Android versions: A living history from 1.0 to 13

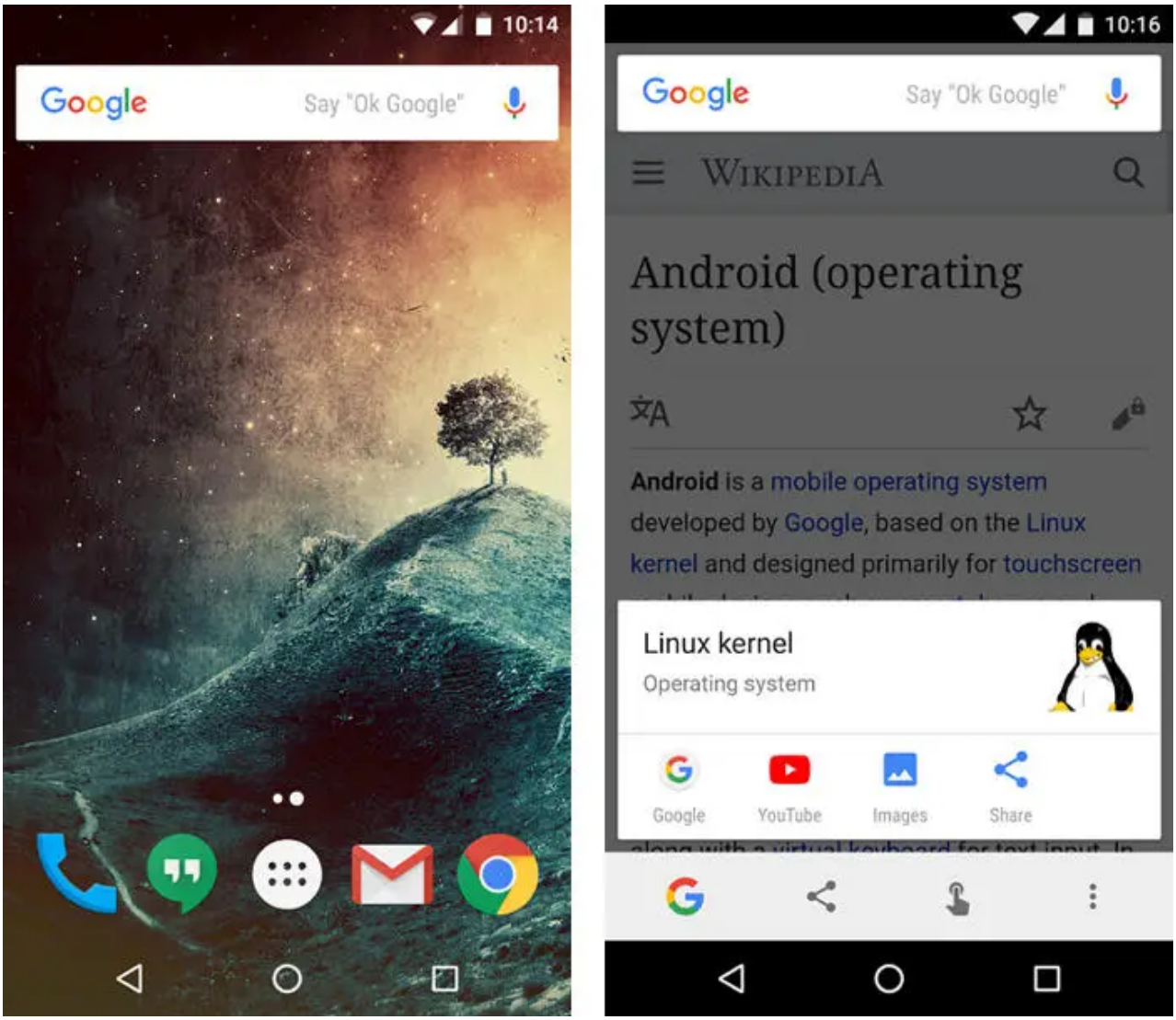
computerworld.com/article/3235946/android-versions-a-living-history-from-1-0-to-today.html

JR Raphael

Android version 6.0: Marshmallow

In the grand scheme of things, 2015's Marshmallow was a fairly minor Android release — one that seemed more like a 0.1-level update than anything deserving of a full number bump. But it started the trend of Google releasing one major Android version per year and that version always receiving its own whole number.

Marshmallow's most attention-grabbing element was a screen-search feature called Now On Tap — something that, as I said at the time, had tons of potential that wasn't fully tapped. Google never quite perfected the system and ended up quietly retiring its brand and moving it out of the forefront the following year.



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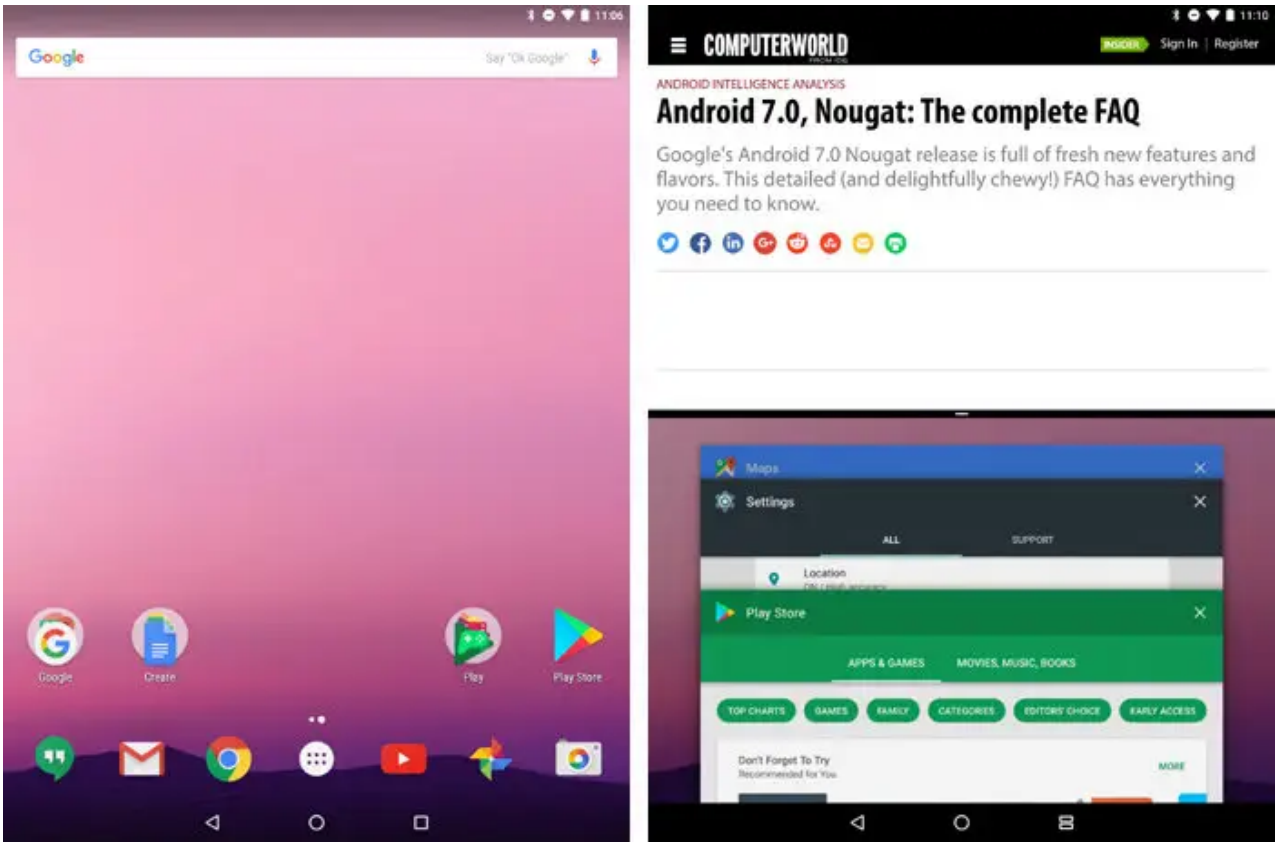
Marshmallow and the almost-brilliance of Google Now on Tap.

Android 6.0 did introduce some stuff with lasting impact, though, including more granular app permissions, support for fingerprint readers, and support for USB-C.

Android versions 7.0 and 7.1: Nougat

Google's 2016 Android Nougat releases provided Android with a native split-screen mode, a new bundled-by-app system for organizing notifications, and a Data Saver feature. Nougat added some smaller but still significant features, too, like an Alt-Tab-like shortcut for snapping between apps.



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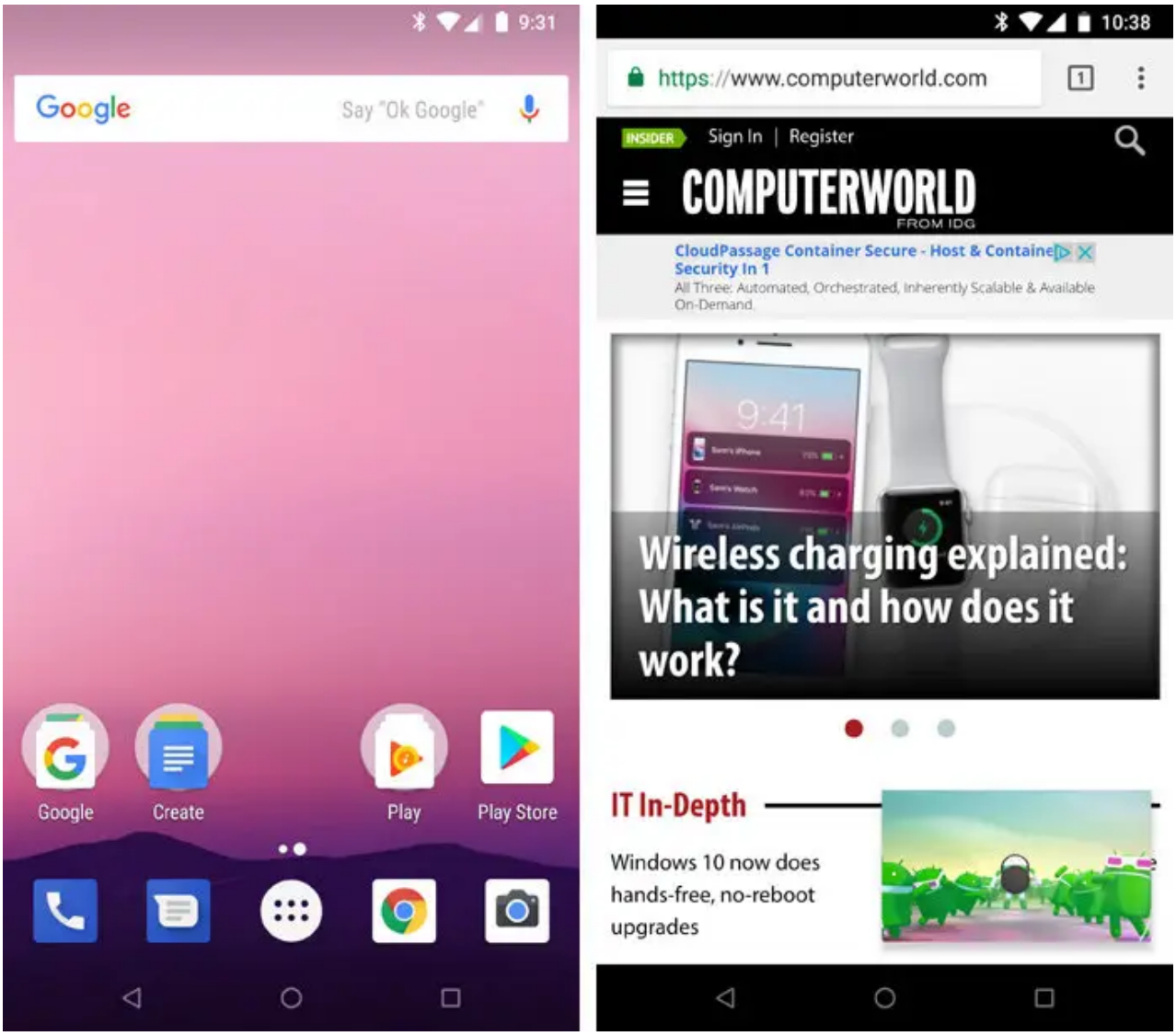
Android 7.0 Nougat and its new native split-screen mode.

Perhaps most pivotal among Nougat's enhancements, however, was the launch of the Google Assistant — which came alongside the announcement of Google's first fully self-made phone, the Pixel, about two months after Nougat's debut. The Assistant would go on to become a critical component of Android and most other Google products and is arguably the company's foremost effort today.

Android version 8.0 and 8.1: Oreo

Android Oreo added a variety of niceties to the platform, including a native picture-in-picture mode, a notification snoozing option, and notification channels that offer fine control over how apps can alert you.



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Oreo added several significant features to the operating system, including a new picture-in-picture mode.

The 2017 release also included some noteworthy elements that furthered Google's goal of aligning Android and Chrome OS and improving the experience of using Android apps on Chromebooks, and it was the first Android version to feature Project Treble — an ambitious effort to create a modular base for Android's code with the hope of making it easier for device-makers to provide timely software updates.

Android version 9: Pie

The freshly baked scent of Android Pie, a.k.a. Android 9, wafted into the Android ecosystem in August of 2018. Pie's most transformative change was its hybrid gesture/button navigation system, which traded Android's traditional Back, Home, and Overview keys for a large, multifunctional Home button and a small Back button that appeared alongside it as needed.

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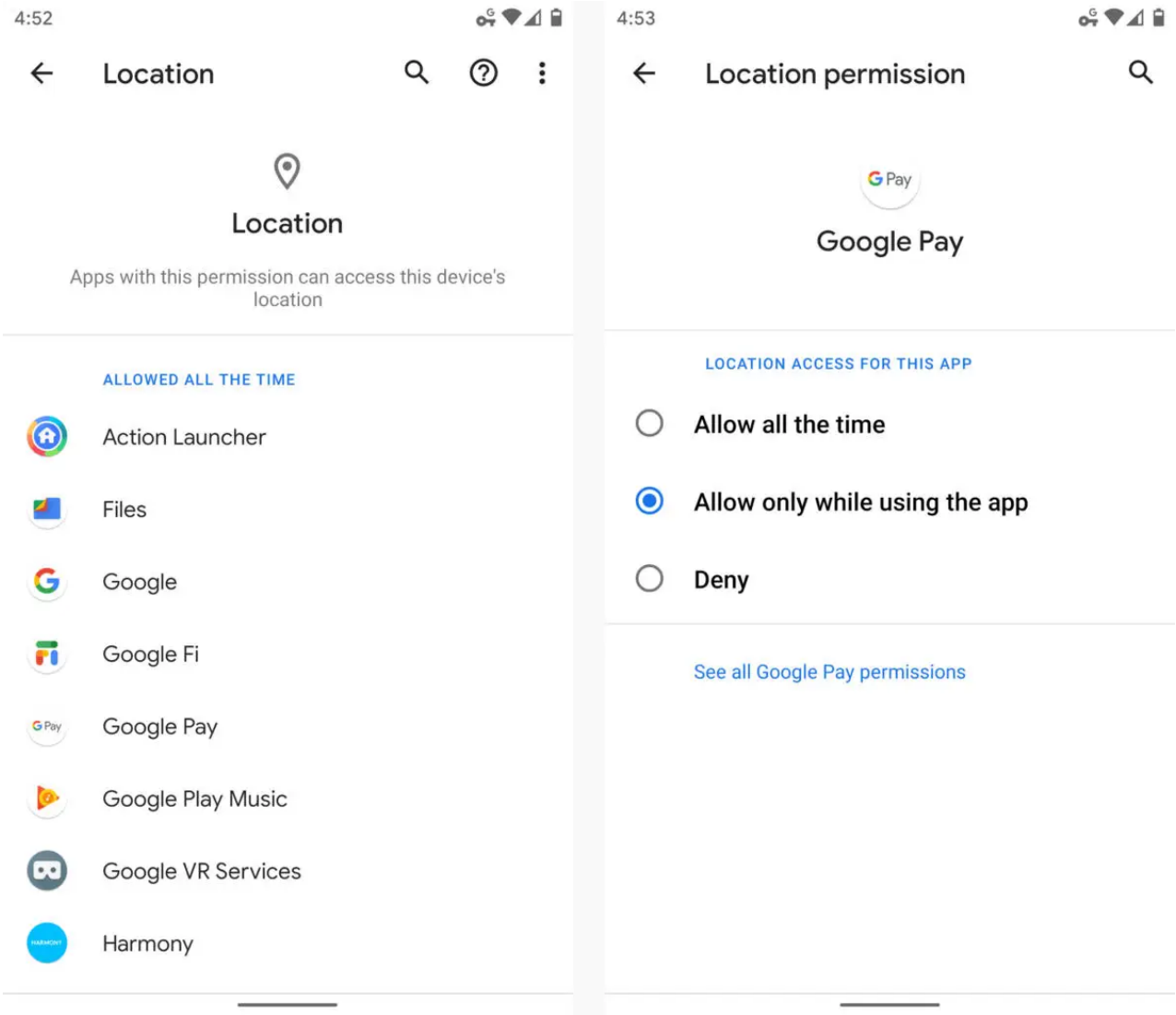
Android 9 introduced a short-lived setup for getting around phones with a mix of both gestures and buttons.

Pie included some noteworthy productivity features, too, such as a universal suggested-reply system for messaging notifications, a new dashboard of Digital Wellbeing controls, and more intelligent systems for power and screen brightness management. And, of course, there was no shortage of smaller but still-significant advancements hidden throughout Pie's filling, including a smarter way to handle Wi-Fi hotspots, a welcome twist to Android's Battery Saver mode, and a variety of privacy and security enhancements.

Android version 10

Google released Android 10 — the first Android version to shed its letter and be known simply by a number, with no dessert-themed moniker attached — in September of 2019. Most noticeably, the software brought about a totally reimagined interface for Android gestures, this time doing away with the tappable Back button altogether and relying on a completely swipe-driven approach to system navigation.

Android 10 packed plenty of other quietly important improvements, including an updated permissions system with more granular control over location data along with a new system-wide dark theme, a new distraction-limiting Focus Mode, and a new on-demand live captioning system for any actively playing media.



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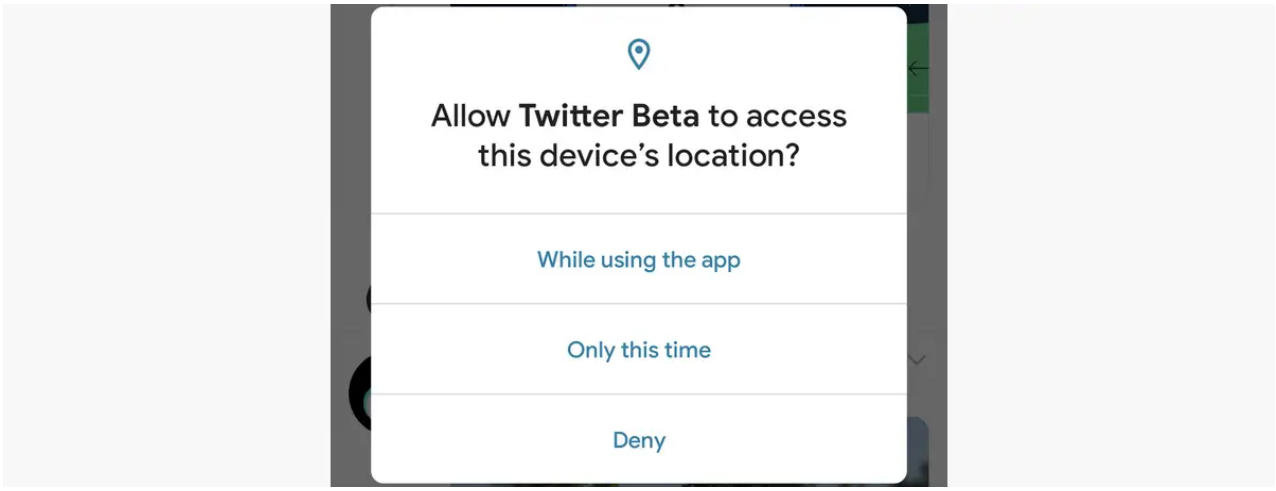
Android 10's new privacy permissions model added some much-needed nuance into the realm of location data.

Android version 11

Android 11, launched at the start of September 2020, is a pretty substantial Android update both under the hood and on the surface. The version's most significant changes revolve around privacy: The update builds upon the expanded permissions system introduced in Android 10 and adds in the ability for users to grant apps certain permissions — those related to location access, camera access, and microphone access — only on a limited, single-use basis.



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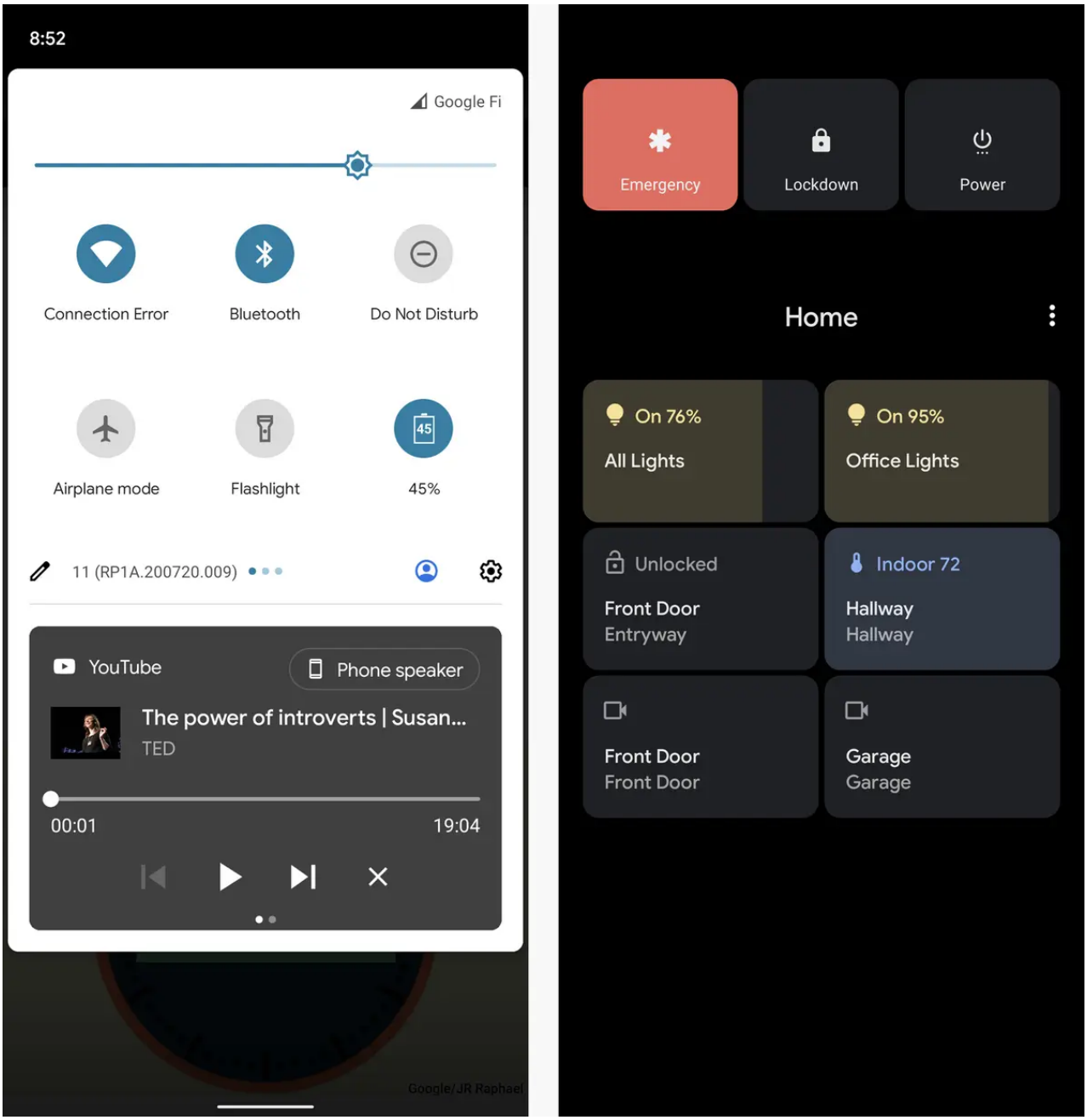
Android 11 lets you grant an app permission to see your location or access your camera or microphone only for a single session of use.

Android 11 also pushes the background location permission even deeper into the system and makes it more difficult for apps to request (and thus less likely for users to activate inadvertently). And it introduces a new feature in which apps that have gone unopened for a matter of months will automatically have their permissions revoked unless you actively opt to reauthorize them.

Beyond that, Android 11 removes an app's ability to see what *other* apps are installed on your phone — something that was actually possible up until this release — and it limits the ways apps are able to interact with your local storage in order to better protect your information.

Importantly but invisibly, Android 11 more than doubles the number of once-OS-bundled elements that now exist as their own standalone modules — like apps in the Play Store, basically — and thus can be updated directly by Google, frequently and universally and without the need for any carrier or manufacturer involvement. And as for the more visible, user-facing features, Android 11 refines the system notification area to emphasize and simplify conversation-related alerts; it introduces a new streamlined media player that contains controls for all audio- and video-playing apps in a single space; and it adds in a new contextual menu of connected-device controls for any smart products associated with your account (though some of those features require a bit of manual adjustment in order to work optimally).



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Android 11's new media player appears as part of the system Quick Settings panel, while the new connected-device control screen comes up whenever you press and hold your phone's physical power button.

Last but not least, Android 11 marks the long-awaited debut of Bubbles — a new kind of multitasking system first discussed in 2019 but then put on the back burner until now. With apps that support the system, Bubbles allows you to pop conversations out into floating windows that appear on top of whatever else you're doing and can be condensed down into small, floating bubbles that remain easily accessible for expansion.

Watch Video At: https://youtu.be/p0lqzzn6OuI

Android's new Bubbles feature was first introduced during development of Android 10 — known as "Android Q" at the time — and finally made its public debut with Android 11.

Android 11 has plenty of other small but significant improvements — including a new Notification History section, a native screen recording function, and an automated scheduling system for the system-wide Dark Theme.

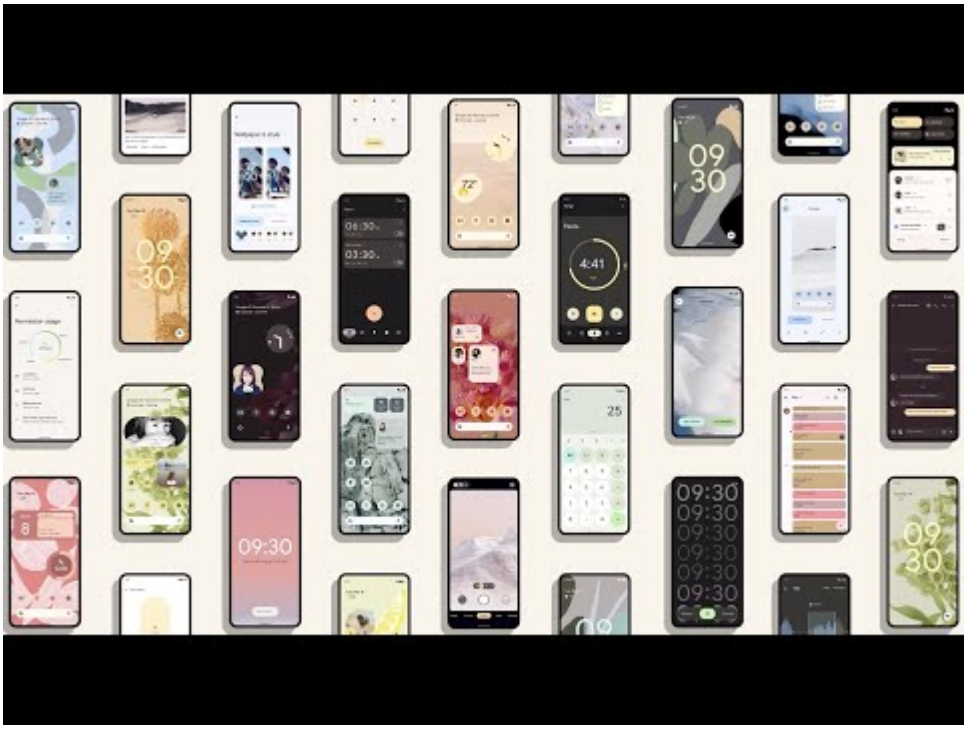
Android version 12

Google officially launched the final version of Android 12 in October 2021 and started rolling the software out to its own Pixel devices soon after — alongside the launch of its new Pixel 6 and Pixel 6 Pro phones.

In a twist from the last several Android versions, the most significant progressions with Android 12 are mostly on the surface. Android 12 features the biggest reimagining of Android's interface since 2014's Android 5.0 (Lollipop) version. That version, as we discussed a moment ago, was the first to showcase Google's then-new Material Design standard. And *this* one is the first to integrate an updated and completely overhauled take on that standard — something known as Material You.

Material You brings a dramatically different look and feel to the entire Android experience, and it isn't limited only to system-level elements, either. Eventually, Android 12's design principles will stretch into both apps on your phone *and* Google services on the web. The same principles will show up on Chromebooks, Smart Displays, and Google-associated wearables as well. And since a huge part of the Material You concept is allowing *you* (get it?) to customize the palette and other specifics of the interface's appearance — even

having your phone generate dynamic personalized themes for you on the fly, based on the colors of your phone's wallpaper at any given moment — the changes run deep and will absolutely be noticeable.



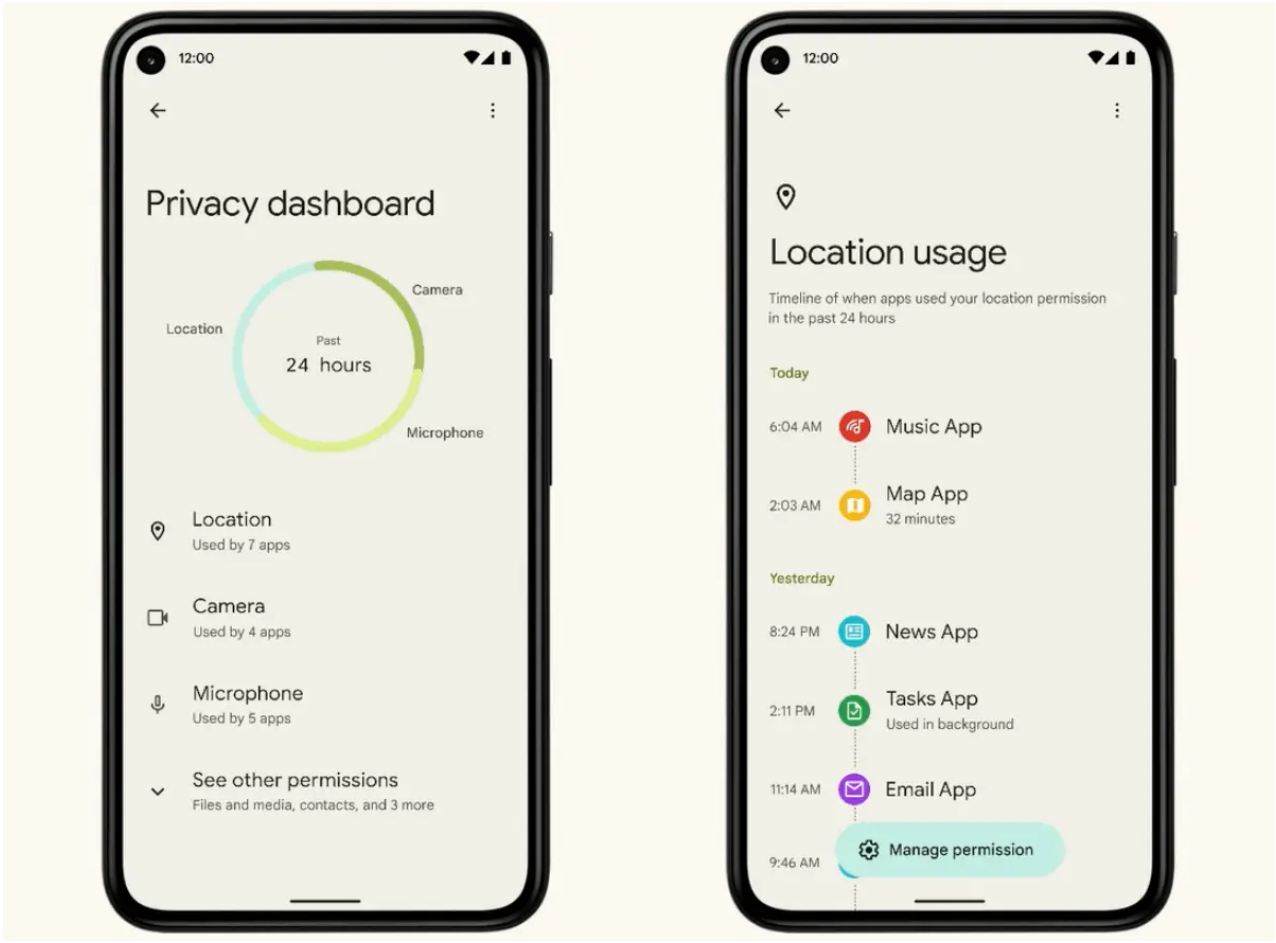
Watch Video At: https://youtu.be/UHQPdP8qgrk

Notably, most of Material You's most meaningful design advancements will likely be available only on Google's own Pixel phones, at least to start. After years of having third-party device-makers muck around with the Android interface and introduce all sorts of arbitrary change for the sake of change, Google finally seems to be embracing the fact that its own Android design choices are not going to be universal — and in doing so, it's turning the limited availability of that interface and everything around it into a Pixel *feature* instead of a Google liability.

Google

Android 12 ushers in a whole new look and feel for the operating system — at least, as it's experienced on Google's own devices. (Click image to enlarge it.)

Surface-level elements aside, Android 12 brings a (long overdue) renewed focus to Android's widget system along with a host of important foundational enhancements in the areas of performance, security, and privacy. The update provides more powerful and accessible controls over how different apps are using your data and how much information you allow apps to access, for instance, and it includes a new isolated section of the operating system that allows A.I. features to operate entirely on a device, without any potential for network access or data exposure.



Google

Android 12's new Privacy Dashboard provides simpler and more granular details and controls over how apps are accessing your data. (Click image to enlarge it.)

And while Android 12 is still making its way to some devices as we speak, another new major Android version is already in the works and out in the world.

Android version 13 (developer preview)

The first official sign of Android 13 arrived on February 10, 2022, when Google announced the inaugural developer preview of its latest Android version.

So far, there really isn't a heck of a lot to say about Android 13 — at least, officially. As is typically the case with these early developer previews, the software in its current form is more of a skeleton than anything and present mostly just to let developers and device-makers start interacting with the new under-the-hood changes and getting their own creations ready.

With that in mind, the biggest features in Android 13 so far include an updated photo picker that allows apps to access specific images and videos without requiring permission to view all of your media files and an improved Quick Settings setup that makes it easier to find and add new tile options.

It seems safe to say that's all just a drop in the ocean of what Android 13 will ultimately represent — and already, numerous leaks and analyses suggest there's plenty more to the story. Most notably, Google seems to be cookin' up a whole new system for Android tablets that'll let devices double as multipurpose, multiuser displays when they're docked, with easy access to shared resources and a new and improved personal profile system.

Combined with the *also*-under-development Android 12L "feature drop" — an incremental update to Android 12 that's mostly about adding in a bunch of overdue optimizations for making Android work better on big-screen devices (!!!) — this strongly suggests a key theme of 2022 will be creating a better and perhaps somewhat differentiated experience on both Android tablets and folding phones.

Google's planning to release a series of developer previews and betas between now and July, with a final stable Android 13 launch expected sometime in the late summer or early fall months.