

# DES 420 Professional Practice Project I

## Mobile App Design

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# DES 420 Professional Practice Project I

- 1.00-1.20 - Brief Intro on Mobile Platforms and Dev. Tools
- 1.20-1.40 - Brief History of iPhone
- 1.40-2.00 - iPhone Sensors
- 2.00-2.15 - Break (15 min)
- 2.15-3.45 - Concept Research & Analysis Presentations
- 3.45-4.20 - Longer Break (35 min)
- 4.20-5.35 - Concept Research & Analysis Presentations
- 5.35-6.00 – Storyboard
- 6.00-6.20 - Assignment 2
- 6.20 - Adjourn

# Brief Intro on Mobile Platforms and Dev. Tools

## Top Mobile Operating Systems



- Android by Google Inc.



- iOS by Apple Inc.



- BlackBerry OS by RIM



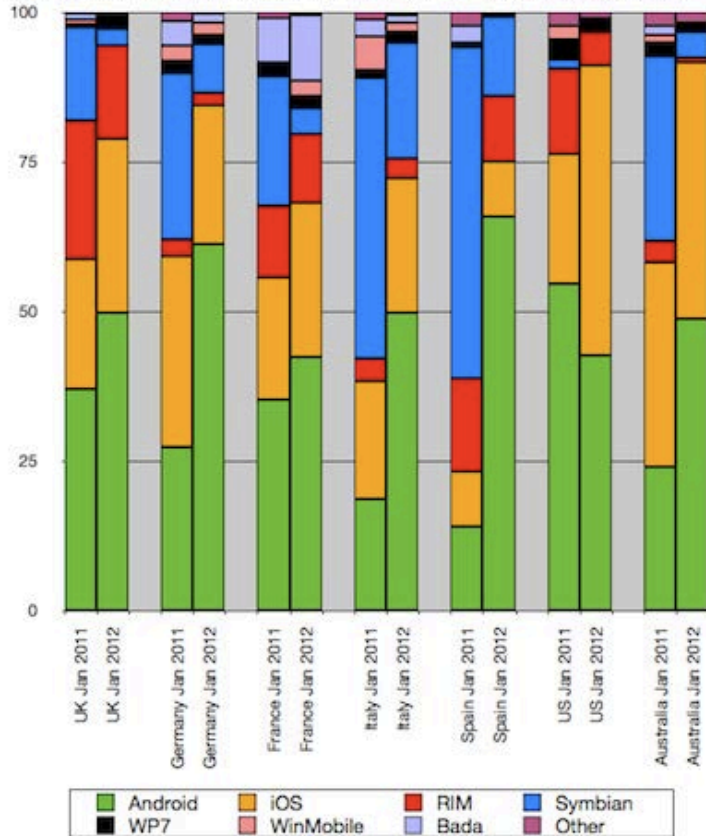
- Symbian OS by Nokia and Accenture



- Windows 8 by Microsoft

# Brief Intro on Mobile Platforms and Dev. Tools

Smartphone platform market share of sales by country from Jan 2011 to Jan 2012



source: Kantar WorldPanel

Image credit: Kantar Worldpanel ComTech

<http://www.theguardian.com/technology/2012/feb/21/android-smartphones-os-uk-apple>

# Brief Intro on Mobile Platforms and Dev. Tools

## Smartphone sales (2011)

50% - Android phones

24% - Apple phones

## Mobile data usage

54% of the mobile data traffic comes from iOS

17% from Android

5% from Symbian

3% from BlackBerry

21% from various others

# 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 is a hero section with the text "BlackBerry World" and "Discover a world of inspiration", accompanied by images of BlackBerry devices and a social media share button showing 57k likes. The main content area is titled "Do more with BlackBerry World" and contains text about the storefront's name change and the types of content available. A blue button labeled "Browse and download apps online" is present. To the right, a "BLACKBERRY WORLD FEATURES" section highlights "Music, videos, apps and games" with icons for music, videos, and games, and a link to browse content for BlackBerry 10. At the bottom left, there are links to download the app and get support.

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

#### 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 themes<sup>1</sup> 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 interface on a Mac. The top navigation bar includes Music, Movies, TV Shows, App Store, Books, Podcasts, and iTunes U. The search bar contains "nasa viz". The left sidebar shows the Library and Store sections. The main content area displays the "NASA Visualization Explorer" app page. The app icon is a blue circle with a red NASA logo and the text "NASA VIZ". The description reads: "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...". The "What's New in Version 1.8" section lists: "ability to annotate custom story lists" and "minor UI tweaks". The "iPad Screenshots" section shows a screenshot of the app interface with the text "SUPER BLOOMS" and a satellite image of Earth.

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](#) >

### What's New in Version 1.8

What's New in Version 1.8

- ability to annotate custom story lists
- minor UI tweaks

### iPad Screenshots

NASA Visualization Explorer

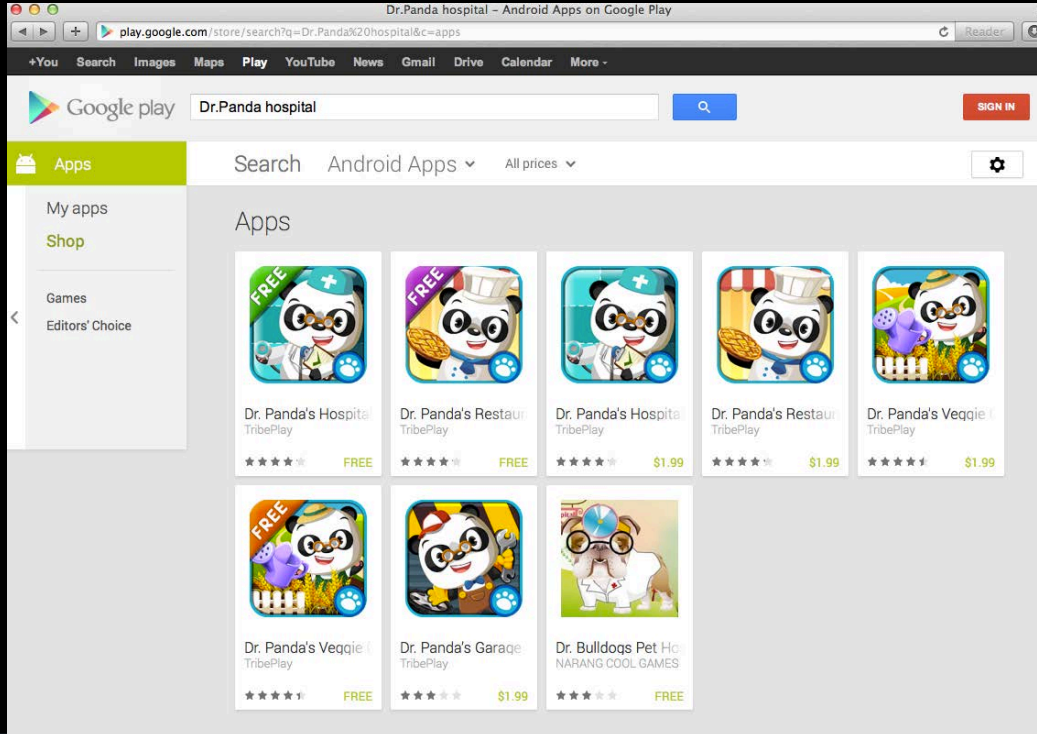
**SUPER BLOOMS**

More iPad Apps by NASA

AstroApp: Space Shuttle Crew  
iMorpheus  
NASA Television

# 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.

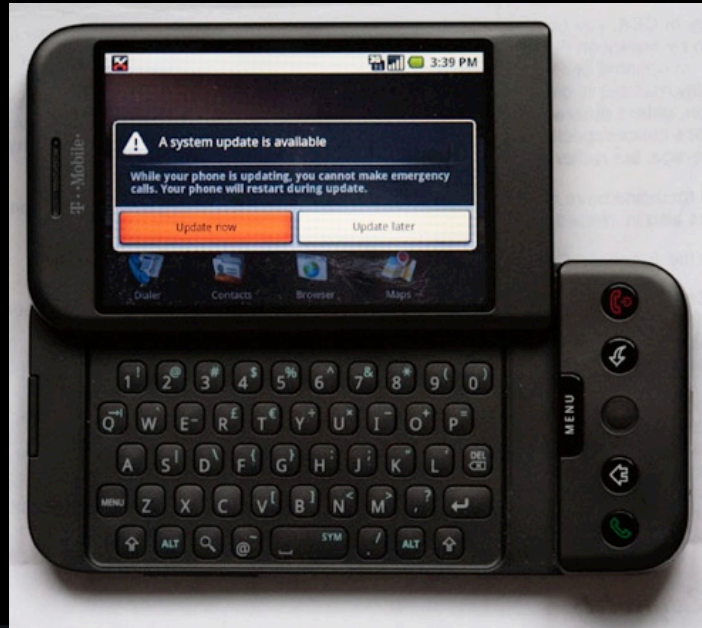
2002 BlackBerry released its first smartphone.

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.

On September 21, 2012 the most recent model, the 6th-generation iPhone 5 was released.

iPhone 5S – September 2013

iPhone 6 - 2014



# Brief History of iPhone

## Generations

1st    3G    3GS    4    4S    5 ...    5S    6

Apple has now sold 250 million iPhones that have generated roughly \$150 billion in revenue for the company over the product's lifetime.

# Brief History of iPhone

All the iPhone versions till now  
itcentralpoint



iPhone



iPhone 3G



iPhone 3GS



iPhone 4



iPhone 4S

Source of the Images - Apple Inc.



Image by itcentralpoint posted by Posted by Fernando Scheps

# iPhone Sensors

Proximity sensor

Ambient light sensor

Accelerometer

Gyroscope

Magnetometer

Moisture sensor

GPS

Fingerprint sensor (iPhone 5S+)

# 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.



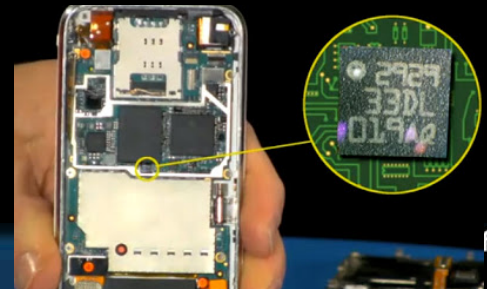
# iPhone Sensors – Motion Sensor/Accelerometer

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](#)

By How a Smartphone Knows Up from Down (accelerometer)

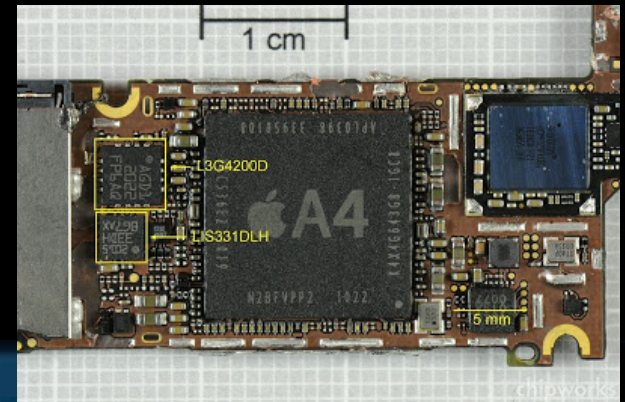


# iPhone Sensors – Gyroscope

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.

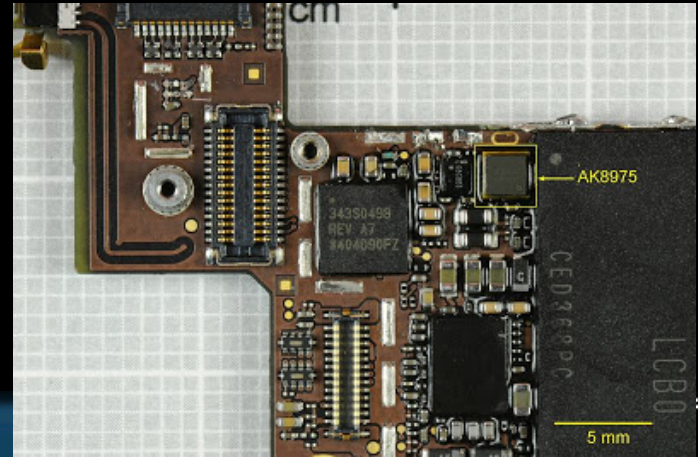
[Apple iPhone4 Gyroscope demo](#)



# 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](#)

by iMore.com

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 of a mobile application UI/UX.
- Programming for the device (iOS, Android etc.).
- Acceptance by the distributor (Google/Apple).
- Market release (iTunes, Google Play, etc.)

# GUI

Text fields

Input fields

Buttons

Bars

Navigational menus

Icons, etc.

# GUI

- Which device(s) will the application be for?
  - How will the application be displayed (portrait, landscape or both)?
  - What is the main purpose of the application?
- 
- Mock-up - a lo-fidelity general design sketch in gray scale.
  - Wireframe – a more detailed design with shapes, images and text.
  - Flowchart – a guide of the application, a map.
  - Interactive Simulation - interactive prototype.



# Mock-up

# Wireframe

# Flowchart

# Interactive Simulation

Simulation software enables designers to rapidly build lightweight, animated interactive simulations of iPhone and iPad apps, without writing code.

- Interact
- Test
- Improve your design
- Optimize the user experience
- Reduce the need for changes during development