MOBILE APP DEVELOPMENT

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What is mobile application?

- A mobile application, most commonly referred to as an app, is a type of application software designed to run on a mobile device, such as a smartphone or tablet computer.
- A mobile app is a software application developed specifically for use on small, wireless computing devices, such as smartphones and tablets, rather than desktop or laptop computers.
- Mobile apps are designed with consideration for the demands and constraints of the devices and also to take advantage of any specialized capabilities they have. A gaming app, for example, might take advantage of the iPhone's accelerometer.

What is mobile Website ?

- **A simple definition could be:**
  The mobile web refers to access to the world wide web, i.e. the use of browser-based Internet services, from a handheld mobile device, such as a smartphone or a feature phone, connected to a mobile network or other wireless network.

What's the Difference Between a Mobile Website and an App?

- A **mobile website** is similar to any other website in that it consists of browser-based HTML pages that are linked together and accessed over the Internet (for mobile typically WiFi or 3G or 4G networks). The obvious characteristic that distinguishes a mobile website from a standard website is the fact that it is designed for the smaller handheld display and touch-screen interface.
- Like any website, mobile websites can display text content, data, images and video. They can also access mobile-specific features such as click-to-call (to dial a phone number) or location-based mapping.

- **Mobile Apps** are actual applications that are downloaded and installed on your mobile device, rather than being rendered within a browser. Users visit device-specific portals such as Apple's App Store, Android Market, or Blackberry App World in order to find and download apps for a given operating system. The app may pull content and data from the Internet, in similar fashion to a website, or it may download the content so that it can be accessed without an Internet connection.

Mobile Architecture Overview

Objectives

- Define a mobile application.
- Understand components found in a mobile application.
- Learn the key scenarios where mobile applications would be used.
- Learn the design considerations for mobile applications.
- Identify specific scenarios for mobile applications, such as deployment, power usage, and synchronization.
- Learn the key patterns and technology considerations for designing mobile applications.

Mobile and Smartphone Applications

Mobile Phones

A **mobile phone** (also called **mobile, cellular telephone, cell phone,** or **hand phone** is an **electronic device** used to make

1. **Calls across a wide geographic area.**
2. **Send Text SMS**
3. Can see call records
4. Can capture image
5. Can run music
6. Can browse web etc.

To learn about mobile phones in details:
http://en.wikipedia.org/wiki/Mobile_phone

You'll get detailed history about how this technology evolved over the years

Mobile and Smartphone Applications

Smart Phones Platforms

Android

iPhone

BlackBerry

Palm Pre

Why Android Platform?

- **Technical Advantages**
  - Android is built upon an **open-source platform**, and most of the Android code is released under the free software/open source Apache License.
  - **Rich and easy to integrate feature sets**.
  - Android applications are written in **the Java programming language**, which is a powerful, mature and very widely adopted language.
  - **Easy to learn** than Apple's Objective-C
  - **Inter-Application communication** is easier.
- **Business Advantages**
  - **Android Market** — is much more of an open marketplace than Apple's iTunes App Store.
  - **No delay for approval** of submitted application. So you can reach your users fast.

What is Android

Android is a **software stack for mobile devices** that includes an **operating system, middleware and key applications**. The Android SDK provides the tools and APIs necessary to begin developing applications on the Android platform using the Java programming language.

Google describes **Android** as:

The first truly **open** and **comprehensive** platform for mobile devices, all of the software to run a mobile phone but **without the proprietary obstacles that have hindered mobile innovation**.

Android Features

Features

1. Application framework
2. Dalvik virtual machine
3. Integrated browser
4. Optimized graphics
5. SQLite
6. Media support
7. GSM Telephony
8. Bluetooth, EDGE, 3G, and WiFi
9. Camera, GPS, compass, and accelerometer
10. Rich development environment

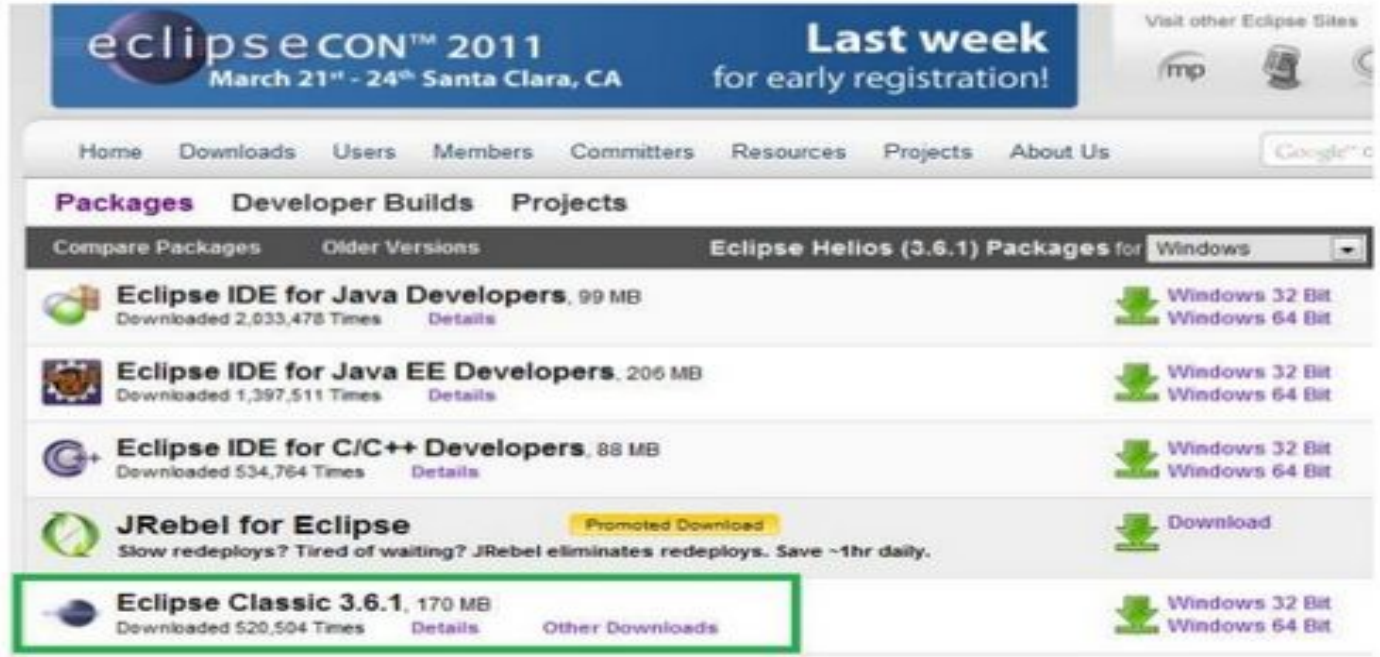
Setting up Development Environment(Contd.)

To set up the development environment, we need:

1. Java Development Kit (JDK 1.5+, 1.6 is preferable)
2. Eclipse IDE
3. Android SDK

Setting up Development Environment (Contd.)

Eclipse IDE Download Link: http://eclipse.org/downloads/



Download the highlighted version of Eclipse IDE

Setting up Development Environment (Contd.)

Java Development Kit (JDK)

Download Link: http://www.java.com/en/download/index.jsp

Download JDK from here and Install JDK

Setting up Development Environment (Contd.)

Android SDK Link: http://developer.android.com/sdk/index.html

Download and Install the SDK starter package from the table above (Highlighted)