Mobile Software Development

- Android
  - Java (most J2SE)
  - Eclipse
  - Android SDK
  - Android Demo

- iOS (iPhone,iPad,...)
  - Objective-C
  - Xcode
  - Cocoa Touch
  - iOS Demo

Presentation & Source:
http://dl.dropbox.com/u/1479/jhug.zip

Android Architecture

APPLICATIONS

Home	Contacts	Phone	Browser	...

APPLICATION FRAMEWORK

Activity Manager	Window Manager	Content Providers	View System
Package Manager	Telephony Manager	Resource Manager	Location Manager	Notification Manager

LIBRARIES

Surface Manager	Media Framework	SQLite
OpenGL	ES	FreeType	WebKit
SGL	SSL	libc

ANDROID RUNTIME

Core Libraries

Dalvik Virtual Machine

LINUX KERNEL

Display Driver	Camera Driver	Flash Memory Driver	Binder (IPC) Driver
Keypad Driver	WiFi Driver	Audio Drivers	Power Management

Android User Interface

- Back Button

- Home Button

- (Menu Button)

- ...

Basic Components

- Activities

  - Independent UI Screens

  - http://developer.android.com/reference/android/app/Activity.html#ActivityLifecycle

- Intents

  - Asynchronous Messages

  - Connect Activities/Services/...

- User Interface (Layouts, Views, Widgets ets)

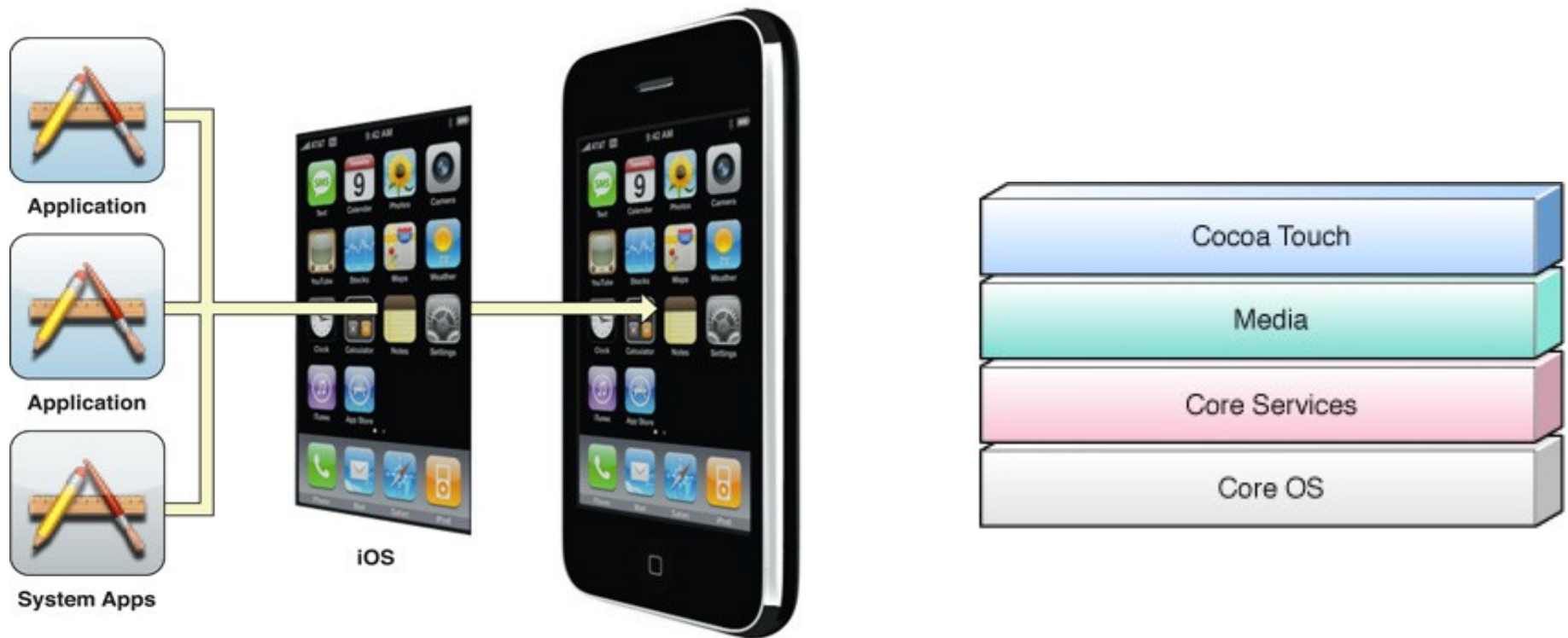- Other

  - Services,Content Providers,Asynchronus Tasks etc

Android Project Structure

- Source (Activities etc)
- Resources => Generated Code (R.*)
  - Drawables (Images etc)
  - Layouts (User Interfaces in XML)
  - Values (Strings, Menus etc)
- Assets
  - Raw resources (Web pages, Fonts etc)
- Manifest
  - Declarations (activities etc)
  - Permissions, Requirements etc

Android Developer Resources

- http://developer.android.com/
    - http://developer.android.com/sdk/installing.html
    - http://developer.android.com/guide/index.html
    - http://developer.android.com/resources/index.html
    - http://developer.android.com/videos/index.html
- http://www.anddev.org/
- http://source.android.com/

iOS Architecture

Application

Application

System Apps

iOS

Cocoa Touch

Media

Core Services

Core OS

Objective-C Basics

- Class: Interface (.h) + Implementation (.m)
- Objects
  - Initializing
  - id (generic like java Object)
- Methods
  - Declaration (object, class, c-style)
  - Calls (aka Messaging)
  - self (like java this.)
- Properties
- Inheritance and Delegates

iOS Development Basics

- Interface Builder

- Outlets

- Actions

- View Controllers

- Application Delegate

- Resources (Images, Nibs, Plists etc)

iOS Developer Resources

- http://developer.apple.com/devcenter/ios/
    - Objective C (PDF Book)
    - iOS Development Guide
    - Samples, Guides, API Reference etc
    - Download Xcode (You need a free account to start)
- https://devforums.apple.com/
- http://iphonedevsdk.com/
- Developing Apps for iOS (iTunes Video)