

Brief Intro on Mobile Platforms and Dev. Tools

Top Mobile Operating Systems



- Android by Google Inc.



- iOS by Apple Inc.



- BlackBerry OS by RIM



- Symbian OS by Nokia and Accenture

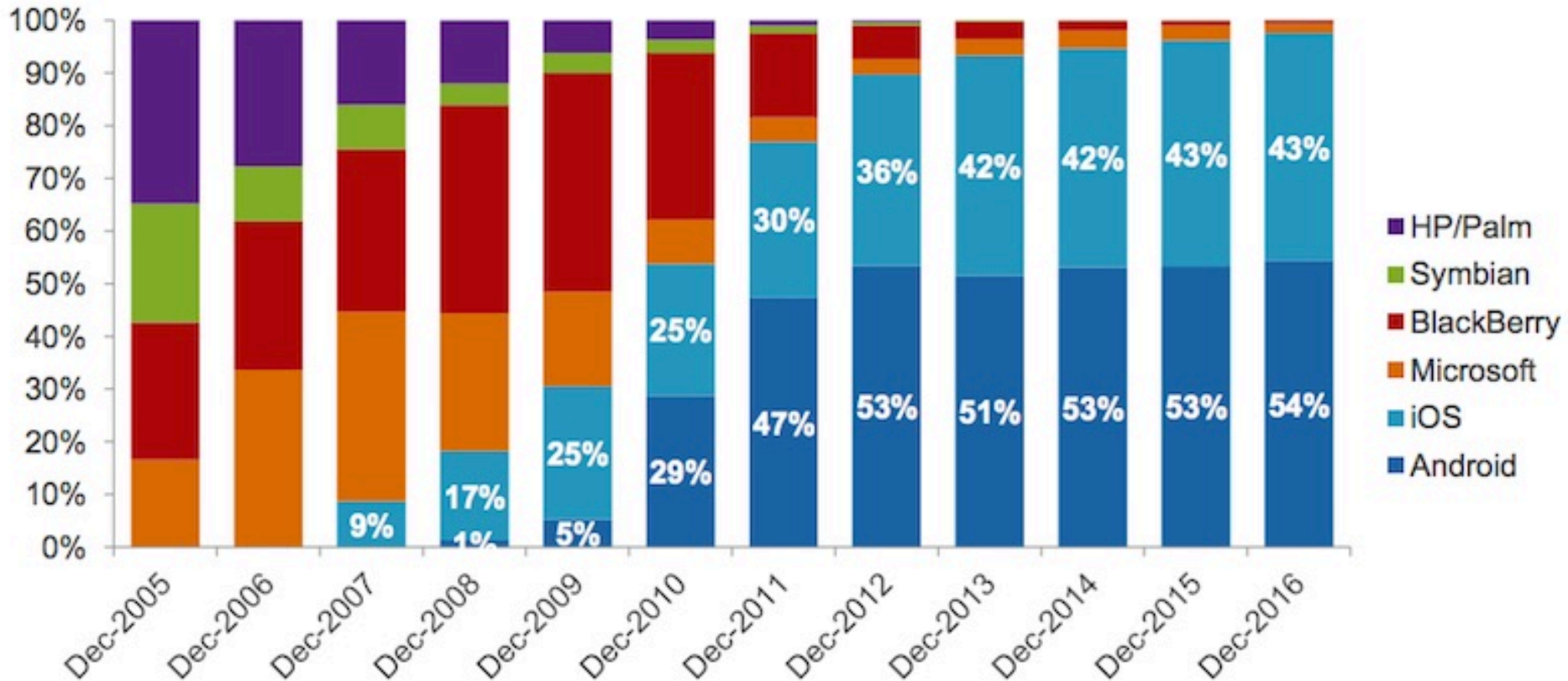


- Windows 8 by Microsoft

Brief Intro on Mobile Platforms and Dev. Tools

Smartphone Platform Market Share: Long-Term Trend

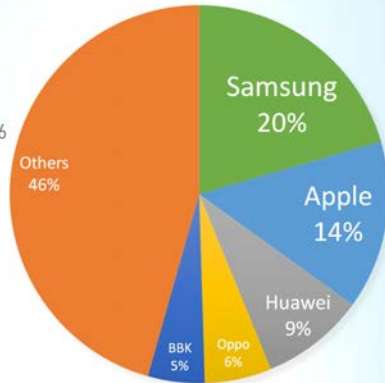
Source: comScore MobiLens, U.S., Age 13+, 3 Mo. Avg. Ending Dec 2005 - 3 Mo. Avg. Ending Dec 2016



Brief Intro on Mobile Platforms and Dev. Tools

Global Smartphone Sales

1.5
billion units 2016
5%
increase over 2015



Market Share by Vendor 2016



Market Share by Operating System Q4 2016

82%
Market share for
Android in Q4 2016

18%
Market share for iOS

<0.5% Others

Source data: Gartner

Top Mobile Operating Systems Markets

BlackBerry World

The screenshot shows the BlackBerry World website. At the top, there is a search bar and a navigation menu with links for BlackBerry, Devices, BBM, Apps & Media, Software, Support, Where to Buy, Business, and Developers. Below the navigation, there is a banner for BlackBerry World with the tagline "Discover a world of inspiration" and an image of a BlackBerry smartphone and tablet. To the right of the banner are social media icons for Facebook (57k likes), a share icon, an email icon, and an information icon. Below the banner, there is a section titled "Do more with BlackBerry World" with a paragraph explaining the storefront's name change and a button to "Browse and download apps online". To the right, there is a section titled "BLACKBERRY WORLD FEATURES" with the sub-heading "Music, videos, apps and games" and icons for music, videos, and games. Below this, there is a paragraph about the features on a BlackBerry 10 smartphone and a list of links to browse apps, games, music and videos for BlackBerry 10 in BlackBerry World.

Search

BlackBerry Devices BBM Apps & Media Software Support Where to Buy Business Developers

Home > Apps & Media >

BlackBerry World

Discover a world of inspiration

Like 57k

Share

Email

Info

Do more with BlackBerry World

BlackBerry® World™ storefront is the new name for the BlackBerry App World™ storefront. The new name will appear after updating to the latest version of the app on your smartphone or the latest software version on your tablet.

With BlackBerry World, you can download and purchase apps, games and themes¹ for your BlackBerry smartphone or BlackBerry® PlayBook™ tablet. On your BlackBerry® 10 smartphone, you can also discover music and videos. You can even use BlackBerry® Tag on your BlackBerry smartphone to share your favorite apps and discover new ones with your friends through NFC.

[Browse and download apps online](#)

- Download BlackBerry World for your smartphone with BlackBerry 7.1 OS or earlier
- Get BlackBerry World support
- Learn about BlackBerry Tag

BLACKBERRY WORLD FEATURES

Music, videos, apps and games

With BlackBerry World on your BlackBerry 10 smartphone, discover music and videos, as well as apps and games.

- Browse apps, games, music and videos for BlackBerry 10 in BlackBerry World

Top Mobile Operating Systems Markets

Apple's iTunes

The screenshot shows the iTunes application window with the App Store open. The left sidebar contains navigation options like Library, Store, Shared, Genius, and Playlists. The main content area displays the 'NASA Visualization Explorer' app page. The app is categorized under Education, updated on May 30, 2013, and is available for free. It features a 'What's New in Version 1.8' section and 'iPad Screenshots' showing a satellite view of Earth with the text 'SUPER BLOOMS' and a view of the moon.

App Store > Education > NASA

NASA Visualization Explorer

Description

NASA SCIENCE: REVEALED! This is the NASA Visualization Explorer, the coolest way to get stories about advanced space-based research delivered right to your iPad. A direct connection to NASA's extraordinary fleet of research spacecraft, this app presents cutting edge research stories in an engaging and exciting format. See the Earth as you've never seen it before; travel to places otherwise unavailable to even the most...

[...More](#)

[NASA Web Site >](#) [NASA Visualization Explorer Support >](#) [Application License Agreement >](#)

Free App

Category: Education
Updated: May 30, 2013
Version: 1.8
Size: 15.4 MB
Language: English
Seller: NASA
© NASA 2011

Rated 4+

Compatibility: Requires iOS 5.1 or later. Compatible with iPad.

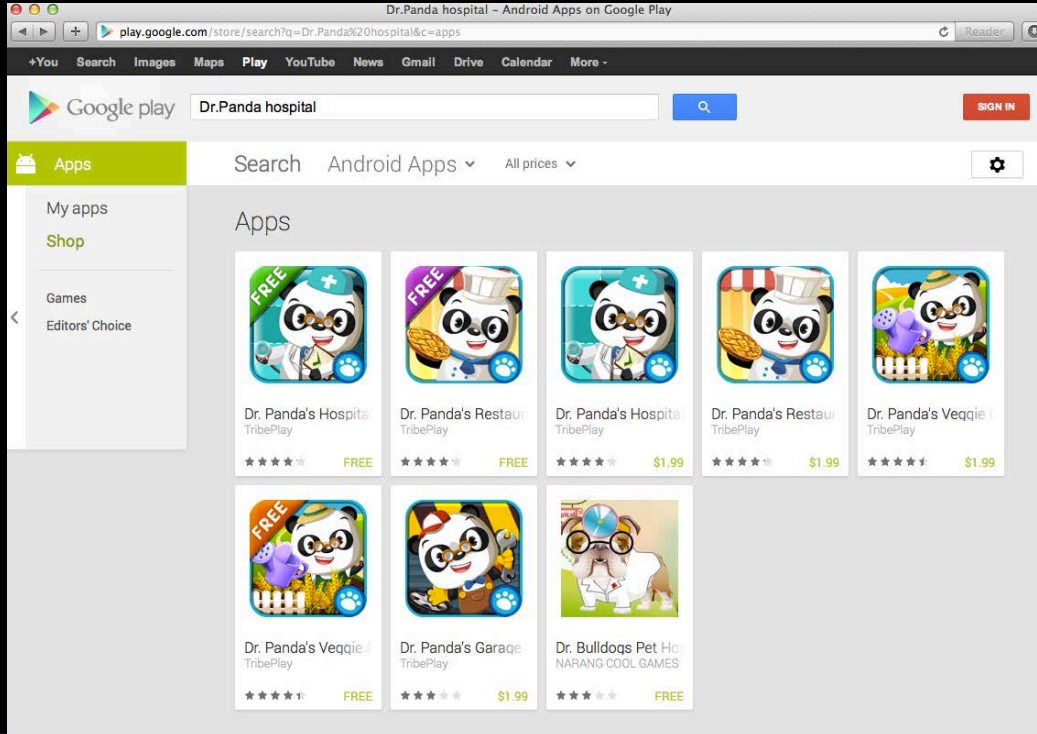
More iPad Apps by NASA

AstroApp: Space Shuttle Crew iMorpheus
NASA Television

iPad Screenshots

Top Mobile Operating Systems Markets

Google Play/Android Market



Brief History of Devices

1979–1992 Mobile phones use embedded systems to control operation.

1994 The first smartphone, the IBM Simon, has a touchscreen, email and PDA features.



Brief History of Devices

1996 Palm Pilot 1000 personal digital assistant is introduced with the Palm mobile OS.



Brief History of Devices

2000 Symbian became the first modern mobile OS on a smartphone with the launch of the Ericsson R380.



Brief History of Devices

2002 Microsoft's first Windows CE (Pocket PC) smartphones are introduced.

2002 BlackBerry released its first smartphone.

2007 Apple iPhone with iOS is introduced as an iPhone, "mobile phone" and "internet communicator."



Brief History of Devices

2008 OHA releases Android 1.0 with the HTC Dream (T-Mobile G1) as the first Android phone.



Brief History of Devices

2009 Palm introduces webOS with the Palm Pre. By 2012 webOS devices were no longer sold.

2009 Samsung announces the Bada OS with the introduction of the Samsung S8500.



Brief History of Devices

2010 Windows Phone OS phones are released but are not compatible with the previous Windows Mobile OS.

2011 MeeGo the first mobile Linux, combining Maemo and Moblin, is introduced with the Nokia N9, a collaboration of Nokia, Intel and Linux Foundation.

2012 The Lenovo K800 will be the first Intel powered Smartphone (Android OS).

Brief History of iPhone

The Newton MessagePad was an early handheld device manufactured by Apple in the mid-1990s. Some of its concepts and functions have been incorporated into the iPhone.



Brief History of iPhone

On January 9, 2007 Steve Jobs announced the iPhone at the Macworld convention, receiving substantial media attention, and that it would be released later that year.

On June 29, 2007 the first iPhone was released.



Brief History of iPhone

First iPhones were sold exclusively with AT&T contracts in the United States.

On February 10, 2011, the Verizon iPhone went on sale.

T-Mobile USA's inability to provide the iPhone to customers raised its subscription churn rate, and contributed to parent Deutsche Telekom's decision to sell it to AT&T in March 2011.

Brief History of iPhone

On July 1, 2007, it was reported that Apple paid at least US\$1 million to Michael Kovatch for the transfer of the iPhone.com domain name. Kovatch registered the domain in 1995.

September 21, 2012 the 6th-generation iPhone 5 was released.

iPhone 5S – September 2013

iPhone 6 - 2014

iPhone 6S - 2015

iPhone 7 – 2016

iPhone SE - 2016



Brief History of iPhone

Generations

1st 3G 3GS 4 4S 5 5S 6 6S 7 8

Apple has now sold 1.2 billion iPhones

The 10th anniversary iPhone release iPhone 8 - 2017

glass and stainless steel redesign , bezel-less OLED display, facial recognition, updates to 3D Touch, improved waterproofing, wireless charging, and more

iPhone evolution



iPhone 6 Plus



iPhone 6



iPhone 5 S



iPhone 5 c



iPhone 5



iPhone 4S



iPhone 4



iPhone 3GS

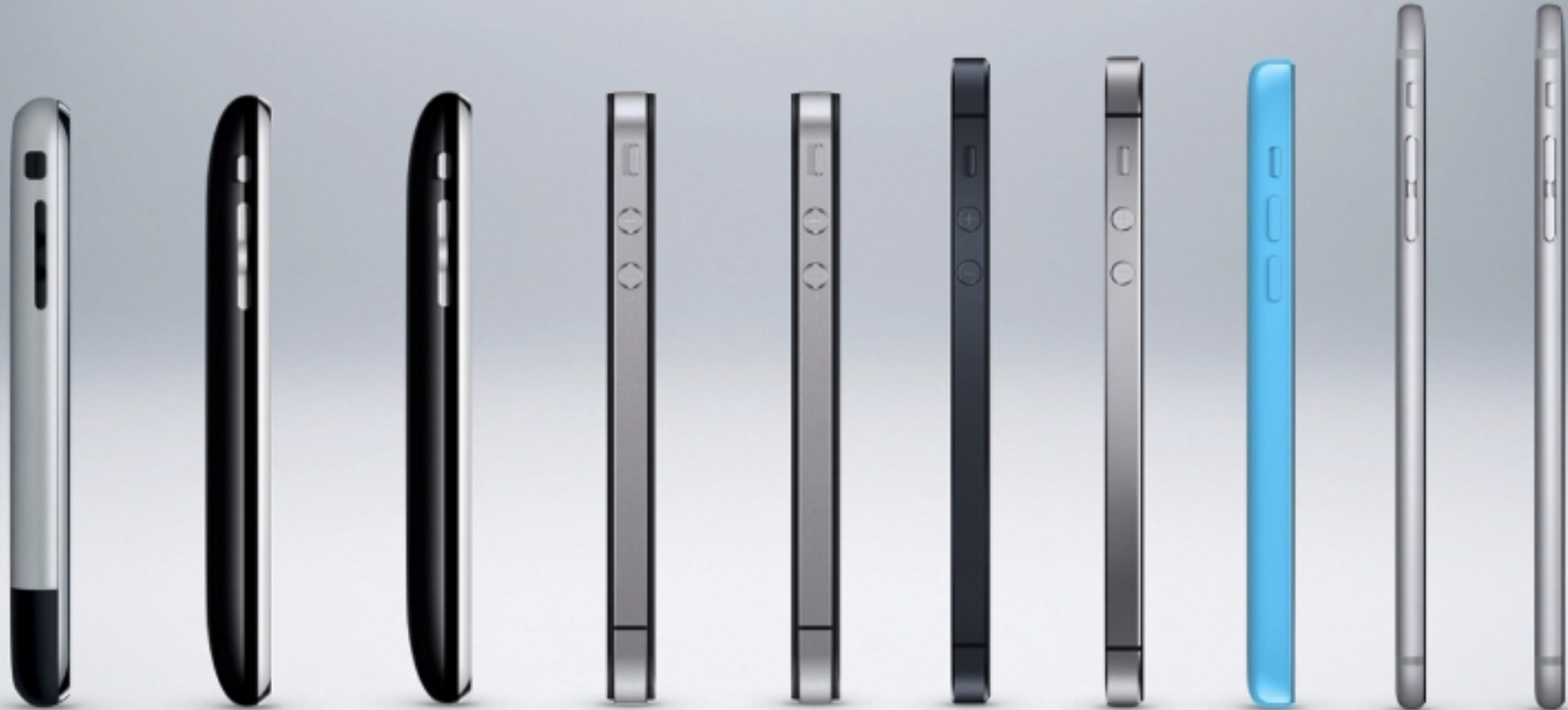


iPhone 3G



iPhone

iPhone evolution



iPhone Sensors

Proximity sensor

Ambient light sensor

Accelerometer

Gyroscope

Magnetometer

Moisture sensor

Compass & GPS

Fingerprint sensor

iPhone8 -- time-of-flight sensor (ToF) a new type of proximity sensor on the front side of the phone, one that also acts as an “accurate rangefinder for the selfie camera.”

iPhone Sensors

time-of-flight sensor (ToF)

likely to be a new product in the iPhone 8, in addition to on-going shipments of the time-of-flight sensor,” from Liberum analyst Janardan Menon

a recent report said that the new iPhone will include a new form of facial/gesture recognition system. This feature would be “supported by a new laser sensor and an infrared sensor mounted near the front-facing camera,” by Cowen and Company analyst Timothy Arcuri

iPhone Sensors – Proximity Sensor

This sensor can determine how close the iPhone is to your face. Turns off its screen automatically whenever you hold the phone up to your ear.

This is necessary to prevent accidental button clicks by the side of your head when talking.



iPhone Sensors – Ambient Light Sensor

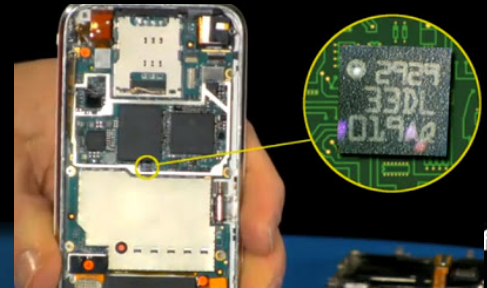
This sensor can determine how much light is available in the area surrounding the iPhone and automatically adjust the brightness of the screen in order to conserve battery life.

iPhone Sensors – Motion Sensor/Accelerometer

This sensor enables the iPhone's screen to automatically switch from landscape to portrait modes and back again based on whether you're holding the phone up and down or sideways.

- detects the acceleration the phone is experiencing when you move with it
- detects the g-force associated with the movement
- automatically orients the phone according to the position you are holding it in

[Youtube video on accelerometer](#)

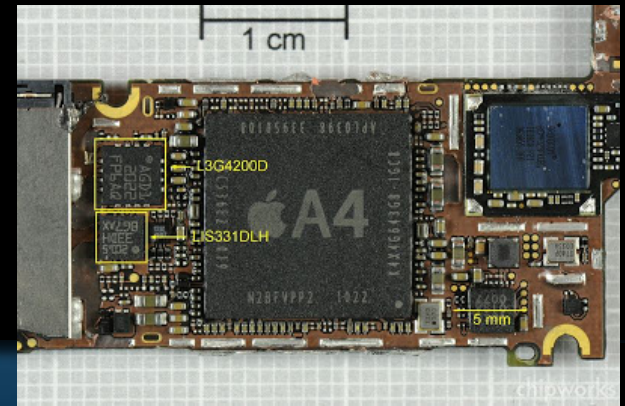


iPhone Sensors – Gyroscope

iPhone 4 Gyroscope (tilt/orientation)

The iPhones 4, 4S and 5 add another sensor: a three-axis gyroscope. When combining the gyroscope with the accelerometer, this gives these devices six axes on which it can operate. This is designed to make them more sensitive, responsive, and powerful for gaming.

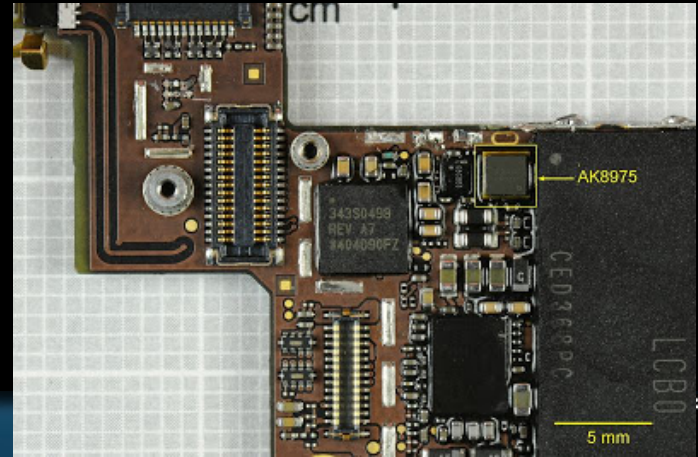
[iPhone4 Gyroscope demo](#)



iPhone Sensors – Magnetometer Compass

It can measure the strength of the magnetic field experienced by your smartphone, in Tesla (the unit of magnetism).

With the preinstalled compass app that works with this magnetometer, your smartphone can easily tell you which way is north and which is south. This is one of the most useful features of current smartphones.



Moisture Sensor

The water sensor is a little red tab that appears in the dock connector when the phone has been submerged in water. It can also appear as a red dot in the headphone jack.

[Water sensor on youtube](#)

iPhone 4



iPhone 3G/iPhone 3GS



iPhone



iPod touch



iPod nano



iPod classic



iPhone Sensors – GPS

The Global Positioning System, GPS is a sensor that relies on connection to three or four satellites to gather information about your phone's global position.



Production Process

- Design a mobile application UI/UX.
- Program for the device (iOS, Android etc.).
- Acceptance by the distributor (Google/Apple).
- Storefront market release (iTunes, Google Play, etc.)