learned through years of iteration on the iPhone and iPad, to the Mac for the first time.

Those of us who are used to thinking of personal computers in certain terms are going to need to adjust to this new reality. It's a world in which Apple sells three different Mac models without even disclosing the clock speed of the processor inside. (It doesn't do it for the iPhone or iPad, after all.)

[Further reading: Learn more about macOS Big Sur]

But perhaps the item on the spec sheet that will require the biggest diversion from the old way of thinking is system memory. It's a feature that's already frequently misunderstood (and frequently confused with storage size), and now Macs with Apple silicon are using it in an entirely different way.

The old way of thinking of RAM is dead. Welcome to the world of the Unified Memory Architecture.

Part of the package

Like Intel chips with integrated graphics, the M1 chip includes a graphics processor, and system memory is shared by both processor cores and graphics cores. (And also, in the M1's case, the cores that make up the Neural Engine.) But in shifting its terminology to describe a unified memory architecture, Apple's trying to point out that the M1's approach is a bit different.

The biggest difference is that in the M1, the memory is a part of the M1 architecture itself. There's no memory slot or slots on the motherboard of an M1 Mac, nor is there an area where a memory chip has been permanently soldered on. Instead, the memory is integrated into the same package that contains the M1 itself.

What this means is that when you buy an M1-based Mac and choose a memory configuration, that's it. There have been many other Macs with soldered-on memory that couldn't be upgraded, but this is a little different, since the memory is basically part of the M1 package itself.

The first round of Apple silicon Macs, which include the Mac mini, can have a maximum of 16GB of memory. That could be by design.

Looking at the first round of M1 Macs, it seems that the M1 is only capable of using 8GB or 16GB of memory. That may not actually be a hard limit—perhaps Apple is holding back in order to limit these low-end systems. But it's more likely that we won't see Macs running Apple silicon with more than 16GB until Apple provides a higher-end variant of the M1.

Benefits of being unified

But Apple isn't integrating memory into its systems-on-a-chip out of spite. It's doing it because it's an approach that can lead to some dramatic speed benefits.

The M1 processor's memory is a single pool that's accessible by any portion of the processor. If the system needs more memory for graphics, it can allocate that. If it needs more memory for the Neural Engine, likewise. Even better, because all the aspects of the processor can access all of the system memory, there's no performance hit when the graphics cores need to access something that was previously being accessed by a processor core. On other systems, the data has to be copied from one portion of memory to another—but on the M1, it's just instantly accessible.

These new Macs are, in their way, kind of alien. The tradition in personal computers was that everything was modular, an outgrowth of the early PC era. Even though the Mac never participated in the build-a-PC ethos, the parts Apple used to assemble Macs came from that industry. Compare that with the smartphone, where Apple has continued to integrate more portions of the system into its single processor package in order to increase efficiency. These new Macs are far more like smartphones than like traditional PCs.

Do you need it?

One of the biggest criticisms I've seen about this first round of M1 Macs has been that they just don't offer enough memory, maxing out at 16GB. Keeping in mind that these are the lowest-powered Mac models, it's likely that future models will offer more RAM options.

But it's also worth considering just how squishy the need for more memory can be when you poke at it. Sure, a lot of people feel they need it—but do they, really?

Yes, when a Mac runs out of physical memory, it will page the contents of memory to disk—and even super-fast SSDs are

slower than main memory! Though the speed differences are a lot less than back when we used slow spinning disk drives.

An Apple silicon Mac Pro with only 16GB of memory? It won't happen. You'll see Apple silicon with more RAM and processing power in the near future.

What would cause your Mac to run out of physical memory? If you leave an awful lot of apps open at once, or if your browser has hundreds of tabs open, or if you're using an app that loads a very large file (like, say, a Photoshop file) into memory. If you're someone who does this a lot, you probably want more memory.... but then again, if you're someone who does this a lot, you might not want to buy one an M1 Mac right now. The mid-range and high-end models that will undoubtedly offer more RAM options and more processor power are undoubtedly coming next year.

But if you combine the efficiency of the unified memory architecture with the speed of SSD storage, and consider most everyday use cases, I'm pretty sure that most regular users could get by with 8GB of unified memory—or, if you want to be absolutely sure, upgrade that to 16GB. (I did.)

What's next?

I can't imagine 2021 passing without Apple rolling out a new set of Macs with more powerful processors and more memory options. The high-end MacBook Pros and the iMacs, at the very least, could use updates that provide some options beyond the basic M1.

In the long run, is it possible that Apple would build systems with external graphics processors with their own dedicated memory? It seems inevitable, at least at the high end—what's a Mac Pro for if you can't stick a ridiculous graphics card in it?

But Apple is also very likely to just keep scaling up memory options as it scales up its processors, adding more memory as it adds cores—and those chips are the ones likely to be offered in most Mac models.

The unified memory architecture in the M1 is one of the reasons these Macs are so amazingly fast—but all Mac users are going to have to relinquish some of our assumptions about how our computers work, and how they're configured. And if you really can't bear buying any Mac with only 16GB of RAM, don't get mad—be patient. More Apple silicon Macs are on the way.

Daniel Nations posted the following article to lifewire.com on July 10, 2020. bit.ly/2MrLbrV. © About.Inc. He has been writing, programming and following technology since back in the Commodore Vic 20 days.

What's the Difference Between a Mac and a PC?

They're more alike than you think

By Daniel Nations

In the strictest definition, a Mac is a PC because PC stands for personal computer. However, in everyday use, the term PC typically refers to a computer running the Windows operating system, not the operating system made by Apple.

So, how does a Mac differ from a Windows-based PC?

Mac vs. PC or Mac and PC?

The Mac vs. PC showdown started when IBM—not Apple or Microsoft—was the king of the computer. The IBM PC was IBM's answer to the flourishing personal computer market that started with the Altair 8800 and was being led by companies like Apple and Commodore.

IBM was thrown a curveball when IBM-compatible personal computers, commonly referred to as PC clones, started popping up. When Commodore dropped out of the personal computer market, it became mostly a two-company race between Apple's Macintosh line of computers and the legion of IBM-compatible computers, which were often referred to (even by Apple) as merely PCs. As Apple framed it, you could buy a PC, or you could buy a Mac.

Despite Apple's attempts to distance itself from the PC, the Mac is now—and has always been—a personal computer.

How a Mac and a Windows-Based PC Are Similar

Because a Mac is a PC, it probably won't surprise you to learn that Macs have more in common with Windows-based PCs than you might think. How much in common? Well, while this wasn't always the case, you can install the Windows operating system on a Mac.

Remember, the Mac is just a PC with Mac OS installed on it. As much as Apple prefers the Mac to be thought of as something different than a PC, it's never been more similar. You can install both Windows and Mac OS on your MacBook or iMac, switch between them, or run them side-by-side (or, more accurately, run Windows on top of Mac OS) using software such as Parallels or Fusion.

Some of those similarities are:

- They both use the same basic hardware components.
- They are both compatible with third-party keyboards and mice, including wireless keyboards and wireless mice.
- They both have a similar interface that allows you to save apps to your desktop, click on apps to run them, browse files in folders, and other actions.

- They both have a virtual assistant. The Mac has Siri, and Windows-based PCs have Cortana.
- They both allow you to use cloud services such as Dropbox, Box.net, and Google Drive.
- Popular browsers Chrome, Safari, and Firefox are available for both, with Microsoft's Edge browser remaining one of the few popular browsers that is for Windows only.
- The documents you create in Microsoft Office and other popular office suites can be viewed on both Mac and Windows PCs.

How a Mac and a Windows-Based PC Are Different

The Mac OS supports both a left-click and a right-click for the mouse. In addition, you can hook up the mouse you use on your Windows PC to a Mac. While Apple's Magic Mouse may seem like it is a single button, clicking it from the right side produces a right-click.

One of the biggest stumbling blocks for people transitioning from the Windows world to a Mac is keyboard shortcuts. The first time you try to use Control+C to copy something to the Mac clipboard, you realize that Control+C doesn't copy anything to the clipboard. On the Mac, Command+C does. As simple as that difference sounds, it can take some getting used to before it feels natural.

The differences include:

- Microsoft Windows has more software written for it, including proprietary software some people need for work.
- Microsoft Windows supports both touch screens and the familiar keyboard and mouse setup, so it is available on desktops, laptops, and tablets. MacOS doesn't support touch screens, so it is only available on a laptop or desktop.
- The Mac has a connected relationship with the iPhone and the iPad. Not only can the Mac share files with the iPhone or iPad wirelessly using AirDrop, or iCloud, it can also open documents that are open on the iPhone or iPad and receive phone calls routed through the iPhone.
- More viruses and malware target Windows-based PCs. However, malware is written specifically for the Mac.
- Windows-based PCs are built by many different manufacturers, including HP, Dell, and Lenovo. This keeps prices down on PCs, which are usually less expensive than Macs.
- Macs are built and sold by Apple. This tighter control of the hardware leads to fewer problems, which can result in better stability, but it also means fewer options.
- Microsoft Windows has better support for gaming. This includes support for Virtual Reality hardware such as the Oculus Rift or HTC Vive.
- It is easy to upgrade a Windows-based PC part by part. Although most people find it more convenient to buy a new PC, techies can boost the longevity of their computers by upgrading the RAM used by applications, the graphics used by games, or the storage used by music, movies, and other media.

What About the Hackintosh?

Despite the obvious connotation, the term *hackintosh* doesn't refer to a Mac that's been hacked. Remember that a Macbook or iMac can run Windows because the hardware is virtually the same? The reverse is also true. A PC meant for Windows may also be able to run the macOS, but the process is tricky.

All the hardware in a PC meant for macOS must be recognized by macOS. Typically, a hackintosh is a PC someone puts together themselves specifically to run macOS on it, and it takes a lot of research to get the right components,

Even with the right components, there's no guarantee Apple won't make future updates incompatible with that machine.

Suzanne Kantra posted the following article to techlicious.com on January 04, 2021. bit.ly/38UBD1r. © Techlicious LLC. She is Co-Founder and Editor of Techlicious LLC. Suzanne has been writing about science and technology issues for the past 22 years

How to Safely Get Rid of an Old Computer

By Suzanne Kantra

Have an old computer lying around the house? Don't just throw it away. Computers house all sorts of toxins that are bad for the environment and all of us who live in it. Not to mention the personal information—passwords, account numbers, license keys or registration numbers for software programs, addresses and phone numbers, medical and prescription information, tax returns and other personal documents—that you would rather not fall into the wrong hands.

So what to do?

How to delete your personal information

However you choose to dispose of your computer, you need to do several things if you don't want a stranger to access your data.

Save important files

Back up your files or transfer them to a new computer. The least time-consuming way to do this is to invest in an external hard drive, like the WD 3TB My Book Desktop Hard Drive ($89.99, check price on Amazon), which is also available in 4TB ($109.99, check price on Amazon), and 8TB ($159.99, check price on Amazon).

If you're looking for easy ongoing backup and file syncing solution, use a cloud service such as Google Drive (our Top Pick for the Best Cloud Storage Service), iCloud, or Microsoft's OneDrive. Google Drive gives you 15GB of file storage for free and if you need more, you can buy 200 GB for $2.99/ month$29.99 per year) and 2TB for $9.99/month ($99.99 per year). OneDrive gives you 5GB of free storage with an option to buy 100GB for a monthly subscription of $1.99 per month. You can move up to 1TB of storage for one PC or Mac for $6.99/ month or $69.99 per year (includes a subscription to Office 365 Personal) or 6TB for $99.99 per year (which includes Office 365 Home for 6 users). Apple iCloud only 5GB free and their 50GB costs $0.99 per month, 200GB runs $2.99 per month and the 2TB option runs $9.99 per month.

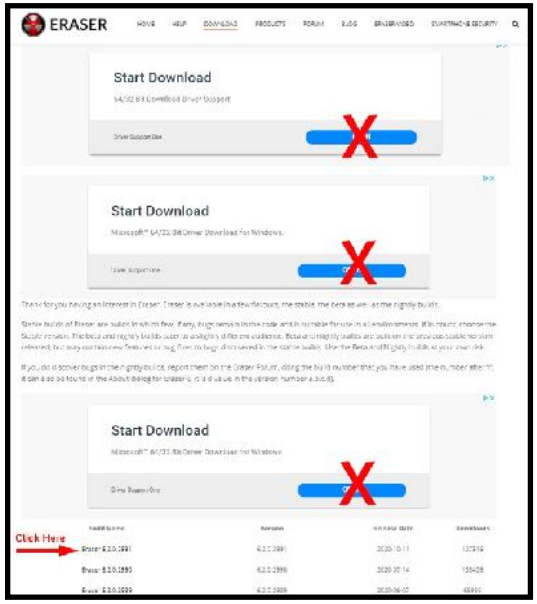
After backing up your files in the cloud, you can easily transfer them to a new machine or access them anywhere you have an

Internet connection, even from your smartphone. Cloud storage also comes in handy if your computer dies and you need to restore your files or you're traveling and need access to data on a different device.

"Wipe" your hard drive

Simply deleting files won't cut it. Even if a file name doesn't show up on the list of available files, the old file data is still there until it is overwritten and a bad guy can use a data recovery program to retrieve it. We've outlined the steps we recommend you take below.

1. **Delete and overwrite sensitive files**. If you have tax documents and other sensitive files, make sure you delete these files with specialized software designed to meet government standards for secure deletion. For Windows PCs with hard drives try File Shredder (free). For older Macs with hard drives (pre OS X El Capitan or OS 10.11) you can choose the Secure Empty Trash option after deleting your files. You can find it under Finder > Secure Empty Trash. For Macs with OS 10.11 and higher and Windows PCs with SSD drives, you'll need to encrypt your drive. When you wipe your drive at the end of these steps, you'll be securely erasing all of your files.
2. **Turn on drive encryption.** For Windows PCs with SSD drives go to Settings > About. Toward the bottom, you'll see either an option for Drive Encryption or Bitlocker Settings. Follow the prompts to encrypt your drive. For Macs, go to System Preferences > Security & Privacy > FileVault and select Turn On FileVault. You'll then select a password and select Restart.
3. **Deauthorize your computer**. Some programs, such as iTunes and Microsoft Office 365, only allow you to install software on a limited number of computers or allow a limited number of computers to access your files. So be sure to deauthorize your old computer with your accounts - before uninstalled your programs.
4. **Delete your browsing history**. Most browsers save information about your browsing history and, depending on your settings, can even store your user names and passwords various sites. Obviously, you don't want a stranger having access to this information. For Edge, you click on the triple dots in the upper right corner to open the browser menu, then on Settings > Privacy & security > Clear browsing data. Make sure all of the check boxes are selected so everything gets removed. Repeat this for any other browsers on your computer—Firefox, Safari, Chrome. For Firefox and Chrome, you'll want to first sign out of your browser if you're signed in.
5. **Uninstall your programs**. Some programs, such as Microsoft Office, may contain personal information such as your name and address or other details. So be sure to uninstall any programs before disposing of your computer.
6. **Consult your employer about data disposal policies**. If you use your computer for business purposes, check with your employer about how to manage business-related information on your computer. The law requires businesses to follow data security and disposal requirements for certain information that's related to customers.
7. **Wipe your hard drive**. For PCs, once you've gone through and removed the data you know is there, it's time to perform a factory reset to ensure you've removed all of your personal files and software programs. If your computer has a hard drive, restart the computer, download and install Eraser (make sure you only click on the most recent build name -- i.e. Eraser 6.2.0.2991).



Once installed you'll click on the downward pointing arrow next to Erase Schedule, select New Task, select Run immediately and then click on Add Data. Under Target Type, select Unused Disk Space, check off Erase cluster tips and click OK. The tool will then permanently delete anything that was deleted during your reset. If your computer has an SSD drive, right click on the Windows icon in the lower left corner, select Control Panel > System and Security > Administrative Tools > Computer Management > then right click on the disk where you store your files, choose New Volume and follow the prompts until you get to the Format window. There you will make sure the quick format is not checked and then format the drive. If you don't have the option to encrypt your drive, you can use Blancco Drive Eraser ($18.46 on Blancco) for a full wipe.

For Macs, you'll want to erase and reinstall OS X. In the menu bar, choose Apple menu > Restart. Once your Mac restarts (and the gray screen appears), hold down the Command and R keys. Select Disk Utility, then click Continue. Select your startup disk on the left, then click the Erase tab. Choose Mac OS Extended (Journaled) from the Format menu, enter a name, then click Erase. After the disk is erased, choose Disk Utility > Quit Disk Utility. Select Reinstall OS X, click Continue, then follow the onscreen instructions.

For Chromebooks, you'll need to perform a factory reset. To do that, sign into your Chromebook with the owner account (if you have more than one account loaded). From the Taskbar, click on Settings > Advanced > Powerwash > Restart. After you Chromebook restarts, select Powerwash and click on Continue.

Or physically damage your hard drive. If you're just looking to recycle your computer and are very concerned about someone recovering your files, take the hard drive out and drill a bunch of holes in it or beat the heck out of it with a hammer.

How to dispose of your computer

To avoid all those toxins ending up in a landfill, the better choice is to recycle, donate, trade-in, or sell your computer.

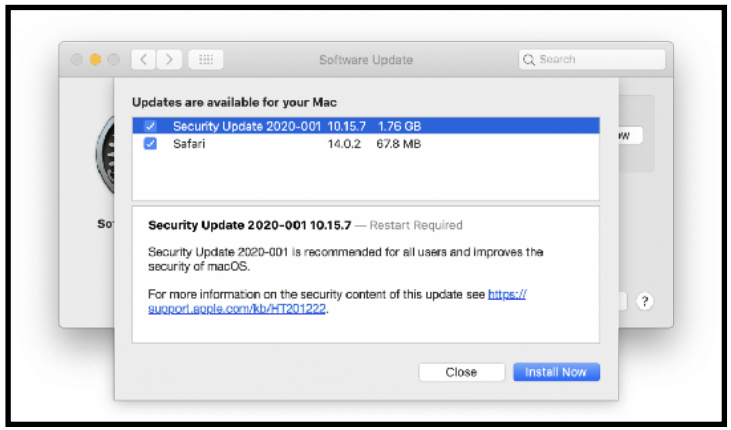
Recycling your computer

If you opt to recycle it, keep in mind that some recyclers will simply take your old machine and ship it over to developing nations where children are often used to scavenge piles of e-waste looking for valuable components. To avoid contributing to this irresponsible practice, use a recycler that has been certified by Sustainable Electronics Recycling International (SERI) as meeting the R2 standard, or is part of the "e-Steward" network, meaning they don't export to places like Pakistan or China, and they follow other high standards. Many of them also will reuse and refurbish electronics. Staples is an e-Steward Enterprise and will recycle laptops and other consumer electronics for free.

Trading-in your computer

As for trading in your PC or laptop, there are scads of companies that offer trade-in programs through which you can sell a wide assortment of used electronics. Options include BestBuy,

Amazon, and Staples. Your local Best Buy also has trade-in options, but compare what it offers against the online services first.



What to do if your computer won't turn on

If your computer is dead, chances are it's a problem with the motherboard or the power supply, but the hard drive and the data on it should be fine. To backup the data on it and then erase the drive, you will need to remove the drive from the dead computer and hook it up to another computer using a SATA to USB cable (you can get one like this for under $20 on Amazon). Once plugged in, the new computer should recognize and map your old drive, at which point you can just copy the files off and then run Eraser or Kill Disk to wipe the drive.

The following article was posted to the Kibbles & Bytes Email Newsletter #1133 on January 8, 2021.

5 New Year's Resolutions That Will Improve Your Digital Security

Happy New Year! My kids always ask me what my annual slogan is and this year it is "Have more fun in 2021!"

For many of us, the start of a new year is an opportunity to reflect on fresh habits we'd like to adopt. Although we certainly support any resolutions you may have made to get enough sleep, eat healthy, and exercise, could we suggest a few more that will improve your digital security?

Keep Your Devices Updated

One of the most important things you can do to protect your security is to install new operating system updates and security updates soon after Apple releases them. Although the details seldom make the news because they're both highly specific and highly technical, you can get a sense of how important security updates are by the fact that a typical update addresses 20–40 vulnerabilities that Apple or outside researchers have identified.

It's usually a good idea to wait a week or so after an update appears before installing it, on the off chance that it has undesirable side effects. Although such problems are uncommon, and, when they do happen, Apple pulls the update quickly, fixes it, and releases it again, usually within a few days.

Use a Password Manager

We've been banging this drum for years. If you're still typing passwords in by hand, or copying and pasting from a list you keep in a file, please switch to a password manager like 1Password or LastPass. I use 1Password and I love it! Even Apple's built-in iCloud Keychain is better than nothing. A password manager has five huge benefits:

- It generates strong passwords for you. Password1234 can be hacked in seconds.
- **It stores your passwords securely.** An Excel file on your Desktop is a recipe for disaster.
- **It enters passwords for you.** Wouldn't that be easier than typing them in manually?

- **It audits existing accounts.** How many of your accounts use the same password?
- It lets you access passwords on all your devices. Finally, easy login on your iPhone!

A bonus benefit for families is password sharing. It allows, for example, a married couple to share essential passwords or for parents and teens to share certain passwords.

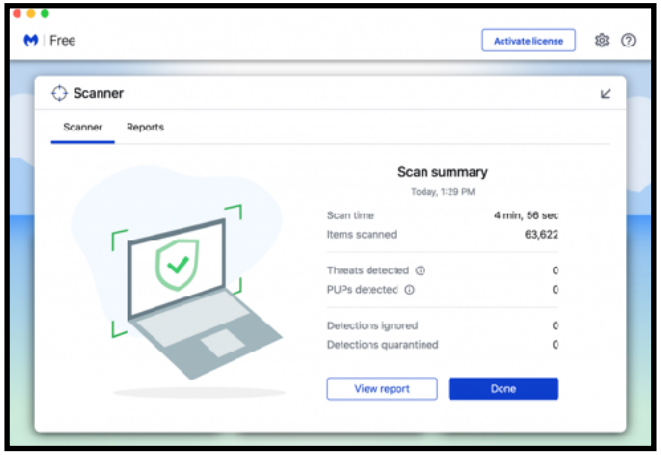
In short, using a password manager is more secure, faster, easier, and just all-around better. If you need help getting started, get in touch.

Beware of Phishing Email

Individuals and businesses alike frequently suffer from security lapses caused by *phishing*, forged email that fools someone into revealing login credentials, credit card numbers, or other sensitive information. Although spam filters can catch many phishing attempts, it's up to you to be on your guard at all times. Here's what to watch for:

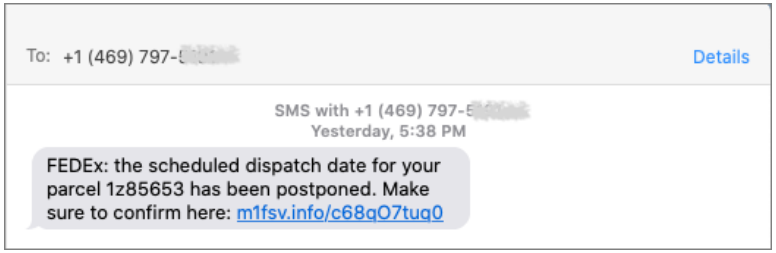
- Any email that tries to get you to reveal information, follow a link, or sign a document
- Messages from people you don't know, asking you to take an unusual action
- Direct email from a large company for whom you're an anonymous customer
- Forged email from a trusted source asking for sensitive information
- All messages that contain numerous spelling and grammar mistakes

When in doubt, don't follow the link or reply to the email. Instead, contact the sender in some other way to see if the message is legit.



Avoid Sketchy Websites

We won't belabor this one, but suffice it to say that you're much more likely to pick up malware from sites on the fringes of the Web or that cater to the vices of society. To the extent that you can avoid sites that provide pirated software, "adult" content, gambling opportunities, or sales of illicit substances, the safer you'll be. That's not to say that reputable sites haven't been hacked and used to distribute malware too, but it's far less common.



If you are concerned after spending time in the darker corners of the Web, download a free copy of Malwarebytes or DetectX Swift and scan for malware manually.

Never Respond to Unsolicited Calls or Texts

Although phishing happens mostly via email, scammers have also taken to using phone calls and texts. Thanks to weaknesses

in the telephone system, such calls and texts can appear to come from well-known companies, including Apple and Amazon. Even worse, with so much online ordering happening, fake text messages pretending to help you track packages are becoming more common.

For phone calls from companies, unless you're expecting a call back from a support ticket you opened, don't answer. Let the call go to voicemail, and if you feel it's important to respond, look up the company's phone number elsewhere, and talk with someone at that number rather than one provided by the voicemail.

For texts, avoid following links unless you recognize the sender and it makes sense that you'd be receiving such a link. (For instance, Apple can text delivery details related to your orders.) Regardless, never enter login information at a site you've reached by following a link because there's no way to know if it's real. Instead, if you want to learn more, navigate manually to the company's site by entering its URL yourself, then log in.

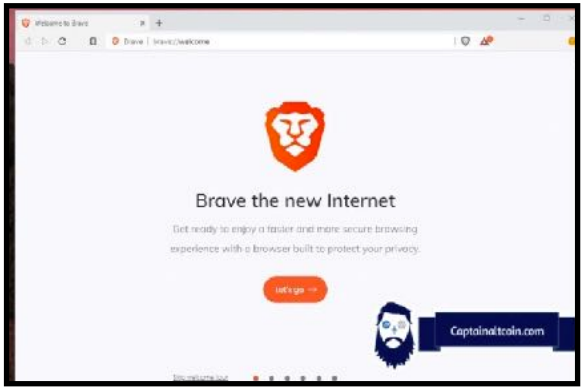
Let's raise our mouse to staying safe online in 2021!

Sarah Wurfel posted the following article to captainaltcoin.com on May 1, 2020. bit.ly/39UkwMi. © CaptainAltcoin. She works as a social media editor for CaptainAltcoin and specializes in the production of videos and video reports.

Brave Browser Review – Solid Browser With Revolutionary Vision

By Sarah Wurfel

Almost 70 percent of all Internet users are using Chrome. The Google browser is not bad, but there are much better alternatives. A good example is the Brave Browser. Like many other browsers, it relies on Chromium and is therefore very fast.



The main difference to the well-known browsers is the stronger focus on privacy protection. It does this by drilling into private mode and adding Tor support to make your browsing experience 100% anonymous.

The current version 1.4 adds an exciting new feature that hardly any other browser offers. If you get a 404 error in the Brave Browser, or a similar error message – for example, because the page is offline, the Browser will give you the option to access the page in the Wayback Machine. The Internet Archive keeps copies of almost all pages, so that you can access the contents even if the website is not accessible.

Make sure to check our Brave vs Firefox comparison here.

Here is our Chrome vs Brave Browser duel. And finally, a battle for the best privacy browsers where we compare Brave vs Epic Privacy vs DuckDuckGo Browser.

There is also a good Brave browser review you can read on ZeroCrypted.

> *The boss of the company behind Brave, Brendan Eich, is one of the co-creators of the current digital advertising ecosystem (even though he never meant to assume that role).*
>
> *It was Eich who wrote the programming language Javascript, a backbone of current tracking systems in the online world, in 1994 while working for the browser manufacturer Netscape –*

and thus at least shares responsibility for the current state of the Internet advertising industry and the ubiquitous tracking by cookies that are stored in the browser via Javascript.

Eich has been repenting in a way since then, first as co-founder and until 2014 CEO of Firefox developer Mozilla, and since 2015 as head of Brave-Software.

The free Brave Browser uses Chromium technology and works as fast as Chrome. It also has built-in tracking protection and lets you surf anonymously over the Tor network. Until 2018, Brave Software developed its own user interface while simultaneously running Google's rendering engine. After months of coordination with the open source project Chromium, it was finally agreed to adopt their UI as well.

Brave, like many other alternative web browsers, relies on chromium technology under the hood, and that has two main benefits, fast performance and excellent support for modern web standards. But Brave has much more to offer, especially for users who care about privacy.

Setup and user interface

For our test we downloaded the installation package (Windows, 64 Bit) directly from the manufacturer's site. Thanks to the wizard, the whole process took less than 30 seconds on our Acer Nitro. After the installation, the Brave Browser starts automatically and greets us with the obligatory "Welcome Tour".

Brave browser in review: The most important features at a glance

The Brave Browser offers all the important functions already seen in competitors like Google Chrome, Mozilla Firefox or Microsoft Edge.

In addition, the program also contains a number of extra features to protect your privacy:

Brave Browser Security Features

The Brave Browser comes with a number of security shields that are primarily designed to protect your privacy while surfing.

- The integrated ad blocker prevents ads based on tracking by third parties. Unfortunately, the motto here is: All or nothing! The feature cannot be configured individually, which means that you cannot, for example, define explicit exceptions for certain websites.
- The program enforces a secure, encrypted communication via SSL and performs the update automatically if possible.
- Third party cookies are blocked by default.
- Private tabs block http links, scripts and tracking pixels.
- Incognito mode provides support for the Tor network.
- Synchronization feature makes your browsing history and bookmarks available on all your devices.
- Instead of Google, the anonymous search engine DuckDuckGo is selected by default in Brave.
- The Brave Browser can be enhanced with new features as needed, and because it's similar to Chrome or Chromium, it's also compatible with the add-ons from the Chrome Web Store.

Brave Browser protects your privacy

Brave has done its homework on practicality. The browser looks modern and neat, there is a dark mode and it is easy to use. There is an automatic tracking protection feature which makes Brave similar to Firefox and also the new Edge, but it uses its own implementation called Brave Shields.

Additionally this technology also blocks advertising. But you can remove it from individual pages by clicking on the lion icon in the address bar. Third party cookies are also blocked by default and DuckDuckGo is set as the default search engine.

A true private mode with Tor

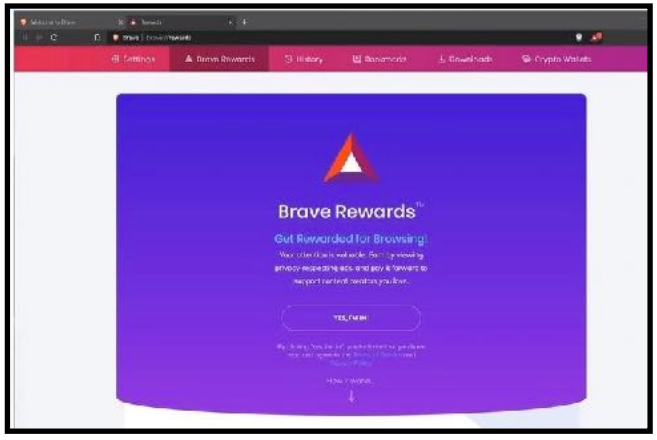
A big difference to all other browsers is that Brave comes with a real private mode that lets you browse the internet anonymously. All you need to do is open a new tab with Tor support. Then all requests will be distributed through the Tor network.

Possible application for the Brave Browser: WLAN hotspots on vacation, for example. In a normal tab, log in to the hotspot and then simply open a window with Tor support for private browsing. This disguises the IP address and encrypts the data traffic.

The configuration is kept very simple, and there are no options for customizing the Tor configuration. If you open a new window with Tor support, you'll see a brief description, including possible side effects like slow connections or problems with web pages.

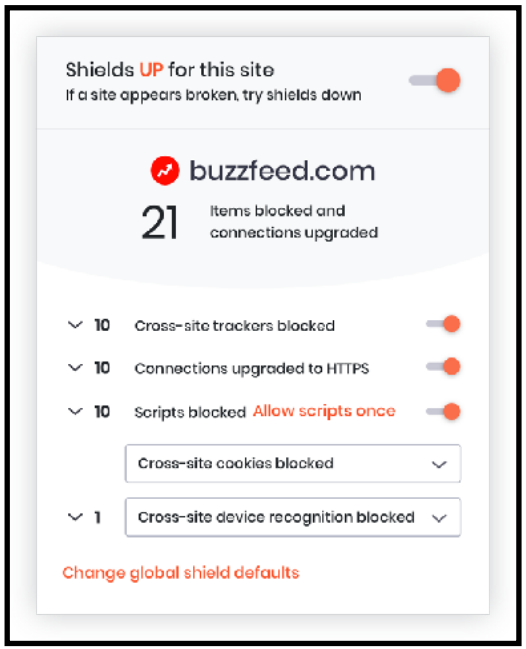
Brave Rewards – BAT promotes sites with good content

Brave Rewards allows you to support your favorite sites with an amount of money you specify, even if the ad blocker is activated.



Many websites finance themselves mainly through advertising and can thus make their content available for free. By using an ad blocker you deprive such providers of their main source of income.

With "Brave Rewards" you can support your favourite websites with a freely selectable amount despite the activated ad blocker. The core of the system is the so-called "BAT" ("Basic Attention Token"), which rewards you with the cryptocurrency of the same name when you watch advertising. Brave then automatically distributes the tokens to the relevant pages depending on the time spent there. Alternatively, you can donate directly to a website or set a fixed monthly contribution.



The BAT system is deactivated by default and must be switched on manually. Without BAT, Brave is basically nothing else than a chromium-based browser with additional protection functions against advertising and tracking.

Many website operators who earn money by selling advertising space via third-party providers might not agree with Brave's approach. The model reminds of the whitelisting by the Adblock Plus manufacturer Eyeo. They can be paid for the possibility that certain, less intrusive forms of advertising are not filtered by their ad blocker.

New at Brave, however, is the alternative that Brendan Eich and his CTO Brian Bondy have come up with for financing content on the net: Brave is to become an advertising platform on which the data for personalized advertising is always stored encrypted on the user's devices and not – as is common today – shared with an inscrutable mass of advertising partners.

In addition, not only the website operators are to earn money from advertisements shown in the Brave browser, but also customers collect money in the form of the cryptocurrency BAT when they look at advertisements – and can then distribute these again to their favourite websites via a special tip button. That sounds a bit complicated. Fortunately, Brave is built in such a way that no one has to actively intervene in this process if he or she doesn't want to.

However, Brave's model differs from Eyeo's Adblock Plus in a few points. Users can initially decide for themselves whether they want to participate in this advertising program at all. Only those who agree collect the cryptocurrency BAT by watching advertisements, which he or she can then distribute automatically or individually in the form of tips to websites, Youtuber or Twitter users. Users should also be able to exchange the collected tokens for money themselves.

The Brave Makers probably assume that most people will agree to let the advertising revenues go to the content creators, especially since it will probably be a few dollars per month.

How do I collect tips and contributions as a publisher?

A "verified" Brave publisher needs to sign up for an Uphold account in order to collect BAT contributions from his readers. Contributions are processed on a monthly basis and sent to the Publisher's Uphold account using their choice of currency.

An "unverified" publisher needs to verify his account before connecting their Uphold account. More details are available at publishers.basicattentiontoken.org.

Buy crypto directly from Brave Browser

In April 2020, Brave desktop browser update (version 1.8) came out with a brand new feature: a Binance widget, the first exchange-browser integration of its kind.

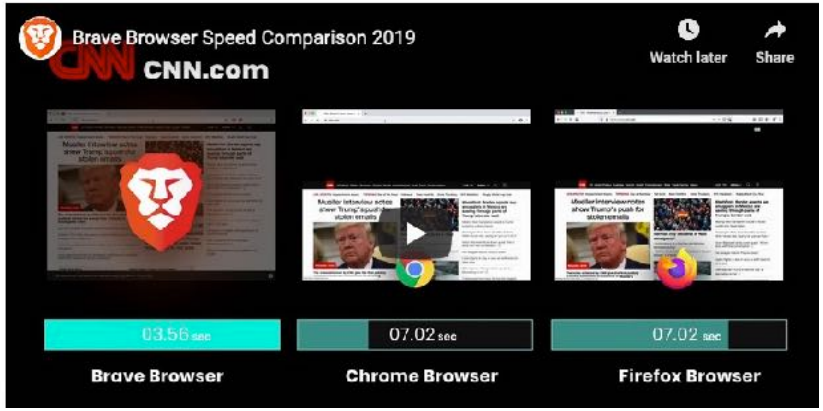
The Binance widget can be accessed from the New Tab page in the Brave desktop browser. The widget has several functions for managing, buying, and trading cryptocurrency:

- **Summary**: Overview of your Binance account balance
- **Deposit**: All supported assets in the account where you can search for specific assets, and viewing fiat value
- **Convert**: Easy conversion from one asset to another
- **Buy**: Buy and sell crypto assets (Purchases are reflected in the Binance widget shortly after they have concluded)

Brave Browser in review: Performance

Besides the protection of privacy, the Brave Browser is especially impressive when it comes to speed. By blocking advertisements, Internet pages load faster. This was also confirmed in our test.

And here is the official speed test from Brave:



Try watching this video on www.youtube.com,

For this we opened various news sites and shopping portals via Google Chrome, Mozilla Firefox, Opera GX, Apple Safari and the Brave Browser. The latter was around twice as fast as the competition in terms of loading times (while official Brave website

claims that it can beat its rivals with up to 6x better loading times). And browser games such as Settlers Online or League of Angels also work with the Brave Browser as usual and without restrictions.

More efficient RAM usage

Chrome is known as a RAM scavenger, but Brave saves memory mainly thanks to the ad blocker and a few little tricks. The blocking of ads also leads to slightly faster loading times of web pages, but this is not always noticeable.

Is there a Brave Browser for Android and iOS?

An Android version is available via PlayStore & iOS on AppleStore.

What about Brave Browser for Linux and Mac?

Both platforms are supported. Download the Linux or Mac version of Brave Browser from the download area of the manufacturer.

Is Brave Browser available as a portable version for the USB stick?

Brave Portable is available, but not directly from the developers, but through the Portapps platform.

How do I use Tor in Brave Browser?

It's very easy: If you're in a hurry, open a new tab with Tor support using the [Alt] + [Shift] + [N] shortcut. Otherwise, open the menu using the three dashes and click "New private window with Tor".

Is the Brave Browser also suitable for file sharing?

Yes, you can use Brave to load and stream TORRENT files, for example.

How can the Brave Browser be extended?

The browser is compatible with the add-ons from the Chrome Web Store.

Conclusion of our Brave Browser Review

How well the model will work is up in the air; so far Brave has only shown advertising in the form of push messages anyway. The platform on which the advertising is sold to the highest bidder, similar to Google's Adsense, has not yet been built, but is to follow as soon as possible. Until then, Brave users can familiarize themselves with the functions of the new browser, for example, give their favorite YouTube a few BATs, or register as a Creator.

For those who just want to browse, Brave is a solid browser that is based on Google's open source browser Chromium, just like Chrome, Opera and Edge. This has the pleasant effect that popular extensions can also be installed in Brave via Chrome-Store and bookmarks can be imported. Because websites with Brave don't have to load the numerous ad trackers, Brave is faster than Chromium browsers without ad blockers. In fact, the browser runs quite smoothly, but SZ could not check if it is actually more than twice as fast as Chrome, as Brave claims. Whether Brave will eventually become a fair payment system for website operators such as blogs, newspapers, podcasters or youtubers is likely to be decided primarily by the number of voluntary users of Brave's reward model. But Brave is already a decent browser and an exciting experiment.

In principle, all additional features of Brave can also be integrated into any other browser with the help of add-ons. If you want to save time and effort and are just looking for an easy-to-use browser for a little more privacy while browsing, Brave is the right choice for you.

Andrew Heinzman posted the following article to howtogeek.com on November 25, 2020. bit.ly/3c0HhAY. © How-To Geek, LLC. He is a writer for How-To Geek and its sister site, Review Geek.

Should You Ditch Streaming and Go Back to Cable?

By Andrew Heinzman

Streaming video was supposed to save us from the wicked grasp of cable TV. But as prices rise and streaming selections fall, it's getting hard to justify the frustrating, expensive streaming experience that comes along with being a cord cutter. People subscribed to services like YouTube TV could actually *save* money and get more channels by with a cable subscription. But is going back really worth it?

Why Did We Ditch Cable In the First Place?

Nobody expected Netflix to become a full-time cable replacement when it started streaming shows and movies in 2007. The idea, as outlined in a now 13-year-old *New York Times* article, was to compete with Blockbuster, iTunes, and cable-owned video-on-demand services.

It just happens that Netflix struck gold. Not just because streaming is cheap or convenient, but because Netflix had an incredible library of shows and movies—a library that puts all modern streaming services to shame. What we didn't realize at the time is that this was the start of a new concept: cord cutting.

Distributors were happy to license their catalog to Netflix because they thought that streaming was, at best, an alternative to rental. That's how Netflix managed to net classic Disney films, the full Pixar catalog, NBC Universal's best shows, brand-new AMC hits, Nickelodeon, Warner Brothers, FOX, Cartoon Network, and more in its first years of streaming. By the time 2009 rolled around, publications like *Wired* were pushing articles like "Netflix Everywhere: Sorry Cable, You're History."

Today's streaming environment is more accessible than it was a decade ago. The video quality is better, we have neat original shows like *Stranger Things*, and live TV services like Sling and YouTube TV offer a direct alternative to the cable experience. Cutting the cord is pretty easy nowadays—that's indisputable. Problem is, streaming is *way* more expensive than it used to be, and it's only going to get worse.

Streaming Is Frustrating, But It's Still Worth It

Since its renaissance in the early 2010s, the price of Netflix has nearly doubled while its selection of A-list content has only thinned out. You can't get by on Netflix alone, which is probably why you're subscribed to three, four, or even five services right now. How the hell did we get here?

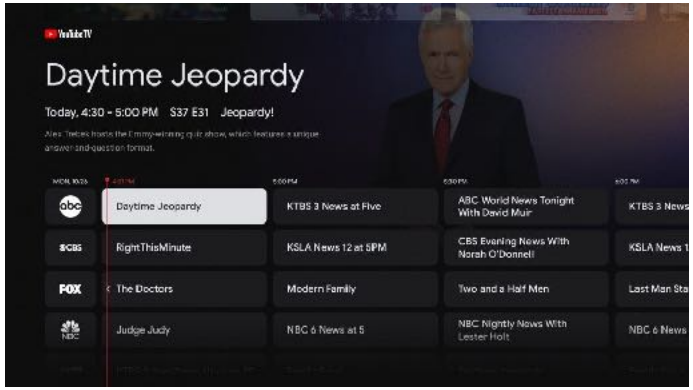
Every streaming service needs a few top-tier shows to keep customers around. But there are only a handful of shows with the mass appeal of *The Office* or *Friends*, and streaming services aren't willing to share them with one another. That's why Netflix and Hulu only seem to lose their best shows, and it's the main reason why you're subscribed to multiple services instead of just one.

It's also the reason why Netflix costs so damn much. Distributors know that hit shows are worth a ton of money and demand over $100 million for titles like *Friends* and *The Office*. If streaming services want to keep these shows, then they gotta charge you more. The only alternative is to make a hit series like *Bojack Horseman* or *Stranger Things* in-house, which is risky *and* very expensive.

The Cheapest Way to Stream TV: Rotate Your Subscriptions

Still, these on-demand streaming services aren't as bad as cable. You pay $15 to $60 a month and you aren't stuck with any contracts. You can cancel your subscriptions whenever you want (or rotate them to save money), and best of all, you don't have to deal with the cable company.

The problem comes when you subscribe to services like YouTube TV, Sling, or Hulu with Live TV, which are direct replacements for cable. Like other streaming services, these live TV platforms are steadily losing content and increasing in price, to the point that they often cost *more* than a cable plan.



If You Like Live TV … Well, We Need to Talk

Live TV services like YouTube TV and Sling are the direct cable replacement that people have wanted for decades. It just makes sense. Why stick with cable when you can watch TV on any device through your internet connection? Why worry about bulky DVRs when you can record shows to the cloud? Why sign a contract when you can quit streaming at any time?

Well, maybe you're a sports fan who wants to watch Fox Sports, which is missing from the most popular live TV services. Maybe you want a combination of TV channels that aren't available through streaming, or hey, maybe live TV services are more expensive than an internet + cable channel package.

YouTube TV and Hulu with Live TV launched in 2017 for $35 and $40, respectively. Unfortunately, Hulu announced a price increase to $70 a month while I was writing this article, and YouTube TV bumped its price to $65 a month back in June. Those prices are outrageous, even with the 80+ channel selection and cloud DVR functionality advertised by Google and Hulu. AT&T TV Now and FuboTV suffer from the same problem—they don't offer enough channels or features to justify the $60+ price tag.

Cord Cutting Only Sucks If You're Trying to Replicate Cable

Your average cable provider, on the other hand, offers a 120-channel plan (with Fox Sports) for around $60 to $70 a month.

Bundling that cable plan with 100 Mbps internet service pushes your monthly bill somewhere between $75 and $90 a month, which is still a better deal than streaming TV because it *includes your internet*. (Note: Some service providers may not offer bundles at this price, especially if you're in a rural area.)

The only streaming TV service with a better price than cable is Sling TV, which starts at just $30 a month. Sling is a fantastic alternative to basic cable or a "starter" cable plan, but its limited channel selection won't jive with people who prefer larger packages.

Should You Go Back to Cable?

Alright, so you just found out that a cable and internet bundle might be cheaper than your YouTube TV subscription. Is there no reason to stick with streaming? Should you slide back into the cold, cruel arms of your cable provider?

The answer is probably "no," at least for most people. Streaming is just too convenient—you can watch TV on any streaming device without screwing around with funky cables or gigantic cable boxes. You can share your account with family members, watch from multiple screens at a time, and live life without a contract hanging over your head.

And if you're a YouTube TV customer, then you're cashing in on some awesome perks. We're talking about unlimited DVR, simultaneous recording, Google Assistant integration, and the option to fast-forward through ads for no additional fee. Google also offers a free Chromecast with Google TV just for paying your bill, which is beyond cool.

But cable has its perks, too! You get a ton of channels, and they won't disappear with a week's notice like they do on streaming services. You can use your cable account to access "TV anywhere" services or stream live TV to your phone through your cable company's app. Cable TV even comes with access to local channels, which aren't available through most streaming services (and even then, streaming support for local channels varies by region). And while contracts suck, at least you won't get a price increase until its time to renew, and you can always negotiate your bill if you have enough gumption.

The choice between streaming and cable often comes down to personal preference, not price. But if you're a fan of live TV who's tired of paying more while losing channels, then maybe you should visit your ISP's website and check out some cable bundles. Who knows, you might find something that works for you.

Oliver Haslam posted the following article to imore.com on November 16, 2020. bit.ly/3sTG8Bx. © Mobile Nations. He has written about technology for nearly ten years, with his work on Macworld, PCMag, 1Password's blog, and other websites.

This Video Shows The Power Of Apple ProRAW and Night Mode Combined

The power of editing RAW with Apple's magic sprinkled on top.

By Oliver Haslam

What you need to know

- Apple has added its ProRAW photo format to iOS 14.3 beta 1.
- Matt Birchler recorded a video showing what ProRAW and Night Mode can do when enabled together.

Apple's recent iOS 14.3 beta release brought with it our first chance to test its new ProRAW photography feature. In simple terms, Apple ProRAW will combine the editing capabilities of the standard RAW format, while also allowing the use of computational photography like Night Mode. And the results are pretty impressive.

While this is still only the first beta release of the new ProRAW feature, things are looking positive. Sure, apps have let us capture in RAW before, what that meant things like Night Mode were disabled. This video by Matt Birchler illustrates that point brilliantly by comparing an image taken in Apple ProRAW and another taken in standard RAW using the excellent Halide app.

Watch this video of ProRaw!!!!

The results speak for themselves. The standard RAW images are unusable, while the ProRAW ones were already pretty great. A little tweaking here and there and things improved yet further.

There's no telling when Apple ProRAW and iOS 14.3 will be available to the public but this is already shaping up to be the go-to feature when the update lands. Especially if you're going to be taking photos in the dark!

Glenn Fleishman posted the following article to macworld.com on January 20, 2021. bit.ly/3c0iJYR. © IDG Consumer & SMB. He is a Senior Contributor to Macworld and others. He appears regularly on public radio to discuss the tech industry.

How To Share Your Mac's Screen The Quick And Easy Way In Messages

Need to help someone by seeing what they're up to or get help yourself?

By Glenn Fleishman

For nearly 20 years, Apple has offered screen sharing as a basic feature in what was once OS X and is now macOS. This has included a way to share your screen remotely with other people and let them share yours. (At one point, it was easy to reach your Mac while outside your local network and access your screen, but then Apple removed Back to My Mac from macOS.)

The feature has changed and migrated over time—it was once part of AOL Instant Messenger!—so you may not know that it's tucked away in Messages. It also works only with people who use their iCloud account with Messages, which allows you communicate through Apple's iMessage system.

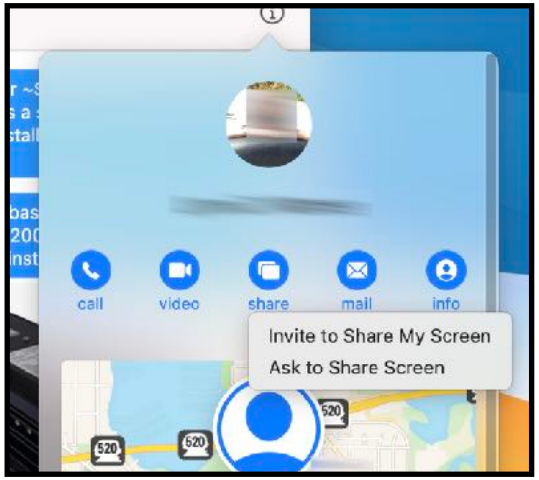
You can check that iMessages is in use by either looking at a conversation and seeing blue bubbles for text messages. Or, when starting a new conversation, the person whose name you select as you type in a recipient is in blue text. If their name or the messages are green, it's regular SMS text messaging and screen sharing isn't available. It's also available only for one-to-one conversations.

[Further reading: Learn more about macOS Big Sur]

macOS Big Sur made additional changes to its appearance, but it's not far off from its location in macOS Mojave and Catalina.

Here's how to use it:

1. Open Messages.
2. Select a conversation or start a new one, and make sure iMessage is in use, per above.
3. Click the circled-i info button in the upper-right corner.
4. Click the overlapping rectangles—the screen sharing icon. (This icon will be grayed out or absent if screen sharing isn't available with this other account.)
5. Select either Invite to Share My Screen or Ask to Share Screen as the case may be.
6. If you invite someone, they receive an alert in Messages and can click to start; if you request someone else's, you have to wait for them to approve the request.



Messages requires a little navigation to get to the screen-sharing feature, which is quite useful when someone else needs visual help—or you do. (Big Sur shown. Portions of image blurred for privacy.)

When the session starts, both you and they see an indicator in the system menu bar that screen sharing is underway. You can use the Screen Sharing menu (also two overlapping rectangles) to choose *Disconnect* and end the session on either side.

One reader asked recently about a problem they had when someone sent them an Ask to Share Screen request. They have two Macs logged into the same Apple ID account with Messages. The "wrong" machine received the request. The reader put that Mac to sleep, and their counterpart tried again. It still didn't work.

Apple sometimes has a problem with *presence*, which is figuring out where you currently are among multiple devices connected to the same account. This is certainly one of those problems, and person-to-person screen sharing doesn't let you target another person's devices, only their account.

The answer in that situation is to select *Invite to Share My Screen* from the appropriate Mac that you want to share from. The service is essentially always symmetrical, so if someone can request access, you can offer it, too.

For unattended remote access to your own devices, we published a round-up of popular tools about 18 months ago.

Henry T. Casey posted the following article to tomsguide.com on December 14, 2020. bit.ly/3pnUacg. © A Purch Company. He is an editor writer at Tom's Guide covering streaming media, laptops and Apple.

iOS 14.3 Is Here — Top 5 New Features And How To Get It Now

How to download iOS 14.3 and why we want to hit Download

By Henry T. Casey

Apple just released iOS 14.3, the latest significant update to iOS 14 — and we're really excited. But if you're like a lot of users we talk to, you've likely got two questions: how do I update to iOS 14.3, and why should I?

Fortunately, we've got both answered, and here we're going to break down the 5 biggest features of iOS 14.3, and also walk you through the upgrade process.

And there's plenty more than the features we're listing below. For example, the App Store is getting privacy summaries for each app. But since these are developer-reported sections of information, it's not like an independent third-party is auditing their app for a completely thorough synopsis.

We're also going to see App Clip Codes finally hit the market as well, which will help you use a feature of an app — say a ride-hailing service — without downloading the whole app. The U.S. is also getting "air quality health recommendations," and you'll be able to indicate "pregnancy, lactation, or contraceptive use" in the Cycle Tracking section of the Health app.

How to download iOS 14.3

First, make sure your iPhone is backed up — a must when applying any significant update. You never know what could go wrong.

Via iCloud: Open Settings, tap your profile at the top, then tap iCloud, then scroll down to iCloud Backup. You'll see a "Last successful backup" time at the bottom of the screen, and if that time is not recent enough, tap Back Up Now.

Locally: Connect your iPhone to your Mac via a USB to Lightning Cable, and open Finder. Then, select your iPhone in the left menu. Under General, and then under Backups, select Back Up Now. You can encrypt your backup to make it more secure, by checking off "Encrypt local backup."

Then, for **how to update to iOS 14.3:** open Settings on your iPhone, tap General and select Software Update. You should see the option to download and install iOS 14.3 here once it arrives. We saw it available at 1:48 p.m. ET, but if you don't see it, do not worry. Updates tend to roll out in waves, so don't be frustrated if you don't see it at first.

The update may take some time, so expect a small wait.

iOS 14.3: Camera upgrades

A wide range of iPhones will get perks for their cameras. According to 9to5Mac, that includes the iPhone 6s series, iPhone SE, iPhone 7, 8 and X, which will get the ability to mirror your front facing camera to keep the mirrored versions of selfies (which some would argue look incorrect), a feature originally just available in iOS 14 for the iPhone XR/XS and later. **This feature is enabled in Settings, under Camera, and then Composition.**

The iPhone 12 Pro and Pro Max are getting the ProRAW photo format in iOS 14.3.

The camera app is getting the option to record video at 25 fps — and that's not limited to a specific iPhone.

iOS 14.3: Apple Fitness Plus

One of the biggest reasons to expect iOS 14.3 today (Dec. 14) is Apple's new Fitness Plus subscription service. In the fine print of the Fitness Plus press release, Apple notes that "Apple Fitness+ will be available Monday, December 14, and requires iOS 14.3, watchOS 7.2, iPadOS 14.3, and tvOS 14.3."

And since Apple wouldn't release a service you couldn't use — and it seems like Fitness Plus will come out today, as advertised — it only makes sense that iOS 14.3 will arrive today.

Fitness Plus is Apple's Peloton-like subscription service, and Apple announced it will start with 10 kinds of popular workouts "High Intensity Interval Training (HIIT), Strength, Yoga, Dance, Core, Cycling, Treadmill (for running and walking), Rowing and Mindful Cooldown."

How is Apple Fitness Plus different from the service you already use? Apple's leveraging its ecosystem so you can plug your Apple Watch data right into the service, so you can see your heart rate, calories burned, progress on your Workout Activity ring on your screen. And speaking of screens, you'll be able to follow along with instructors on the iPhone, iPad and Apple TV.

Apple Fitness Plus will show up as a new tab in the Fitness app, and its timing is pretty solid, considering how some do not want to go to gyms as the Covid-19 pandemic is not over.

iOS 14.3: AirPods Max

It would be a shame if you spent $549 on headphones that didn't work with your phone. So, with the AirPods Max release date happening on Dec. 15, it makes sense that Apple would roll out the software needed for those headphones (again, the AirPods Max press release contained fine print that iOS 14.3 was required).

9to5Mac published the release notes for iOS 14.3's release candidate (available to developers and those on the public beta)

as adding a number of features including "Adaptive EQ adapts sound in real time to the personal fit of ear cushions."

iOS 14.3: Apple TV Plus updates

Apple's TV app doesn't put a huge highlight on the company's own original programming, or at least it didn't until now. A post in the Apple TV Plus subreddit revealed that iOS 14.3 is adding a tab for the Apple Original programming.

This should make it easier for folks to find the shows that they're paying for, or getting for free as a part of Apple's offer to hand out subscriptions with select hardware purchases.

iOS 14.3: App shortcuts fixed

Custom iOS app icons — where you can create an app shortcut icon to make an alias that opens an app — don't exactly work perfectly in iOS 14. Instead of opening your app quickly, they pause to show that the Shortcuts app is being used to open your app of choice.

This makes it look like your phone is slower than it actually is, and it doesn't look or feel right.

Fortunately, it's been reported that iOS 14.3 will fix this, so your custom iOS app icons just open the app you want to get to, no detours.

Michael Simon posted the following article to macworld.com on June 29, 2018. bit.ly/3oo6uld. © Mac Publishing, LLC. He is a Staff Writer at Macworld.

iPadOS 14 FAQ: iPadOS 14.4 Now Available

Get ready for a better tablet experience.

By Michael Simon

In September of 2020, Apple launched a brand new version of iPadOS that brings a bunch of new changes to its iconic tablet. Here's everything that you're getting, how to get it, and whether your iPad will be able to run it.

The latest: iPadOS 14.4 is available

Apple has released iPadOS 14.4, an update to the iPad operating system that includes some minor improvements and bug fixes. Here are the release notes:

iOS 14.4 includes the following improvements for your iPhone:

- Smaller QR codes can be recognized by Camera
- Option to classify Bluetooth device type in Settings for correct identification of headphones for audio notifications
- Notifications for when the camera on your iPhone is unable to be verified as a new, genuine Apple camera in iPhone 12, iPhone 12 mini, iPhone 12 Pro and iPhone 12 Pro Max

This release also fixes the following issues:

- Image artifacts could appear in HDR photos taken with iPhone 12 Pro
- Fitness widget may not display updated Activity data
- Typing may be delayed and word suggestions may not appear in the keyboard
- The keyboard may not come up in the correct language in Messages
- Audio stories from the News app in CarPlay may not resume after being paused for spoken directions or Siri
- Enabling Switch Control in Accessibility may prevent phone calls from being answered from the Lock Screen

Here is information about the security updates in iPadOS 14.4:

Kernel

Available for: iPhone 6s and later, iPad Air 2 and later, iPad mini 4 and later, and iPod touch (7th generation)

Impact: A malicious application may be able to elevate privileges. Apple is aware of a report that this issue may have been actively exploited.

Description: A race condition was addressed with improved locking.

CVE-2021-1782: an anonymous researcher

WebKit

Available for: iPhone 6s and later, iPad Air 2 and later, iPad mini 4 and later, and iPod touch (7th generation)

Impact: A remote attacker may be able to cause arbitrary code execution. Apple is aware of a report that this issue may have been actively exploited.

Description: A logic issue was addressed with improved restrictions.

CVE-2021-1871: an anonymous researcher

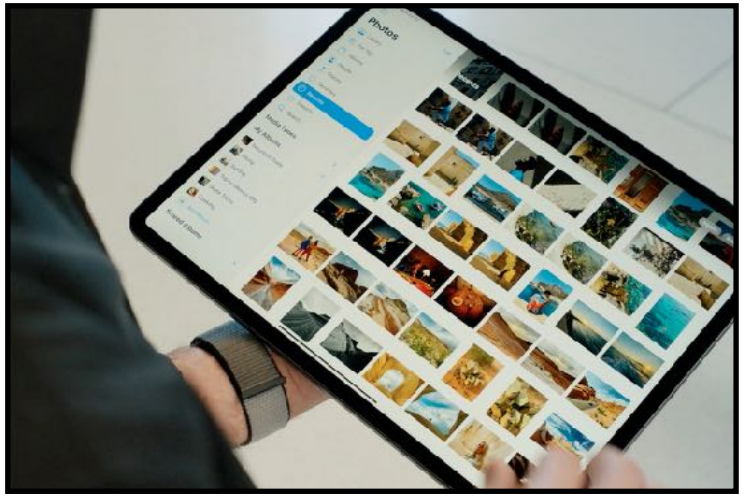
CVE-2021-1870: an anonymous researcher

To update your iPad, launch the Settings app, the tap *General* > *Software Update*.

What are iOS 14's main new features?

App design

The biggest change you're going to see on your iPad is with apps. Apple is bringing a refined design language to the iPad, with sidebars, pull-down menus, and toolbars that look more like Mac apps than ever before.



Tablet apps have new sidebars, toolbars, and menus in iPadOS 14.

Many of Apple's own apps, including Photos, Music, Shortcuts, Voice Memos, Calendar, Notes, Files, Mail, and Contacts have new drag-and-drop sidebars that make navigation and organization easier, and streamlined toolbars in Files, Calendar, and other apps keep things simple. Also, you'll see Mac-like popovers when doing things like picking emoji and pull-down menus that distill buttons down to a single tap.

Redesigned widgets

Widgets took on greater prominence in iPadOS 13 when they were given a spot on the home screen, but in iPadOS 14 they're getting even better. Just like in iOS 14, widgets on the iPad have been completely redesigned to be more versatile, informative, and intelligent. Widgets now come in multiple sizes so you can choose how much information to show, and a new gallery will help you discover new widgets, even if you haven't installed the app yet.

Search

You can search for anything wherever you are in iPadOS 14.

In iPadOS 14, search is more like it is on the Mac. For one, it has a new compact design that lets you start search from anywhere—on the home screen or in an app—and doesn't take over your whole screen. But far more importantly, search has been completely rebuilt, with better organization, typing suggestions, and strong when searching. You'll be able to locate and launch apps quickly, call contacts, get answers, and find just about anything on your iPad no matter where it's hiding.

Scribble

Apple Pencil may be known as a drawing tool, but in iPadOS 14 it's picking up some serious skills for writers too. Apple is enhancing Apple Pencil's text capabilities by bringing the Apple Watch's Scribble tech to the iPad for enhanced handwriting recognition and conversion in all text fields. So you can use your Apple Pencil as a primary input device now.

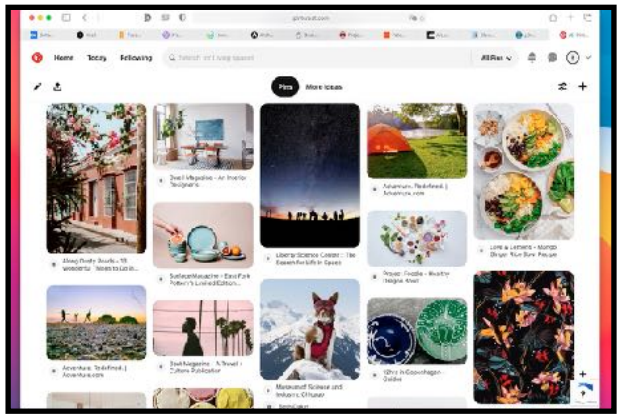
You can now write in any text field on your iPad and it'll convert to typed text.

Scribble is more than a keyboard replacement, however. In addition to text conversion, you can scratch out something you've written to erase it, circle something to select it and copy or move it, and paste handwritten notes as if they were text. And on-board AI recognizes addresses, phone numbers, email addresses, and other data in handwritten text just like like it does with typed text so you can call someone after jotting down their number.

And Scribble isn't just limited to text. Apple's handwriting engine will also help you draw geometrically perfect lines, arcs, and shapes. So if you're really bad at drawing, you can make something that kind of looks like a circle or a star or even an arrow, and and your iPad will convert it to its "ideal form."

When you draw a shape with your Apple Pencil, the system will recognize it and make it "geometrically perfect," while data detectors can distinguish phone numbers, dates, and addresses in your own handwriting. And you can also select words and sentences to move them or change the color all in your personal handwriting. You can also select handwritten notes as text and the coolest feature of all: scratch something out to delete it.

Safari



The new Safari update brings automatic favicons to every tab.

Like the Mac, Apple is bringing major enhancements to its browser on the iPad. Not only is it faster, but it's also easier to navigate. You can see more tabs at once thanks to its streamlined design, and active tabs are no longer blank. In iPadOS 14, favicons appear by default so you can quickly switch between them. You'll also be able to translate entire webpages with a tap (English, Spanish, Chinese, French, German, Russian, or Brazilian Portuguese only), and you'll get an alert when one of your passwords might have been involved in a data breach. Then you can either change your password or switch to Sign in with Apple for tighter security.

Augmented Reality

Apple's AR ambitions are literally laser-focused on the iPad with the iPad Pro's new LiDAR Scanner, and it's only getting more powerful in iPadOS 14. Apple's new ARKit 4 is loaded with new APIs that will fuel the next generation of AR apps, including Depth, Location Anchors, Extended face tracking support and object occlusion, and video textures

What about iOS 14's features?

Along with these specific features, the iPad is also getting many of the cool new features in iOS 14, including a compact interface for Siri and calls, App Clips, which let you start using an app without downloading it, and on-device dictation, which is speedier and more private than before. But you're not getting everything. Most notably the App Library and Translate app aren't making their way the the iPad, but you can find the full list of what you're not getting here.

Which devices are supported?

If your iPad can run iOS 13, it'll also be able to run iOS 14. Those devices include:

iPad Pro 12.9-inch (4th generation)
iPad Pro 11-inch (2nd generation)
iPad Pro 12.9-inch (3rd generation)
iPad Pro 11-inch (1st generation)
iPad Pro 12.9-inch (2nd generation)
iPad Pro 12.9-inch (1st generation)
iPad Pro 10.5-inch
iPad Pro 9.7-inch
iPad (7th generation)
iPad (6th generation)
iPad (5th generation)
iPad mini (5th generation)
iPad mini 4
iPad Air (3rd generation)
iPad Air 2

How can I get the iPadOS 14?

Once iPadOS 14 is released on September 16, Apple will begin sending notifications to users, prompting them to make the update. That can take quite a while, though, and there's no need to wait for it. Just follow these steps:

1. Open *Settings*. 2.Tap *General*.
3. Tap Software Update.

Follow the prompts to install and reboot your iPad, and you've got iPadOS 14!

Chance Miller posted the following article to 9to5mac.com on January 26, 2021. bit.ly/3a6Kxlz. He is the Lead Editor for 9to5Mac and hosts the 9to5Mac Daily podcast,

Apple Says iOS 14.4 Patches 3 Security Flaws That 'May Have Been Actively Exploited'

By Chance Miller

In addition to the new features detailed earlier today, iOS 14.4 also brings a trio of notable security improvements. In a new Support document published this afternoon, Apple said that iOS 14.4 fixes a kernel vulnerability and two WebKit vulnerabilities, all three of which "may have been actively exploited."

First, Apple says that iOS 14.4 patches a security vulnerability in the kernel affecting iPhone 6s and later, iPad Air 2 and later, iPad mini 4 and later, and iPod touch (7th generation). The company only provides a brief description of the details:

- Impact: A malicious application may be able to elevate privileges. Apple is aware of a report that this issue may have been actively exploited.
- Description: A race condition was addressed with improved locking.

iOS 14.4 also patches two vulnerabilities in WebKit, which is the browser engine used by Safari, affecting the same aforementioned devices:

- Impact: A remote attacker may be able to cause arbitrary code execution. Apple is aware of a report that this issue may have been actively exploited.
- Description: A logic issue was addressed with improved restrictions.

As *TechCrunch* rightfully points out, it's unusual for Apple to denote that a security vulnerability "may have been actively exploited." The company did not provide any information on who might have fallen victim:

It's not known who is actively exploiting the vulnerabilities, or who might have fallen victim. Apple did not say if the attack was targeted against a small subset of users or if it was a wider attack. Apple granted anonymity to the individual who submitted the bug, the advisory said.

Apple says that additional details about these vulnerabilities will be provided in the future, but no additional information is currently available. Apple says that all three vulnerabilities were reported by anonymous security researchers.

iOS 14.4 is available to users via an over-the-air update in the Settings app. Simply open the Settings app, choose General, then choose Software Update. With these major security improvements included, we highly recommend updating as soon as possible.

Chance Miller posted the following article to 9to5mac.com on January 25, 2021. bit.ly/36gNTrd. He is the Lead Editor for 9to5Mac and hosts the 9to5Mac Daily podcast,

macOS Big Sur 11.2 RC 2 Now Available As A Public Release Nears

By Chance Miller

The second release candidate version of macOS Big Sur 11.2 is now available to developers and public beta users. This comes after Apple released the first macOS Big Sur 11.2 RC build last week. The update brings M1 Mac improvements, Bluetooth fixes, and more.

As a reminder, Apple has moved away from the previously-used golden master naming for near-final beta releases. Instead, going forward, the company will use the term “Release Candidate,” or RC, to reference a near-final beta release.

We expect macOS Big Sur 11.2 to be released to the general public as soon as this week. Today’s update to the second release candidate build likely includes some minor last-minute fixes and improvements. The update features the build number 20D62, compared to the 20D53 build number of last week’s RC.

Below are Apple’s release notes for macOS Big Sur 11.2:

macOS Big Sur 11.2 improves Bluetooth reliability and fixes the following issues:

- External displays may show a black screen when connected to a Mac mini (M1, 2020) using an HDMI to DVI converter
- Edits to Apple ProRAW photos in the Photos app may not save
- iCloud Drive could turn off after disabling the iCloud Drive Desktop & Documents Folders option
- System Preferences may not unlock when entering your administrator password
- Globe key may not display the Emoji & Symbols pane when pressed

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SOME SPEAKER ROSTER DETAILS

January 11 - Dan Wissink. Owner of Dan's Tutorials.

February 9 - Terry Wilson. Creator of TightJacket customized covers for iPhone and iPad.

March 13 - Michael Blank. Webmaster of the Princeton Macintosh Users Group.

April 10- Gary Rosenzweig. Creator of videos for MacMost

May 8 - Tentative

June 13 - Rob Golding. Past President of Princeton Macintosh Users Group

September 11 - Pending

October 10 - Pending

November 13 - Bob "Dr. Mac" LeVitus. Prolific speaker and author of more than 80 books.

December 11 - Pending

Killian Bell posted the following article to cultofmac.com on January 19, 2021. bit.ly/3cgcfp4. He is is a freelance writer based in the U.K and has an interest in all things tech.

How To Avoid M1 Mac's Dreaded Screensaver Bug

By Killian Bell

Fast User Switching seems to be the problem.

A strange bug plaguing a seemingly large number of M1 Mac owners spontaneously displays a screensaver that cannot be dismissed. But there is an easy way to avoid the problem until Apple rolls out a proper fix.

We'll show you how.

Owning an M1 Mac has been a largely positive experience for most. The latest MacBook Air, MacBook Pro, and Mac mini are significantly faster than their predecessors, despite running cooler and quieter at all times.

But the new machines do appear to have some teething problems. The latest, which appears to be a simple macOS bug, renders machines unusable after they get stuck inside a screensaver.

The problem seems to be connected to Apple's new Fast User Switching feature in macOS Big Sur. Fortunately, there is a workaround that prevents it for now.

M1 Mac suffers spontaneous screensaver bug

The bug causes a screensaver to appear, even when the machine is actively being used, then prevents it from being deactivated. Reports suggest it affects all M1 Mac machines, and all versions of Big Sur.

"I was actively editing some Calendar entries when all of a sudden the same exact thing happened (screensaver on, user locked out)," explained one user, running macOS 11.1, in the *MacRumors* forum.

"I ended up using Remote Access from my MBP to get in and log out the user on the Mini. The Mac mini then jumped to the login screen and it's working fine again now. Very weird."

Another user, running macOS 11.0.1, said they're experiencing the same issue on two separate M1 machines. "Happens a few times a day while actively using the computer," they added.

How to avoid it

There is no proper fix for this problem just yet; we'll have to wait for Apple to address it in a future macOS Big Sur update. In the meantime, however, there are a couple of things you can do to get around it.

The first, which only applies to MacBook Air and MacBook Pro, is to close and then reopen your machine when you get stuck at the screensaver. This is the only way (that we know of right now) to return to your desktop.

The other fix, which works on all M1 machines, is to disable Fast User Switching temporarily. It's a pain if you've come to rely on this feature, but it's the only thing that really works for now. These are the steps to follow:

1. Open System Preferences on your Mac.

2. Click Users & Groups, then select Login Options.
3. Click the padlock to unlock this menu, then enter your password.
4. Disable Show fast user switching menu.
5. Return to System Preferences.
6. Click Dock & Menu Bar, then select Fast User Switching.
7. Ensure Show in Menu Bar and Show in Control Center are disabled.

This should prevent spontaneous screensavers that you cannot close. We're hoping Apple rolls out a proper fix that allows Fast User Switching to be enabled without any issues soon.

Philip Michaels posted the following article to tomsguide.com on January 17, 2021. bit.ly/2M5GUdY. © Future US, Inc.. He is a senior editor at Tom's Guide and has strong opinions about Apple.

Forget Foldables: Rollable Phones Look Like The Next Big Thing

The LG Rollable scored big at CES — can it supplant foldable phones?

By Philip Michaels

Video of rollable phone rolling. See cdn.mos.cms.futurecdn.net/jLtd4DsEBoBmgC9i3zfQ5A-970-80.gif

Pity the poor foldable phone. Once it was the future of mobile design — a way to transform a pocket-sized smartphone into a tablet-like device that you could still carry around easily. With phone makers throwing their weight behind foldables, it didn't seem long before we'd have truly portable workstations that would allow us to get things done on the go.

And then, with just a brief teaser at CES 2021 this week, the rollable phone came along to knock its foldable counterpart off that lofty perch.

- Best foldable phones: Meet the LG Rollable's rivals
- Here's what Samsung's planning for the Galaxy Z Fold 3

The rollable in question is the straightforwardly named LG Rollable, and all we know about it is that the screen can expand and shrink depending on whether you want an expansive display or a portable device. We also know directly from LG that the phone is coming out this year. What we don't know is everything else — how the rollable function works, what kinds of cameras the phone includes and just how much it's going to cost. (Our prediction? A lot.)

Still, that's not stopping the LG Rollable from becoming one of the more talked-about unveilings at CES this year. We even gave the LG Rollable a Tom's Guide CES 2021 award. And that buzz is certainly understandable, according to Avi Greengart, lead analyst for Techsponential.

"Since rollable phones don't exist yet, people are excited about the possibilities without thinking about likely downsides," Greengart said.

Those downsides certainly loom large. But so do the possibilities of rollable phones.

Rollable phones: The opportunities

Tuong Nguyen, a senior principal analyst with Gartner, sees two appealing things about rollable screens — form factor and durability.

"Form factor is an interesting one because the smartphone industry has been focused on the slate for more than 13 years," Nguyen said. "Rollable [phones] will provide potential for innovation on the form factor as well as potential applications given the new potential configurations."

LG rollable concept design

Don't overlook the appeal of durability, though. To Nguyen, a rollable screen promises greater durability than a flat one, since all of the screen won't always be exposed. "I think anyone who has had to live with a cracked screen for months or years can appreciate this benefit," Nguyen says.

It's not just about those factors, though. There's also the prospect of giving smartphone users more screen to work with, while keeping the size of the overall device compact enough to tote around.

Foldable phones were supposed to provide that, too, and to some extent devices like the Galaxy Z Fold 2 have. But there are some trade-offs.

As impressive as folding phones like the Galaxy Z Fold 2 are, you can still see creases in the display.

"[Foldable displays] have creases and are twice as thick as a basic bar phone," said Greengart, noting the visible lines across even well-regarded foldables like the Z Fold 2 and the Galaxy Z Flip. A screen that doesn't need to bend, but rather roll into place is unlikely to have those.

Rollable phones: The challenges

Still, there remain plenty of blanks for LG to fill in if its rollable phone is going to convert the positive buzz from a CES teaser into a successful product launch. For instance, the phone maker is going to have to tell us more about that display and just how many times it can roll and unroll without any wear and tear.

That last point is not an inconsiderable one. An early stumbling block for foldable phones involved the phone's hinges — crucial for making the screen fold in two, but vulnerable to other issues. The original Galaxy Fold, for example, left a small gap that could allow dust and other particles through that could damage the screen. Samsung fixed the problem, but only after delaying the launch of that phone. With the moving parts that a rollable screen entails, we'll need to see how LG and others can ensure the devices keep working.

Video of foldable phone folding. See cdn.mos.cms.futurecdn.net/YAJ5zDcbJ8hjc4J2Rk8kPL-970-80.gif

Hinges allow foldable phones like the Z Flip to flip open, but they can also be the source of mechanical issues.

Greengart's looking for answers on durability and screen size. But he also wants to know about any trade-offs LG has had to make in order to produce such a flexible screen. In other words, are there any trade-offs in brightness, HDR, color and screen refresh rate that a more conventional phone wouldn't have to make.

Then there's the question of apps, and whether they'll have to be retrofitted to work with a new form factor. In the case of foldable phones, app makers had to tweak their software so that it could take advantage of features like multitasking and the Flex model Samsung has introduced with its latest foldable devices.

That gets to the ultimate challenge facing the LG Rollable and any other rollable phones in development — convincing people that this particular design lets them use the phone in new and valuable ways. It just so happens that's the challenge that foldable phones still contend with, too.

"Both form factors are being discovered in the sense that the use cases haven't been defined, yet," Nguyen said. "From a consumer perspective, this means 'how does this improve my life?'"

Rollable phones: What happens next

Don't expect foldable phones to exit the stage gracefully now that the LG Rollable is imminent. Samsung reportedly has new versions of the Galaxy Z Fold and Flip in the works for this year, and according to Samsung Electronics president TM Roh, the company's eager to come out with additional designs, some of which are expected to be more affordable than the current models.

As for the LG Rollable, there's a big difference between CES keynote darling and shipping product. Look for more details to emerge about this rollable phone — and hopefully more answers about just how it will work. AI and Humans

AI and Humans

Blueprints

By Kathy Garges

Artificial intelligence is beginning to gain acceptance among architects in areas beyond renovation and construction (the subject of last month's column). In addition to client requirements, projects require huge amounts of basic information — about building codes, climate, safety, security. AI can save time in gathering and organizing this foundational data.

A recent thesis by a Harvard graduate student proposes an ambitious GAN-based, interactive AI program for initial design. It would generate floor plans and assist with layout (room divisions, doors and windows) and furnishings.

GAN stands for Generative Adversarial Neural Network, a machine learning method which pits one neural network against another. One neural network refines the creation (generation) of a new image by attempting to deceive another neural network about the new image's similarity to a training image. (See previous AI and Humans columns.)

For example, the program could learn to generate possible building footprints to fit on a property shape after input of just one training design for a specific property. The program could

also include a style transfer function, to modify a basic design to reflect an architect's signature style — the professional version of applying the "Comic Book" or "X-Ray" effect to your photo in Photo Booth.

Artificial intelligence could also be used to assure that architects incorporate design features that are pro-social — important to society as a whole. Some of these are well-known and gaining ground, such as the use of sustainable materials and design of green buildings. Others are just appearing on the radar.

At a recent virtual conference on planning for longer human lifespans, one panel discussed how a few changes in residential design can make for much easier aging in place, which people overwhelmingly prefer, delaying or eliminating moves by seniors to retirement communities and nursing homes. However, few existing residences are designed for multigenerational living, with three or more generations in one household. In addition, fewer than 1% of existing residences have universal design.

Universal design is "the design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design." Familiar examples are doors that open automatically, shower grab bars, and sidewalk curb cuts. The goal is to design for everyone, not just the average person. Universal design benefits people of all heights, weights, abilities — and ages. Surprisingly, some of these home features — no door sills, for example — are most in demand with families that have young children.

AI architecture software could also encourage and facilitate the inclusion of neighborhood input. The needs and desires of racial and ethnic groups and the preservation and celebration of community history are starting to be recognized as important features of design excellence. Can including a design reference to a property's history as a dairy farm or an industrial site contribute to a sense of community? How can a new community center be designed to serve diverse needs — supporting local veterans who suffer trauma, housing a museum, encouraging urban agriculture?

Data mining of internet activity could be used to sweep in useful information for architects. For an obvious example, it could reveal vehicle and pedestrian traffic patterns at sports stadiums, schools, and churches, a seemingly innocuous benefit. But the possible uses of personal data for architectural design are endless, and raise privacy issues that, so far, seem to have gotten little attention.

Another aspect of architectural design that seems to be receiving little attention is human-robot cohabitation. Where will household robots bunk down and recharge their batteries — the attic, the basement, the closet underneath the stairs? Will there be enough space for two cooks in the kitchen, one human and one robot? Will we be able to shield our private matters from "gossip" among household robots?

Sources and additional information:

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