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## **ANDROID. THE MOST POPULAR OS**

In October 2003, well before the term «smartphone» was used by most of the public, the company Android Inc was founded in Palo Alto, California by Rich Miner, Nick Sears, Chris White, and Andy Rubin. At the time of its public founding, Rubin was saying that Android Inc was going to develop «smarter mobile devices that are more aware of its owner's location and preferences» [1].

In 2005, the next big chapter in Android's history was made when the original company was acquired by Google. Rubin and other founding members stayed on to continue to develop the OS under their new owners. The decision was made to use Linux as the basis for the Android OS, and that also meant that Android itself could be offered to third-party mobile phone manufacturers for free. Google and the Android team felt the company could make money offering other services that used the OS, including apps.

Unlike iOS Android is fully open-source project, it means you can see and modify its code for your needs. So do many phone manufacturers such as Lenovo, Xiaomi etc. And it is the key of Android success on the OS market.

The credit for naming Android versions after sweet candy and desserts has traditionally gone to its project manager at Google, Ryan Gibson, but his specific reasons for using such a name remain unknown. When Google released Android 4.4 KitKat, it offered an official statement on their various code names for versions of the OS, saying, «Since these devices make our lives so sweet, each Android version is named after a dessert» [2].

Android runs on a bunch of hardware. In addition to touchscreen devices, Google has further developed Android TV for television sets, Android Auto for

cars, and Android Wear for wrist watches, each with a specialized user interface. Variants of Android are also used on game consoles, digital cameras, PCs and other electronics.

Google challenged themselves to create a visual language that implements the principles of good design with the innovation and possibility of technology and science. This is material design (c.n. Quantum Paper) – the default design guideline starting from Android 5.0 Marshmallow.

Material Design makes more liberal use of grid-based layouts, responsive animations and transitions, padding, and depth effects such as lighting and shadows. Google states that their new design language is based on paper and ink but implementation will take place in an advanced manner [3].

For example in addition to the X and Y properties, views in Android have a Z property (elevation), round corners, circular reveal click animations and other stuff.

As of 2015, most of Google's mobile applications for Android had applied the new design language, including Gmail, YouTube, Google Drive, Google Docs, Sheets and Slides, Google Maps, all of the Google Play-branded applications, and to a smaller extent the Chrome browser and Google Keep. The desktop web-interfaces of Google applications have incorporated it as well.

Android developing till recent was able to perform only with Java (except low-level C stuff). Why Google had chosen it?

- java is a known language, developers know it and don't have to learn it
- it's harder to shoot yourself with java than with c code since it has no pointer stuff
- it runs in a virtual machine, so no need to recompile it for every phone out there and easy to secure
- the speed difference is not an issue for most applications, but the development process speed

At the Google I/O'17 the Android team announced first-class support for Kotlin. Kotlin runs in a JVM too, so it compiles to the same byte-code as Java do. It's interoperable with Java, it means you can use android libraries written in Java easily. In short, Kotlin has much more capabilities to perform using less code, and the syntax is pretty rich in sugar.

Android Studio is the default IDE for Android development. It provides the fastest tools for building apps on every type of Android device.

Android has come a long way from its humble beginnings, as the product of a small start up, all the way to becoming the leading mobile operating system worldwide.

Summing up, unless Apple decides to start selling new iPhones much cheaper than its current models, it would seem reasonable to predict that Android will continue to dominate the mobile OS market. That flexibility, combined with yearly updates, will ensure Android will remain the leader in this industry for years to come.

## REFERENCES

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