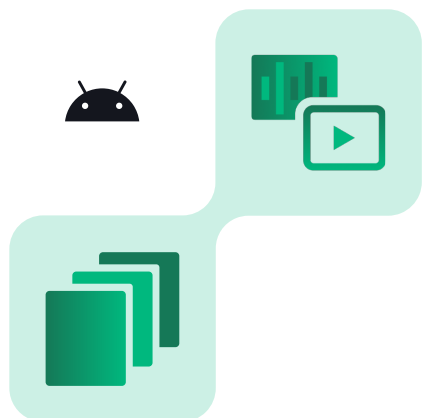


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May 13 2023

Android was not left out at this year's Google I/O. With Android Studio getting an AI assistant and the K2 Compiler incoming, big changes are underfoot. By [Brian Moakley](#).

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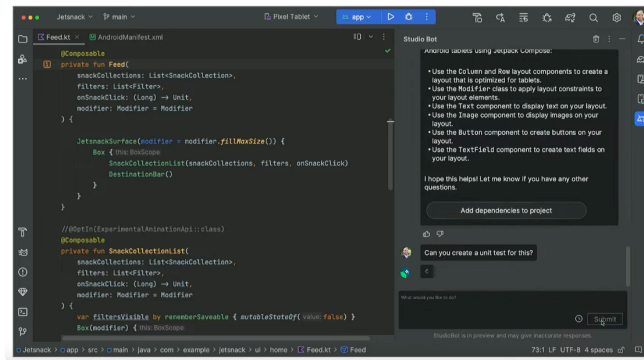
Contents

Artificial Intelligence took center stage at Google's I/O conference. Almost every presentation featured some aspect of AI from integrated AI tools in Google Docs to AI-driven mobile development. Not surprisingly, Android received some AI upgrades as well, but amongst all the celebrations of machine learning advancements, Android developers were provided with many good old-fashioned features such as privacy improvements, compiler updates, and lots more new features.

In this article, you'll get a brief overview of the interesting announcements provided by Google. So sit back, grab a drink, and start thinking about Android.

Android Studio Bot

One of the major announcements at the event was the introduction of an AI-assisted developer tool, integrated directly into Android Studio. As developers, we often need to do similar things regardless of the app such as sorting lists or parsing JSON. Now we have Studio Bot.



Studio Bot being demonstrated during the Developer Keynote

Android Studio Bot offers a means to utilize Google's AI (known as Bard) to provide solutions for these common challenges. The good news is that it does not use your own codebase as a model for learning so none of your proprietary code is transmitted to Google. Studio Bot remembers your conversation and is also trained in lots of programming and markup languages. It can also provide insights for any crashes as well as provide solutions.

K2 Compiler / Gradle Updates

If you haven't jumped into the Kotlin waters, now is a great time to put on your bathing suit. Google and JetBrains are still hard at work on the upcoming Kotlin K2 compiler. This compiler is meant to be the default compiler shipped with Kotlin 2.0. With this announcement, Google is allowing developers to give the compiler a test drive with their own codebase.

The K2 Compiler is said to significantly enhance compile times. Since this compiler is aimed to become the default compiler down the road, now is a good time to test and file bug reports.

On top of the K2 Compiler, Android Studio Giraffe will update Gradle to use Kotlin as the default language in build scripts. This means you will only need to know Kotlin to create your Android apps from top to bottom versus having to learn XML, Groovy, and Kotlin. The best thing about this is that we get syntax error messages in real time versus during project syncs. We can also inspect build variables to read the documentation and view their source.

Various Screen Types

At this conference, Google announced the Pixel Fold. This is a monster of a smartphone that will sell for \$1,799. While pricey for a phone, its form factor is quite unique. Unfolded, the device appears like a small tablet, but when you fold it, it looks like a phone. Simple yes, but very much in my wheelhouse. I can't help but want one of these devices!





To support such devices, Google has created a series of session videos on how to adapt user interfaces to various screen types. The following session videos will help get you started:

[Developing high-quality apps for large screens and foldable](#)

[How to test across all screen sizes](#)

[Material You for large screens](#)

[What's new in TV and intro to Compose](#)

[How to build high quality experiences on Wear OS](#)

Fortunately, Jetpack Compose enables us to adapt to these diverse form factors. In the coming year, you can expect a wealth of new Jetpack Compose content on Kodeco.

Android 14 Features

Google seems to have really dialed into both privacy and security with Android 14.

On the privacy side, when trying to access user media, the user can opt to provide partial access to photos and videos. If a user selects partial access, they get to choose which photos and videos to share with your app. Depending on how your app access user media, you may need to reconfigure it. See the [Grant Partial Access to Photos and Videos Guide](#) for more information.

On the security front, apps with a target SDK lower than 23 cannot be installed. This is a security measure that is aimed to stop malware from exploiting earlier versions of the SDK. There's also been a tightening of how your app may use implicit and pending intents as well as additional restrictions. Also, the `killBackgroundProcesses()` API call will only stop the background processes of your app. If you pass in the package name of another app, an error message will be thrown.

Probably the biggest security improvement is the integration of passkey support. Passkeys allow for rapid secure sign-in. It provides a passwordless way to login into third-party services using public keys.

There is also a whole load of additional features such as Face Mesh support in ML Kit (Android's machine learning library), lots of text and layout improvements in Jetpack Compose, and updates on how apps share information.

Do yourself a favor and watch the session video, "[What's New in Android](#)" for a complete breakdown of the multitude of incoming features.

Where to go from here

The future of Android development appears brighter than ever. Although this Google I/O primarily showcased AI-driven tools, Android still received significant attention. The best way to learn about the new features is from Google itself. Start with the [Developer Keynote](#) and then dive into the [session videos](#).

Afterward, you can put these new features into practice by developing your own app. Moreover, if you're interested in writing an article about a new feature, don't hesitate to [reach out to us](#) at kodeco.com.

Mark complete





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