

# An Article on Mobile Operating System

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**Abstract - Mobile, Mobile, Mobile.. Wherever we travel, we hear this word. Now-a-days, mobile phone places a major role in each individual's life. The main part in mobile phone is Operating System, which many of us are not aware of it. This paper discuss about few Operating System used in mobile phone in detail.**

**Keywords – Android, API(Application Programming Interfaces), Mobile phones, Operating system, Tablets, Versions.**

## I. INTRODUCTION

An operating system is system software that manages hardware and software i.e it is an interface between user and computer hardware. It controls the execution of user programs to prevent errors and improper use of the system. The main objective of operating system is to control and coordinate the use of system resources. It provides a convenient environment for a user to access the available resources. It also increases the productivity of processing resource and use the hardware in an efficient manner.

Each mobile consists of an operating system. A mobile operating system is also called as mobile OS is operating system that allows devices such as phones, tablets and many other handheld devices to run applications and programs. It starts up when a device is turned on. It includes the features of a personal computer operating system as well.

The timeline of Mobile Operating System

- 1973-1993 – Mobile phones used embedded systems.
- 1994 – The first smartphone with touchscreen, email, PDA features.
- 1996 – Palm OS was introduced.
- 1998 – Symbian OS was developed by Symbian Ltd.
- 1999 – Nokia S40 platform was introduced.
- 2000 – Symbian OS on a smartphone with the launch of Ericsson R380.
- 2001 – Kyocera 6035, smartphone with Palm OS.
- 2002 – Introduction of Microsoft's Windows CE (Pocket PC) , BlackBerry released its first smartphone.
- 2005 – Nokia introduced Maemo OS.
- 2007 – Apple iPhone with iOS was introduced, Google formed Open Handset Alliance (OHA).
- 2008 – OHA released Android.

- 2009 – Palm introduced WebOS, Samsung announced Bada OS.
- 2010 – Windows Phone was released.
- 2011 – A mobile Linux distribution MeeGo was introduced.
- 2012 – Apple released iOS 6.
- 2013 – BlackBerry released OS, Apple released iOS 7, Google released Android KitKat 4.4.
- 2014 – Microsoft released Windows Phone 8.1, Apple released iOS 8, BlackBerry released 10.3, Google released Android 5.0 Lollipop.
- 2015 – Google released Android 5.1 Lollipop, Apple released iOS 9, Google released Android 6.0 Marshmallow, Microsoft released Windows 10 Mobile.
- 2016 – Microsoft released Windows 10 Mobile Anniversary update, Apple announced iOS 10, Google released Android 7.0 Nougat, Apple released iOS 10, Tizen released Tizen 3.0, BlackBerry released BlackBerry 10.3.3.
- 2017- Samsung launched Android-based Samsung Galaxy S8, Microsoft released Windows 10 Creators update, Samsung introduced Tizen 4.0, Google released Android 8.0 Oreo, BlackBerry announced Android-based BlackBerry Secure, Apple introduced iPhone 8, iPhone X, iOS 11.

Some of the most common and current mobile operating system is as follows

### 1. ANDROID

It was developed by Google, based on Linux kernel. It is the most popular operating system in mobile phone. It is free and open source software and primarily designed for touchscreen mobiles and many other electronic devices.

Initially, Android was founded by Andy Rubin, Rich Miner, Nick Sears and Chris White in October 2003, in Palo Alto, California. In July 2005, Google acquired Android and Andy Rubin, Rich Miner and Chris White joined Google. Andy Rubin led a team to develop a mobile device platform powered by Linux kernel. In 2007, the green Android logo was designed by Irina Blok, a graphic designer. Android mobile operating system released various versions named after dessert or sweet items.

## International Journal of Emerging Technology and Advanced Engineering

Website: [www.ijetae.com](http://www.ijetae.com) (ISSN 2250-2459, ISO 9001:2008 Certified Journal, Volume 8, Issue 1, January 2018)

**TABLE I**  
**ANDROID VERSIONS**

SL. NO	VERSION	RELEASE DATE
1.	Android 1.0 (API 1)	September 23, 2008
2.	Android 1.1 (API 2)	February 09, 2009
3.	Android 1.5 Cupcake (API 3)	April 27, 2009
4.	Android 1.6 Donut (API 4)	September 15, 2009
5.	Android 2.0 Eclair (API 5)  Android 2.0.1 Eclair (API 6)  Android 2.1 Eclair (API 7)	October 26, 2009  December 09, 2009  January 12, 2010
6.	Android 2.2 Froyo (API 8)  Android 2.2.1 Froyo  Android 2.2.2 Froyo  Android 2.2.3 Froyo	May 20, 2010  January 18, 2011  January 22, 2011  November 21, 2011
7.	Android 2.3 Gingerbread (API 9)  Android 2.3.1 Gingerbread  Android 2.3.2 Gingerbread	December 06, 2010  December 2010  January 2011
8.	Android 2.3.3 Gingerbread (API 10)  Android 2.3.4 Gingerbread  Android 2.3.5 Gingerbread  Android 2.3.6 Gingerbread  Android 2.3.7 Gingerbread	February 09, 2011  April 28, 2011  July 25, 2011  September 02, 2011  September 21, 2011
9.	Android 3.0 Honeycomb (API 11)	February 22, 2011
10.	Android 3.1 Honeycomb (API 12)	May 10, 2011
11.	Android 3.2 Honeycomb (API 13)  Android 3.2.1 Honeycomb  Android 3.2.2 Honeycomb  Android 3.2.3 Honeycomb  Android 3.2.4 Honeycomb  Android 3.2.5 Honeycomb  Android 3.2.6 Honeycomb	July 15, 2011  September 20, 2011  August 30, 2011  August 30, 2011  December 2011  January 2012  February 2012
12.	Android 4.0 Ice Cream Sandwich (API 14)	October 18, 2011  October 21, 2011

	Android 4.0.1 Ice Cream Sandwich Android 4.0.2 Ice Cream Sandwich	November 28, 2011
13.	Android 4.0.3 Ice Cream Sandwich (API 15)  Android 4.0.4 Ice Cream Sandwich	December 16, 2011  March 29, 2012
14.	Android 4.1 Jelly Bean (API 16)  Android 4.1.4 Jelly Bean  Android 4.1.2 Jelly Bean	July 09, 2012  July 11, 2012  October 09, 2012
15.	Android 4.2 Jelly Bean (API 17)  Android 4.2.1 Jelly Bean  Android 4.2.2 Jelly Bean	November 13, 2012  November 27, 2012  February 11, 2013
16.	Android 4.3 Jelly Bean (API 18)  Android 4.3.1 Jelly Bean	July 24, 2013  October 03, 2013
17.	Android 4.4 KitKat (API 19)  Android 4.4.1 KitKat  Android 4.4.2 KitKat  Android 4.4.3 KitKat  Android 4.4.4 KitKat	October 31, 2013  December 05, 2013  December 09, 2013  June 02, 2014  June 19, 2014
18.	Android 4.4W KitKat, with wearable extensions (API 20)  Android 4.4W.1 KitKat  Android 4.4W.2 KitKat	June 25, 2014  September 06, 2014  October 21, 2014
19.	Android 5.0 Lollipop (API 21)	November 12, 2014
20.	Android 5.1 Lollipop (API 22)  Android 5.1.1 Lollipop	March 09, 2015  April 21, 2015
21.	Android 6.1 Marshmallow (API 23)  Android 6.0.1 Marshmallow	October 05, 2015  December 07, 2015
22.	Android 7.0 Nougat (API 24)	August 22, 2016
23.	Android 7.1 Nougat (API 25)  Android 7.1.1 Nougat  Android 7.1.2 Nougat	October 04, 2016  December 05, 2016  April 04, 2017
24.	Android 8.0 Oreo (API 26)	August 21, 2017
25.	Android 8.1 Oreo (API 27)	December 05, 2017

### 2. IPHONE / IOS (APPLE)

It was originally developed by Apple exclusively for its hardware. It is the most popular mobile operating system after Android. This mobile operating system was unveiled in 2007 for the iPhone. iOS supports many versions of Apple's own manufactured devices such as iPhone, iPad and iPod Touch. The current version is iOS 11, which was released on September 19, 2017. It is available for all iOS devices.

**TABLE II**  
**IPHONE VERSIONS**

SL. NO	VERSIONS	RELEASE DATE	FINAL SUPPORTED OS
1.	iPhone OS 1.0	June 29, 2007	iPhone OS 3.1.3
2.	iPhone OS 2.0	July 11, 2008	iOS 4.2.1
3.	iPhone OS 3.0	June 19, 2009	iOS 6.1.6
4.	iOS 4.0	June 21, 2010	iOS 7.1.2
5.	iOS 5.0	October 14, 2011	iOS 9.3.5
6.	iOS 6.0	September 21, 2012	iOS 10.3.3
7.	iOS 7.0	September 20, 2013	iOS 10.3.3
8.	iOS 7.0	September 20, 2013	iOS 11.2
9.	iOS 8.0	September 19, 2014	iOS 11.2
10.	iOS 9.0	September 25, 2015	iOS 11.2
11.	iOS 9.3	March 31, 2016	iOS 11.2
12.	iOS 10.0	September 16, 2016	iOS 11.2
13.	iOS 11.0	September 22, 2017	iOS 11.2
14.	iOS 11.0.1	November 03, 2017	iOS 11.2

### 3. BLACKBERRY

BlackBerry Limited is a Canadian multinational company. BlackBerry is originally created by Mike Lazaridis and Douglas Fregin as Research In Motion (RIM) in 1984. The BlackBerry refers to the unique physical keyboard design on early devices. It is based on Android Open Source Project (AOSP). It is specialized in secure communications and mobile productivity. BlackBerry is branded for smartphones, tablets and many more products.

BlackBerry Secure operating system is based on Android Open Source Project (AOSP), which was announced on August 2017. BlackBerry Secure version 1.x (based on Android "Marshmallow" 6.x and "Nougat" 7.x) is the latest version.

**TABLE III**  
**BLACKBERRY VERSIONS**

SL.NO	VERSION	RELEASE DATE
1.	BlackBerry OS 1.0	January 1999
2.	BlackBerry OS 3.6	March 2002
3.	BlackBerry OS 5.0	August 09, 2009
4.	BlackBerry OS 6.0	April 2010
5.	BlackBerry OS 7.0	August 2011
6.	BlackBerry OS 7.1	January 2012

## II. CONCLUSION

There are varieties of Mobile phones available in market with various latest Operating Systems. Year by year the versions are released and new operating systems are developed by the companies for the users.

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