ECE 1778 - Creativity and Programming for Mobile Devices
February 2012
Programming Assignment #P3, for Programmers

Location, Motion Sensors and Image Capture

The goal of this assignment is to learn the basics the location-based services in phones, motion sensors and camera input.

1   Reading & Learning

Read the following sections from the course texts, if you are developing on Android:

i. Chapter 39 ("Accessing Location-Based Services") of the **The Busy Coder's Guide to Android Development** version 3.7

ii. Read through the Android Developer Reference information on sensors, starting here:

http://developer.android.com/reference/android/hardware/Sensor.html

and here:

http://developer.android.com/reference/android/hardware/SensorEvent.html

as well as notes from Lecture 5.

iii. Chapter 11 ("Using the Camera") from the **Busy Coder's Guide to Advanced Android Development,** version 2.2.

The equivalent from Mark, Nutting and LaMarche, **Beginning iOS 5 Development,** can be found in:

i.   Chapter 18, "Where Am I? Finding Your Way with Core Location"
ii.   Chapter 19, "Whee! Gyro and Accelerometer!"
iii.   Chapter 20, "iPhone Camera and Photo Library."

2   Assignment

Write an Android application that, in response to being shaken, takes a picture 1 second after the shaking stops, and also records the GPS location at the same time. Each location should be stored in a growing list; when the user touches the list item, your application should display the picture taken at that location. The list should be maintained over separate invocations of the app, and it should be possible to delete a list item, which would remove the corresponding image in the file system.

To test this application, you will have to use an actual Android device, and so may need to borrow one of the Nexus S devices available for this.

Due date: February 13th, 6pm, marked out of 10, 0.5 marks off every hour late. **Submit your solution through the Blackboard portal, associated with this assignment.**

What to submit: a zip file containing your complete project, runable from Eclipse, or runable from Xcode if on iPhone.