1. **Esimene Kodune töö**

* Kodune töö tuua välja kuidas on iOS ja Android platformid muutunud läbi aegade (uute versioonide erinevused vanadest). Eraldi välja tuua iOS ja Android erinevused ning näiteks graafiku abil esile tõsta sarnased funktsionaalsused mis on uute versioonidega ilmunud kuid konkurendil juba olemas.
* Installida oma arvutile tööks vajalik keskond Android Studio
* Githubi kasutamine Android Studios



**Brief History of Android OS**

The Android OS was originally created by **Andy Rubin** to be an OS for mobile phones.

This happened around the dawn of the 21st century. In July of 2005, Google acquired

Android and made Andy Rubin the Senior Vice President of Mobile Platforms for Google,

where he remained until November of 2014. Many feel this acquisition of Android OS by

Google was largely in response to the appearance of Apple’s iPhone around that same time.

However, there were enough other large players, such as RIM Blackberry, Nokia Symbian,

and Microsoft Windows Mobile, that it was deemed to be a savvy business decision for

Google to purchase the engineering talent of Android Incorporated along with its Android OS

intellectual property. This allowed Google to insert their Internet search engine company into

the emerging mobile market, which many now refer to as **Internet 2.0**.

The Android OS contains the power of a complete computer OS. It is based on the **Linux**

**Kernel** open source platform, and Oracle (formerly Sun Microsystems) **Java 8 Standard**

**Edition**, one of the world’s most popular programming languages

**Custom Pointer API**. This new API allows pointing devices (mice and cursors) to be

used with Android devices such as iTV sets or personal computers, making Android more

like a desktop operating system with context-sensitive cursor graphics for the pointer

Chrome OS is impressive, like most Linux distros, and brand-new ChromeBooks are priced to

sell rapidly (in the United States they are $120 to $180, with quad-core CPUs).

Android 7 now features a seamless download, install, and update system for your Android

OS. Instead of users being prompted and then required to download Android OS updates,

then install them, and finally reboot, starting with Android 7.0, the OS will **automatically** download and install its next revision on a **secondary disk storage partition**. When users

subsequently reboot an Android device, the OS will switch partitions once a newer version is

completely installed on the second (other) partition, and then you will have the latest Android

OS revision. This saves users from having to spend device-use time going through a timeconsuming

Android OS update process.

The idea of automatically downloading Android versions in the background is not new,

but with Android 7, it also installs the OS. That means users do not have to reboot their

devices and waste device-usage time witnessing a lengthy installing-update dialog screen.

It is important to note that this is the same approach to OS

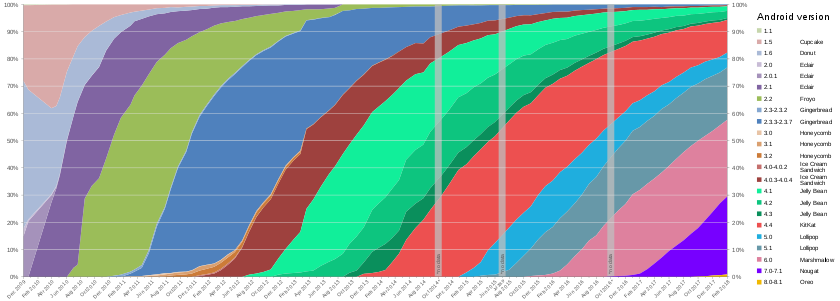
updates that Google Chromebook OS utilizes, so the fusion of Android OS and Chrome OS

continues to happen.

**Contest between iOS and Android OS**

The version history of the [Android](https://en.wikipedia.org/wiki/Android_(operating_system)) [mobile operating system](https://en.wikipedia.org/wiki/Mobile_operating_system) began with the public release of the Android [beta](https://en.wikipedia.org/wiki/Beta_(software)) on November 5, 2007. The first commercial version, Android 1.0, was released on September 23, 2008. Android is continually developed by [Google](https://en.wikipedia.org/wiki/Google) and the [Open Handset Alliance](https://en.wikipedia.org/wiki/Open_Handset_Alliance), and it has seen a number of [updates](https://en.wikipedia.org/wiki/Patch_(computing)) to its base operating system since the initial release.

Versions 1.0 and 1.1 were not released under specific [code names](https://en.wikipedia.org/wiki/Code_names), although Android 1.1 was unofficially known as Petit Four. Android code names are confectionery-themed and have been in alphabetical order since 2009's Android 1.5 Cupcake, with the most recent major version being Android 9.0 Pie, released in August 2018.

[](https://en.wikipedia.org/wiki/File:Android_historical_version_distribution_-_vector.svg)

Global Android version distribution since December 2009, as of August 2018. [Android Marshmallow](https://en.wikipedia.org/wiki/Android_Marshmallow) v. 6.0 (the oldest supported version) is running on 22.7% of all Android devices accessing [Google Play](https://en.wikipedia.org/wiki/Google_Play) while [Android Nougat](https://en.wikipedia.org/wiki/Android_Nougat) (v. 7.0 & 7.1) is running on 30.8%, and all supported including the newest Oreo versions, run on 67.1% of devices combined.

One of the most anticipated smartphone throwdowns of the year -- the [2018 iPhones](https://www.cnet.com/news/new-2018-iphones-ipad-pros-macs-and-more-everything-apple-is-expected-to-announce-soon/) and the [Google Pixel 3](https://www.cnet.com/news/pixel-3-xl-rumors-russian-leak-google-launch-specs-release-date-price-leaks-android-pie-notch/) -- will be about far more than just phones. It will go to the root of the competition between Apple's [iOS 12](https://www.cnet.com/how-to/ios-12-siri-group-facetime-memoji-and-more/) software and Google's [Android Pie](https://www.cnet.com/reviews/android-pie-preview/).

Although Apple and Google are located about 9 miles away from one another in the heart of Silicon Valley, their philosophies are worlds apart.

Google's Android OS is about openness (but that can lead to fragmentation), whereas Apple's iOS is about making a tight system work well (but many services only function within Apple's relatively narrow device ecosystem).

Google has made Android 9.0 Pie official -- it's out of beta and [working on existing phones](https://www.cnet.com/news/android-pie-when-is-my-phone-getting-it/), while iOS 12 is still in beta. That means we can assess their current features side by side, but with the understanding that Apple and Google are likely to save some surprises for the actual launch of their rumored devices. This isn't a final evaluation by any stretch.

We expect the first iPhones shipping with iOS 12 to touch down in September, and for Google's Pixel 3 to launch [as early as Oct. 9](https://www.cnet.com/news/google-may-launch-pixel-3-phones-oct-9/).

**[ere are the biggest iOS 12 features Apple announced at WWDC 2018](https://www.cnet.com/pictures/here-are-the-biggest-ios-12-features-apple-announced-at-wwdc-2018/)**

**Notches and gestures**

**Advantage**: iOS 12

The iPhone X wasn't the first phone to sport either notches or swipe gestures, but it was the first to popularize both. (The [Essential Phone](https://www.cnet.com/reviews/essential-phone-ph-1-review/) was the first with a notch, and the [Palm Pre](https://www.cnet.com/products/palm-pre-sprint/review/) in 2009 introduced gestures with WebOS.)

Now, Google has officially [embraced notches and navigation gestures](https://www.cnet.com/news/why-google-makes-android-phone-notches-now/) in Android Pie, even though Android phonemakers have already off-roaded with their own experiments. Google's official support is a good indication that Android phones using both notches and gestures will continue to surface.

Android Pie isn't fully gestural, though -- it still relies on the back button -- which makes the experience feel less fully formed than it is on the iPhone X. Since Android phonemakers like to leave their own mark, gestures and notches will have less uniformity on Android than on future iPhones. Case in point: Android Pie supports a central notch, a corner notch and a notch on both the top and bottom screens -- you know, just in case. Some phones may not use a notch or gestures.

**[id Pie features to get excited about](https://www.cnet.com/pictures/android-pie-features-to-get-excited-about/)**

**Voice Assistant: Google Assistant vs. Siri**

**Advantage**: Android Pie

Siri's upgrades in iOS 12 focus on making your iPhone predict what you want before you seek it out. A new app called Shortcuts lets you set up profiles that run through a step-by-step routine when you say certain keywords. For example, "Headed home" can text your spouse, play your preferred radio station and start navigation to the day's least trafficked route.

While Siri Shortcuts scootches Apple's devices [closer to Google Assistant](https://www.cnet.com/news/siri-shortcuts-still-cant-compare-google-assistant-alexa/), which supports routines, too (so does Amazon Alexa), Apple still hasn't done anything to close the gaping chasm between Google Assistant and Siri.

Siri was already dragging behind. The quality of information and the way it's presented pales in comparison to Google Assistant. But after Google's I/O developer conference in May, Siri is barely limping along. Google has developed [six new voices](https://www.cnet.com/news/google-assistant-gets-six-new-voices-including-john-legend/) for Google Assistant. It can handle a string of questions or a grouped command, and [teach your kid manners](https://www.cnet.com/news/googles-pretty-please-feature-wants-to-help-you-enforce-manners/).

Google is also working on ways to make Assistant sound human enough to maintain a [short conversation with other humans](https://www.cnet.com/news/google-assistant-duplex-at-io-could-become-the-most-lifelike-ai-voice-assistant-yet/), while making a reservation or appointment on your behalf.

In 2011, Apple rocked the mobile industry when it backed Siri into the [iPhone 4S](https://www.cnet.com/products/at-t-iphone-4s/review/). This race was Apple's to win. As of late, it's doing anything but.

**Read**: [Google Assistant just got better](https://www.cnet.com/news/google-assistant-just-got-better/)

**Messaging: iMessage versus... er?**

**Advantage**: iOS 12

Apple's iMessage app keeps getting better and better. In one corner we have Animoji. [Memoji](https://www.cnet.com/news/memoji-versus-ar-emoji-how-apple-animoji-of-your-face-already-beats-galaxy-s9/) (Animoji you make of your own face). Peer-to-peer payments. FaceTime video calls you launch from the app, Wi-Fi texting with other iMessage users, cross-platform SMS texting between the phone, iPad and Mac.

And in the other corner, there's…. what, exactly? Google Hangouts is extremely limited and underdeveloped. The Android Messages texting app only recently became [available to use from the web](https://www.cnet.com/news/how-to-text-from-pc-and-mac-using-android-messages-available-to-all-now/), making it [usable between your phone and your computer](https://www.cnet.com/news/tips-and-tricks-for-android-messages-on-the-web/). Google Duo does good video calls for your phone and [soon on tablets](https://www.cnet.com/news/with-new-ipad-support-google-duo-takes-another-stab-at-facetime/), but won't open on your desktop or Google's other messaging apps, like Hangouts or Messages.

**Playing in the same AR app with friends**

**Advantage**: Android Pie

iOS 12 is getting a [really cool multiplayer feature](https://www.cnet.com/news/apples-multiplayer-arkit-2-vision-of-the-future-works-well-so-far/) that will let you and your other friends with iOS 12 interact in the same AR environment at the same time. Imagine building something out of Lego together, or playing virtual ping pong.

Google goes further, giving Android *and* iPhone users the ability to play together [no matter which OS you have](https://www.cnet.com/news/googles-iphone-to-android-multiplayer-ar-feels-like-the-future/). Cloud Anchors, as it's called, isn't tied to Android Pie, but phones running Pie will also benefit.

**Face unlock: Secure vs. convenient**

**Advantage**: iOS 12

Android's version of Face Unlock is noted to be convenient, but not as secure as a fingerprint. Secure face unlock through Face ID is Apple's world, and its iPhone X was the first phone to use a 3D front-facing camera.

The iris-unlocking that exists in [Samsung](https://www.cnet.com/samsung/)'s phones like the [Galaxy S9](https://www.cnet.com/reviews/samsung-galaxy-s9-review/), is considered secure, but also exclusive to Samsung phones (iris scanning on [Microsoft](https://www.cnet.com/tags/microsoft/)'s [Lumia 950](https://www.cnet.com/products/microsoft-lumia-950/) predates Samsung's version). Similarly, the [Oppo Find X](https://www.cnet.com/reviews/oppo-find-x-review/)has a 3D camera for face unlock like the iPhone X, but that's [Oppo](https://www.cnet.com/tags/oppo/)'s undertaking, not Google's.

**Read**: [iOS 12 reportedly supports a second scan of your face in Face ID](https://www.cnet.com/news/ios-12-face-id-supports-second-face-via-new-appearance-option-report-says/)

**Maps: Apple Maps vs. Google Maps**

**Advantage**: Android Pie

The iPhone Maps app is functional for turn-by-turn directions, but Google Maps goes far deeper, with layer after layer of information you can use if you'd like. Google is also thinking about ways to take maps into the future. In May, Google demoed how a virtual guide could one day [lead you around an unknown city](https://www.cnet.com/news/three-ways-google-maps-just-got-better/).

**Managing your smartphone 'addiction'**

**Advantage**: Too soon to tell

iOS 12 and Android Pie both added features to help you get sleepy at bedtime by deemphasizing the apps that might otherwise grab your attention. Both platforms also came up with features that let you manage how much time you spend on your device. We'll know more once we can test a finished iOS 12 alongside an Android Pie phone.

**iOS 12 gets**:

* Do not disturb will turn off most notifications at bedtime.
* Screentime gives you weekly reports of your usage.
* You can set usage limits for yourself and your kids, for any app.

**Android Pie gets**:

* Wind Down mode will fade your phone to grayscale at bedtime.
* A dashboard shows you how often you use apps.
* You can set app limits, and apps gray out to remind you of your goals.
* Turn your phone face-down to trigger do-not-disturb mode.

**So, who's winning?**

iOS 12 is still unfinished and both Apple and Google could pull a rabbit out of their hats when the iPhone X Plus and Pixel 3 launch. That means it's still too early to say which is actually better -- or even which one I prefer.

But from where Android Pie and iOS 12 are now, it certainly seems like Google's got the momentum behind some of the most cutting-edge software we'll use: voice assistant and multiplayer AR that works with any phone.

I'm disappointed that Apple so far doesn't appear to fix Siri's biggest flaws, and that the most interesting new feature, Memoji avatars, is currently limited to the iPhone X. But I am excited that Apple is embracing multiplayer AR in its own way -- maybe 2019 will be the year that AR sticks. Apple also continues to lead when it comes to gesture navigation and secure face unlocking.

Let's hope these two mobile titans give us even more to talk about when their flagship phones launch with iOS 12 and Pie on board.