Instructor: Frank Coyle (drC) coyle @ lyle.smu.edu

Class Meets: M W Th: 1-4 (from Wed June 3 -- Thursday July 2)

Course Description

The emergence of a new generation of highly-capable mobile devices and platforms such as the Apple iPhone and Google Android have opened up new opportunities for application developers. However, mobile development differs from conventional desktop development in that mobile devices operate in a constrained world with smaller screens, slower network connections, as well as limited memory and processing power.

The course will be hands-on and project-based. We will examine the development models for both the Apple iPhone and Google Android. We’ll being by building sample apps for the Android. Then participants will select either the Apple iPhone or Google Android for their final deliverable, and work in groups to build applications. We will begin by using simulators before porting to actual devices. We will also explore capabilities for building applications that span platforms by working with HTML5 and APIs provided by phonegap.com. During the course, students will be encouraged to integrate existing web services from Google and Amazon as part of their application.

Prerequisites:

Senior or graduate standing. Programming experience is required. Java and/or Objective-C will be helpful.

Textbook:

- **Hello-Android-Introducing-Development, Ed Burnett.**
  http://www.amazon.com/exec/obidos/ASIN/1934356174/advancedjavapr00

Handouts and web documents will serve as foundational readings.

Final Project

All students will develop a final mobile app for either Google Android or Apple iPhone. If you plan on tackling the iPhone, the following is recommended:

- **iPhone SDK. Jonathan Zdziarski.**
  http://www.amazon.com/exec/obidos/ASIN/0596154054/advancedjavapr00
Grading:

- Assignments
- Presentations (short 5 minute timed Ignite presentations)
- Final Mobile Application

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Major topic areas:

- Mobile Application Development Overview
  - Mobile Devices Profiles
  - Mobile Software
  - Options for development
- Introduction to Software As A Service
  - Service-Oriented Computing Examples
  - Google Maps
  - Amazon Web Services
- Interface (UI) Development for Mobile Apps
  - User Interface Frameworks
  - Gesture-based interfaces
- Google Andriod Platform
  - The Eclipse Simulator
  - Google Application Architecture
  - Event-based programming
- Apple iPhone Platform
  - the UIKit for Interfaces
  - Event Handling and Graphics Services
  - Layer Animation