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Study on Various Tools of Google Technology

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ABSTRACT: Android's development studio is getting a new update as Google rolls out Android Studio 3.2 Canary, adding new tools for visual navigation editing and Jetpack.

The new release includes build tools for the new Android App Bundle format, Snapshots, a new optimizer for smaller app code and a new way to measure an app's impact on battery life. The Snapshots tool is baked into the Android Emulator and is geared toward getting the emulator up and running in two seconds. All this is geared toward making Android app development easier as the company looks to woo developers — especially potentially early ones — into an environment that's built around creating Android apps. The visual navigation editing looks a bit like a flow chart, where users can move screens around and connect them. You can add new screens, position them in your flow, and under covers will help you manage the whole stack in the background. Google has increasingly worked to abstract away a lot of the complex elements of building applications, whether that's making its machine learning framework Tensor Flow more palatable by letting developers create tools using their preferred languages or trying to make it easier to build an app quickly. Visual navigation is one way to further abstract out the complex process of programming in different activities within an app. As competition continues to exist between Apple and Google, it's important that Google ensures that the apps are launching on Google Play in order to continue to drive Android device adoption. The sped-up emulator, in particular, may solve a pain point for developers that want to rapidly test parts of their apps and see how they may operate in the wild without having to wait for the app to load in an emulator or on a test device

KEYWORDS: Google technology, Innovation of maps, lens. Android updates, 2018 immersive technology.

I. INTRODUCTION

Google rebuilt its news app around AI. It'll constantly show you the top five stories it believes will interest you. The app is constantly trawling the web for local stories and your search history to figure out what you actually want to learn about. It'll bring in less traditional sources of news as well, including YouTube and podcasts. "Our AI constantly reads the fire hose of the internet for you," Google said. It'll also show you context around the news, which it calls "full coverage," including headlines, tweets and other stories that give more context, as well as a timeline of the news story in question. Everyone, regardless of their political leanings or location, will see the same information. You can also now subscribe to publications through Google News. Instead of filling out forms on news sites and entering credit card information, you can just use the credit card you have stored on file with Google, and tap a single button to subscribe. The updated News rolls out in 127 countries from today, and should be available to everyone.



Fig 1. CEO OF GOOGLE

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The company will add new settings to its operating system, Android, that will help individuals and families manage how much time they spend on their phones, according to the report. There's no detail beyond that, but it is likely Google will announce the feature at its annual I/O developer conference, which kicks off on Tuesday. If Google lives up to expectations and really does introduce granular controls for everyone and Android. It will be going further than Apple. Apple earlier this year promised to introduce new features to help parents control their kids' smart phone use, but hasn't rolled them out yet or given any further update. It's possible we could see an update for IOS 12 when it arrives this autumn. But the company has kept quiet about helping adults who can't wean themselves off their phones. One particular issue for Google is that its business model is more reliant on people spending more time, not less, on their phones. And all the major consumer software firms rely on design "nudges" that keep us hooked on our phones - from the bright, attractive colour. They use, to the number of notifications they send. On the same day as The Washington Post's report, The Guardian carried quotes from a number of experts, who warned that social media companies are using the same techniques as gambling firms to keep users hooked. Tony is one of the makers of the iPhone, came up with three ways Apple could make the iPhone less addictive, but his advice could easily apply to Android too.

II. ANDROID P

Google called its latest operating system a "vision of AI at the core of the operating system." Here's a few of the new features it previewed for the OS, which will likely launch later in the year.



FIG 2. GOOGLE UPDATES

A SIMPLER DESIGN:

The Google version of Android is getting simpler. Android P replaces the three buttons at the bottom of the operating system with a single home button. From there, the technology company approaches its product development, and access shortcuts to open the five apps the operating system thinks you are most likely to want. A second swipe up will reveal all the apps on your phone. Swiping sideways on the home button will allow you to scroll through all the apps you have open.

SHUSH:

Android P will feature a new "shush" mode, where it'll turn off all notifications, pings, buzzes, and sounds if you rest it on its screen, with the aim of making users more present in meetings and other times they shouldn't be checking their phones. Calls from important people (like family members) will still go through.

Network lifetime with total transmission energy metric.



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WIND DOWN:

This new mode will turn the phone's screen to grey scale past a certain hour, which Google says helps to dissuade you from continuing to use your phone in bed. But you'll always be able to turn the feature off if you don't feel like sleeping right now.

GET OFF YOUR PHONE:

The app utility dashboard in Android will show you how often you're using certain apps. In the past, this has just been to show you how much battery they're consuming, but now it'll help you stay mindful of how often you're staring at your phone. You'll also be able to set apps to remind you to take breaks from using them.

ROTATION CONTROL:

You'll now be able to control when your phone rotates its screen: Instead of rotation lock being an on-or-off switch, the operating system will show a little icon when you turn your phone, allowing you to toggle rotation lock if you want it off for this specific screen, but on in general.

Choose when you want to rotate your screen in Android P. (AP Photo/Jeff Chiu)

BETTER BATTERY MANAGEMENT:

Android P understands which apps you use a lot, and will attempt to expend battery only on those. Google said it had seen a 30% reduction in processor wake-ups (how often the device was turning on the processor) in beta tests of P. It's also introducing adaptive brightness settings, where Android will learn how bright you like your phone in various settings.

APP ACTIONS:

Android will get better at understanding how you use your phone over time. If you always call your sister in the evening, or perhaps go for a run after work, it'll now suggest those actions right from the launcher screen. If you connect headphones, Android will suggest you resume the album you were last listening to on Spotify. The Google search bar will now also support deep links to apps. For example, if you search for the film *Avengers: Infinity War* in the search bar, it'll show you the option to book tickets on Fandango or watch the trailer on YouTube, right from the search results suggestions.

SLICES:

Developers will be able to add their own information into the Google search bar as well: For example, if you start typing "Left" to open the app and request a ride somewhere, you'll now see the time it'll take to get a car, and how long it would take to get to your home or office.

ML KIT:

Machine learning tools, like image labeling, text recognition, and facial recognition, and other AI tools that Google has developed, will now be available to developers to make their apps more intelligent, in a suite of software Google is calling ML Kit.

ANDROID P BETA:

Google is launching a beta of its next operating system today. It'll be available for select devices that Google makes, including the Pixel 2, as well as phones built by Essential, One Plus, Nokia, Vivo and Sony. Google didn't say when Android P would be fully released, or what the P will stand for, but if previous years are anything to go by, we'll likely learn more in the fall.

III. AI UPDATES

NATURAL CONVERSATIONS ON GOOGLE ASSISTANT:

You no longer have to continually say "Hey Google" to talk to your Google assistant. Once you've gotten the assistant's attention by saying it once, you'll be able to ask it follow-up questions naturally. For example, you'd be able to have a conversation like this:



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“Hey Google, turn on the Warriors game.”
“Ok.”
“Oh, and can you turn off the lights?”
And Google will listen to and carry out your commands.

PRETTY PLEASE:

We are able to string together questions and commands at once, and Assistant will be able to infer what you're after if you ask it multiple things at once. Onstage, Google asked: “Who was the governor of California when Kevin Durant was drafted, and who drafted him?” Assistant had no problem figuring out that these were all separate questions, answering that Arnold Schwarzenegger was governor in 2007, and that Seattle drafted Durant that year. olite behavior in kids when they ask Assistant things. When people say “please” when requesting something of Assistant, it'll start its response with something like, “thanks for asking nicely.”

NATURAL VOICES:

Google built a new structure for the voice in its assistant called “Wave net”, which introduces six more natural-sounding voices, including, for some reason, the dulcet tones of singer John Singer John Legend recording his voice for Google Assistant. (AP Photo/Jeff Chiu) Legend



FIG 3.GOOGLE ASSISTANT VOICES

OTHER ASSISTANT UPDATES:

Google is working with Starbucks, Dunkin' Donuts, Dominos, and others, to bring voice ordering to Assistant. You'll soon be able to order your regular orders right from the app. Users will also be able to share their arrival times when navigating somewhere with Google Maps. There will be updates for Assistant in other formats, like on the forthcoming touch screen displays from Lenovo and others that feature Google Assistant, and cars running Google Auto

.LENS UPDATE:

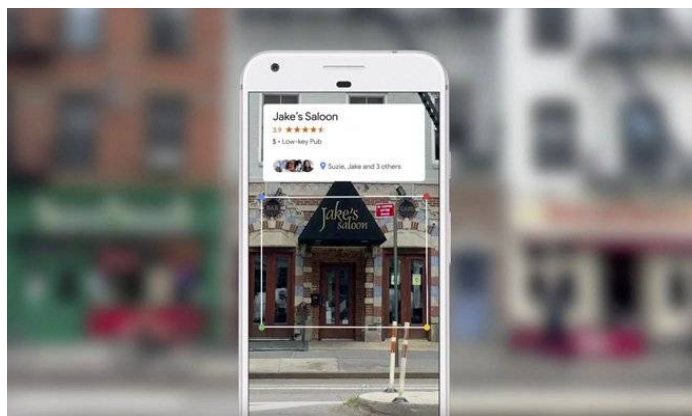
Google Lens, the computer vision technology built into Google Camera, can now scan the world in real time. Point your phone around you, and it should be able to figure out what you're looking at, whether that's the name of a book, how tall a building is, or what sort of dog is in front of you. Google will launch this year.

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.FIG 4.LENS NEW VERSION

TPU 3.0:

Google also announced a third version of its Tensor Processing Unit, a chip designed for high-powered AI devices. The new version is eight times more powerful than the version it launched last year.

AI CALLS:

Google announced a new feature for Assistant called Duplex. In the future, users will be able to ask Assistant to book appointments and reservations, and the assistant itself will call up the business on its own, and have a conversation with them to make the booking. CEO showed off conversations that took place between Assistant and real humans to book a haircut appointment and find whether a reservation would be needed at a restaurant. Although these conversations were relatively straightforward, in both cases, they convinced the human that they were speaking to another human. Assistant even added mmm and hmmm into its speech. CEO didn't give a timeline for when Duplex would be available to users, adding that the company wants to get this technology right before it unleashes it on the world, but it was an impressive demonstration on where the company's AI research stands today.

IV. GOOGLE MAPS UPDATES

AUGMENTED REALITY IN MAPS:

Using your phone's camera, you'll soon be able to open up Maps, and have the app point you in the right direction as you navigate to your destination. There will be arrows floating above you, pointing you in the right direction. Google said it's also toying with having a cartoon fox show you the way to go. Opening the camera in Maps will also give

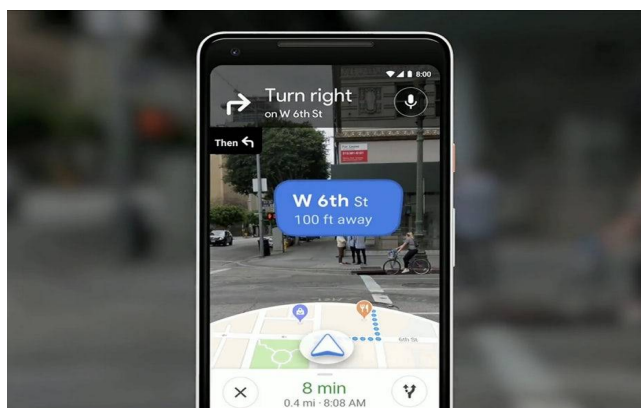


FIG 5. GOOGLE MAP UPDATES



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Maps will also give the businesses and events in so many trends in 2018.

FOR YOU:

Google is introducing a new tab in Maps that will show you things you should be interested in, including new businesses opening in your area, and places you will like based on reviews you've given in the past, and places the app knows you've visited. Updates from businesses you have visited will also be available in this tab, and soon, you'll be able to book appointments right from this screen.

LISTS:

If you're trying to figure out where to go to lunch with friends, you can now make a simple list in Google Maps of possibilities, and share it with friends, instead of copying a bunch of links. Your friends can also add their own suggestions.

SMART COMPOSE ON GMAIL:

If typing emails is just too much of a chore, Google is about to make things a bit easier for you. It will soon roll out an assistive technology called "smart compose" which will literally finish users' sentences for them. When you start typing common phrases or pieces of information about yourself that Google knows (like your address), Gmail will now suggest what to type. Press tab, and it'll write in its suggestion. This is essentially a super-powered version of the "Smart reply" function Google introduced to all Gmail users when it launched a redesigned version of the app last month, which automatically suggests responses to emails. The new feature should be available in the next few weeks to personal Gmail users, and in the next few months for professional G Suite users.

UPDATES TO GOOGLE PHOTOS:

Google Photos will now automatically recognize users' friends in photos, and suggest that they share photos with them. Google also introduced new effects, including the ability to colorize old black-and-white photos. Users will also be able to turn photos of documents into PDFs, which means no one really needs a scanner anymore.

SELF DRIVING CAR UPDATES:

Google gave a bit of stage time to one of its Alphabet sister companies WAYMO. The company's CEO, John the stage to announce that WAYMO will launch a full self-driving car ride-hailing service later this year.

GOOGLE NEWS REFRESH:

Google rebuilt its news app around AI. It'll constantly show you the top five stories it believes will interest you. The app is constantly Show you the top five stories it believes will interest you. The app is constantly trawling the web for local stories and your search history to figure out what you actually want to learn about. It'll bring in less traditional sources of news as well, including YouTube and podcasts. "Our AI constantly reads the fire hose of the internet for you," Google said. It'll also show you context around the news, which it calls "full coverage," including headlines, tweets and other stories that give more context, as well as a timeline of the news story in question. Everyone, regardless of their political leanings or location, will see the same information.

V. CONCLUSION

The evolution of information technology reached a turning point with the development of the Internet. Once a government project, the Internet was created for military purposes. Through the course of its development, researchers began finding other uses for the network, and use of the technology spread worldwide. Access to the Internet today by individuals, businesses, and institutions alike has created a global market for Internet service and has spurred an increase in productivity in the technological communication field. Our research compares Internet development, access, and use in the United States and Russia. Our surveys proves our prediction that access to the Internet in Russia is limited compared to the access exercised by American users. A condition resulting from world relations during the early development of the Internet, access in Russia is increasing with 5.4 million people currently able to access the service. However, in the midst of the global rush to embrace the Internet, some concerns have been raised regarding



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personal, business, and government access, and the nature of information being transmitted across the information superhighway. As we venture farther into the Information Age, the nature of life is evidence that future global development will undoubtedly depend on technological advances, particularly in communications. Understanding the underlying reasons certain types of technologies are in use today plays an important part in the overall use of technology.

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