Android VS IOS

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0.1 Introduction

Today, the world is making progress day by day at a rapid rate. The numerous facts showed that science spreads all over the world. It has affected the cultural, economic and social activities. Scientific knowledge, inventions, and technological applications have taken the command of not only the world technically but in the market share also. Technology has replaced Communication systems.

For this purpose telephones and mobile-phones are invented. By the time smartphones have taken the command and the operating systems used by these smartphones are much efficient that users face no difficulty during its use. At the starting stage, many operating systems were introduced but iOS and Android are dominant of all. To find the fact that why both of these OS are dominant, this report is covering this topic.

0.1.1 Statement of purpose

The purpose of this report is to take a detailed overview of the two operating systems used by the present world of technology and to suggest which OS(operating system) is better to be used after the comparisons of both OS.

0.1.2 Background Information

IOS and Android supported smartphones have taken command in the market of smartphones. Due to this superiority, many pieces of research have been conducted.Gartner shows that both technologies have a 95.8Statistically, it is shown that in Feb 2016 Google Play Store reached round about 2 million apps, beaten Apple apps store. Because Android had a variety of applications like music, entertainment, social networking, and such other features.

From 2012 to 2019 in the Germany statistics shows that Android has subsequently gained a much higher market share than IOS, showing that roughly 20.3 percent for iOS compared to 79 percent in June 2019. There are various reasons for Android's superiority in the mobile OS market i.e. prices, apps variety, accessibility, and battery life.

Statistics show that many application of Google App store in Dec 2009 was approx. 1600, in Feb 2016 it was 2 000 000, in June 2017 it was 3 000 000 and in March 2018 it was round about 3 600 000. On the other hand, the Apple app store has increased its applications in thousands in the order: in July 2009 applications were 61.02, in July 2016 2606.2, in July 2018 3262.13 and in July 2019 number of apps were 3965.73.

0.1.3 Scope

So this report shows the scope of both operating systems and the comparisons show which OS is dominance over the other and what is the reason behind it.

0.2   METHODOLOGY

0.2.1   Mobile OS:

A mobile operating system is a system that is designed to control mobile devices such as smartphones, tablet PCs and such other electronic devices. As Linux and Windows OS are used in computers which run our computers and laptop, Mobile OS is the software platform for the mobile devices which determines that which type of features are there in mobile devices such as keypad, WAP (Wireless Application platform) and the compatibility of built-in applications like messaging, email, browsers can be run in your mobile. It also determines which type of downloaded apps can your device use.

0.2.2   TYPES OF MOBILE OS:

When we want to purchase any mobile device, the manufacturer has specified the operating system for that device. So, one has to learn a lot about the operating system which is compatible with the features and applications.
There are 9 popular operating systems but here some major OS is discussed:

0.3   Android Inc.:

Android is a Linux based operating system. It is the software of Google. It was designed primarily for touchscreen mobile devices. It was developed by Android Inc. In 2004 Google helped them financially. Later in 2005 Google purchased it in 50 million. It was developed under the license of Apache.
Android is an Open Source operating system so, Its open-source code allows the users to freely modify it. Users can rewrite or modify their operating systems according to their requirements.

0.3.1   SPECIFICATIONS:

It's the basic program was done in three languages i.e.
- 1-C
- 2-C++
- 3-JAVA
- Its OS Family is
- -UNIX-LIKE

It was the first release on September 23, 2008.
It's Kernel Type is :
- Monolithic (Modified Linux Kernel)

0.3.2   VERSIONS:

Android has many versions. The updates Android has done after the desserts like a cupcake, kit Kat, Jelly Bean, Ice cream sandwich, etc. It has named all versions from A-Z.

These are some versions:
- Donut
- Honeycomb
- KitKat
- Cupcake
- Marshmallow
- Ice cream sandwich
- Oreo
- Froyo
- Eclairs
- Gingerbread
- Jellybean
- Lollipop
- Nougat
- Version 1.1
- Version 1.0

These are the Basic Version of Google.

Version 1.1 and 1.0 were not named specifically. Rather they were called Version 1.1 and 1.0. These initial versions allow downloading the applications. They were compatible with G-mail, Google Maps, Google Calendar, and Google-Talk, etc. These versions had bugs later they were updated and introduced with new versions. These old versions don't exist anymore due to updating with new versions.

Latest Version of Android in 2019 is Android 9 pie.

0.4   FEATURES:

Android Operating system has ten unique features. When Android introduced its KitKat(4.4) version Android was more popular than iOS and Windows Phone operating systems. It has designs unique features with which some of the other OS users argue that their OS also provides such features. That was true to some extent but due to its unique features, Android was more famous.

0.4.1   NEAR FIELD COMMUNICATION (NFS):

NFS was an interesting feature of Android. As its name indicates that it was used for short-distance interactions. Its main idea was about the payment choice i.e. instead of carrying the credit cards and debit cards one can use NFS. But

this idea was not much glamorous as other sources were working on the thing like that for example Bluetooth.

0.4.2 ALTERNAT KEYBOARDS:

At Android OS devices one can use multiple keyboards i.e. Keyboard Swift. It allows the users to install another keyboard as other OS don't do so.

0.4.3 No-TOUCH CONTROL:

This is the interesting feature given by Android that if you are using WAVE-CONTROL than you don't need to have to use touch screen rather you use the gestures.

0.4.4 AUTOMATION:

This feature helped users to work automatic tasks. TASKER is the app to which you have to instruct voice command i.e. you want to play music, TASKER will help you to do it automatically.

0.4.5 WIRELESS APP DOWNLOADS:

This feature allows you to sync your apps without plugging in other devices. If you have downloaded the app in your PC you can sync it on your smartphone without plugging it with your PC.

0.4.6 STORAGE and BATTERY SWAP:

For the sake of more storage Android come up with an SD card for Android mobiles. Android ensures you to swap the battery or change it with another one when it no longer able to store power.

0.4.7 WIDGETS:

Apps are good but when you want to use any application without opening the app then Widgets helps you to use those apps i.e MUSIC just touches the button and you have done

0.4.8 CUSTOM ROMS:

As Android is an open-source operating system, developers can build their features or update the current operating systems, user can install it from the stock of the OS, then at that time someone has already created the custom ROM for it.

0.4.9 CUSTOM HOME SCREEN:

To customize the home screens but Android has the capability of downloading the app from other sources and add it to your home screen using gestures and even it enhances the performance of old versions.

0.5 IOS

iOS is the operating system for mobile devices named "iPhone". It is the product of APPLE. iOS uses a touch interface as Android does. It is the only operating system that can be used in iOS devices, means you can't use the operating system other than iOS in iPhones.
iOS was introduced to industry-first time on 29 June 2007 and at that time the first iPhone was introduced. At that time iOS was gone to upgrade and the latest version is iOS 9. Apple is very concerned with its operating system and not allows any other industrialists to hold on its operating system. Apple not only focuses on its performance but appearance too. That's why the latest version has the same basic appearance as that was in 2007.iOS is a user-friendly OS and is the best operating system in the world. iOS is used in iPads, iPod and iPhones.

0.5.1 SPECIFICATIONS :

It was programmed in three languages:
• C
• C++
• Objective-C
• Its OS family is
• OS X
• UNIX
• The processor that controls its OS is:
• kernel type: Hybrid (XNU)
• Its default user interface is :
• -cocoa-touch (multi-touch, GUI).
• Its battery timing is so good that if you are multitasking you are not suffered from its performance and battery life space.

0.5.2 FEATURES:

iPhone has the operating system as in the Mac devices so it behaves like a minicomputer.it has the same features and functionalities as a computer has. The basic built-in features of iPhone are:

0.5.3   Phone:

The iPhone has solid features. It includes the new and standard features like Visual voice message, text messaging, voice calls and free conference calls.

0.5.4   Web browser:

iPhone offers its browser which is the complete and best mobile browser. Instead of offering you a mobile version of websites it offers you a complete website. iPhone browser doesn't support to Flash browser plugin.

0.5.5   Email:

iPhone offers robust email features as other smartphones do. Which can be used for email purposes and can sync to corporate email servers running Exchange.

0.5.6   Calendar and Contacts:

As iPhone behaves like a personal manager too, it offers the features and built-in apps to store and protect your personal information like calendar, address book, stocks, weathers and such other features.

0.5.7   Music Player:

As music player has become most widely used features of phones. So the iPhone offers its built-in app Apple Music. Music options on iPhone is more mesmerizing with the release of this app.

0.5.8   Video playback:

With its big and comfortable touch screen, it is more pleasant to choose iPhone to use Video playback. You can select video from YouTube App or can create your video or can use itunes for this purpose.

0.5.9   Apps:

iPhone offers its app store. It can run all types of programs and functions outside the mobile like games, facebook, twitter, maps. App Store has provided the iPhone with more attraction and beauty to use around.

0.5.10   Cameras:

The basic iPhone has two cameras like the front camera and back camera but recently iPhone has released its new version iPhone 11 pro having a three-camera system for the back side camera. It's all cameras can take images, record HD videos with its high-quality effects. The front camera is for taking selfies and face timer videos with high quality.

0.5.11 Face ID:

To protect your mobile from privacy disturbing stuff, the iPhone has provided strong and protective features. It can your face to unlock the mobile and authorize iTunes and App store to those who have access or owner to the mobile.

0.5.12 Siri:

In recent years IPhone has provided to its all versions with a voice-activated assistant named Siri. With this interesting feature, you can automate your actions on the smart-phone. You can use Siri to get answers to the questions.

0.5.13 Wireless charging:

In new models of the iPhone, you don't need a cable charger anymore. Just place your mobile on the charger mat and your mobile starts charging by inductive charging method.

0.6 VERSIONS:

iPhone has released lots of versions some of them are here :
• iPhone 7
• iPad MINI
• iPOD TOUCH 4th Gen
• iPOD TOUCH 5th Gen
• iPad
• iPhone 3GS
• iPhone 4
• iPhone 5
• iPhone X
• iPhone 11
• iPhone 11 pro

0.7 User Experience:

Pfeiffer Report released in September 2013 rates iOS that user experience shows that iOS is better than Android. It has compared other operating system and mobile phones with one another it shows that:
A higher rate is of iOS 7 that is 73.25
A lower rate is of windows Phone 8 that is 47.25.
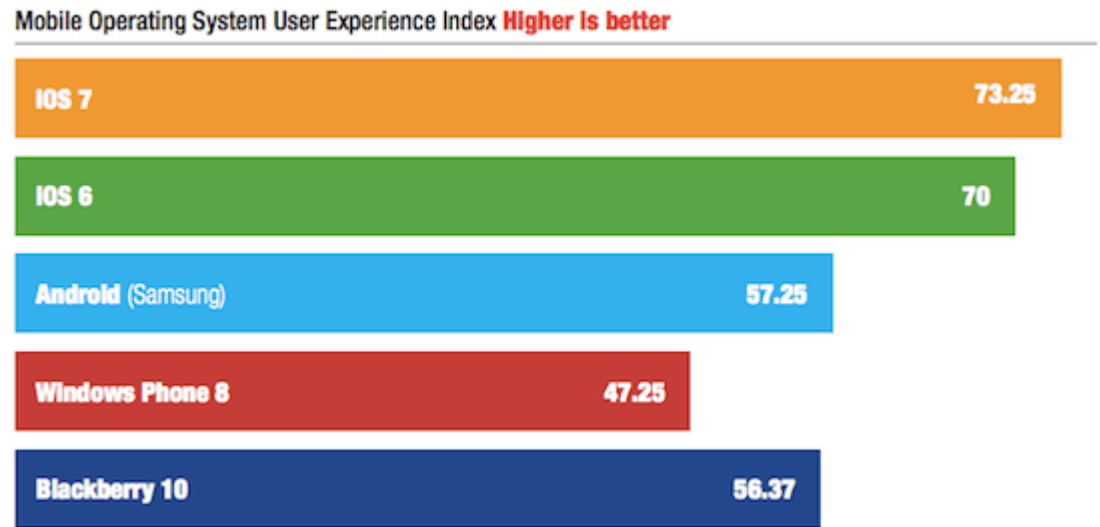Android was on average 57.25.

Figure 1: Rating of OS

0.8 STATISTICS:

Statistically, it is shown that in Europe a survey was conducted and the data that was collected included the year 2018 to 2019.
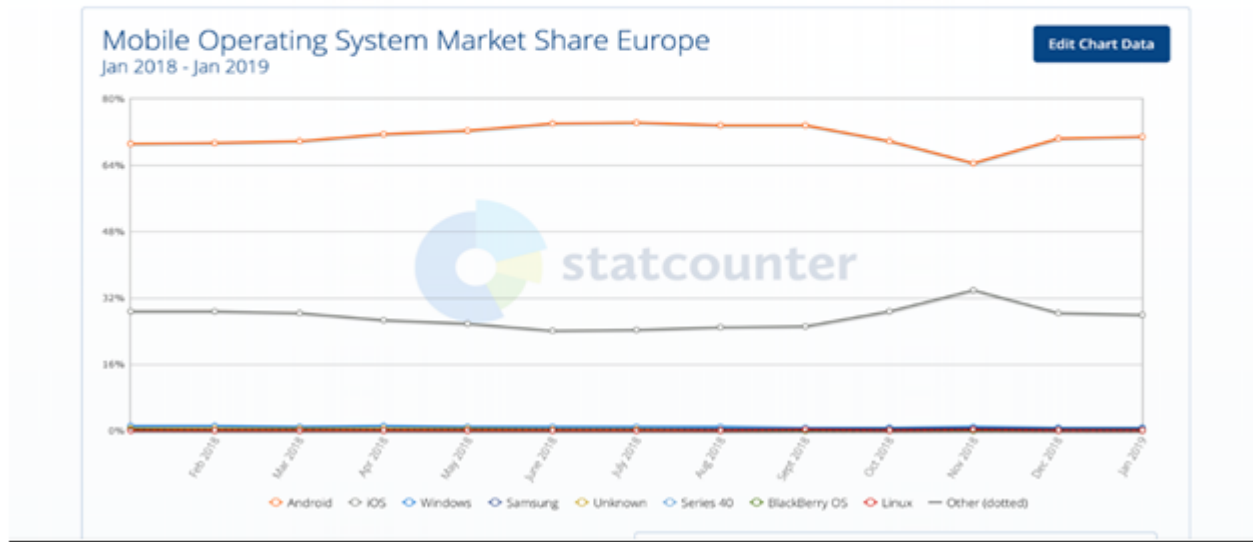
Figure 2: OS in Europe

0.9 Differences:

There are many differences in both of the operating system. It was similar to Apps means they have the app which performs the same functions but in different ways. But there were differences between them with is shown in this figure:

	Windows Phone 7	iOS (iPhone)	Android
Developer	Microsoft	Apple	Google
Copy/Paste	✗	✔	✔
Multitasking	✗	✔	✔
Flash Support	✗	✗	✔
Silverlight Support	✗	✗	✗
HTML5 Support	✗	✔	✔
Unified Inbox	✗	✔	✔
Exchange Support	✔	✔	✔
Threaded Email	✗	✔	✔
Visual Voicemail	✗	✔	✔
Video Calling	✗	✔	✔ Third Party App
Universal Search	✗	✔	✔
Internet Tethering	✗	✔	✔
Removable Storage	✗	✗	✔
Facebook Integration	✔	✗ (Third Party App)	✔ (Third Party Integration)
Twitter Integration	✗	✗ (Third Party App)	✔ (Third Party Integration)
Folders	Hubs	✔	✔
Apps Organization	Alphabetical	Customizable	Customizable
App Store	1,000+ Apps	300,000+ Apps	90,000+ Apps
Microsoft Office Support	Built-In	Third Party App	Third Party App
Widgets	Tiles on Home Screen	✗	✔
Media Sync	Zune Software Mac & PC	iTunes Mac & PC	Direct File Transfer + Third Party Software
X-Box Live Integration	Built-In	Via Third Party App	Via Third Party App

Figure 3: Differences of OS

0.10 Conclusion

From the above similarities and dissimilarities and the surveys and the report, it is concluded that both iOS are good on their own.
One can choose one of the OS by deciding or viewing these two points.

0.10.1 FINANCIALLY:

If we look at the financial issue than android has solved this issue by providing variety of versions providing basic and good features a user needed. Andorid OS is cheaper than any other operating system.

0.10.2   PRIVACY:

If the user is more senstivie and possessive about its privacy and security. And he has no financial issues than he should go for iOS. IOS has provided a more powerful security system than other OS.

0.11   REFERENCES:

To write this report, I had required lots of data, the sites and the engines that have helped me are given below :
https://www.diffen.com/difference/Image:Mobile-OS-UX.png
https://www.digitaltrends.com/mobile/android-vs-ios/
https://www.lifewire.com/apple-iphone-basics-features-1999727
https://www.google.com/search?q=differences+of+ios+and+androidsxsrf=ACYBGNQ2k-$_v d297uMasV92odGv1zUPFRg$: $1577694644717source = lnmstbm = ischsa = Xved = 2ahUKEwjN4_L G{-}tzmAhURy4UKHbbxC8QQ_A UoAXoECBIQAwbiw = 1517bih = 730imgdii = F0iBOaILDZU47M : imgrc = TVP2SQEHSXPybM :$