

ECE 1778 - Creativity and Programming for Mobile Devices
January 2011
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 Android phones, motion sensors and camera input.

1 Reading

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

- i. Chapter 34 (“Accessing Location-Based Services”) of the **The Busy Coder's Guide to Android Development** version 3.4
- ii. Tutorial 38 (“Sensing a Disturbance”) from the **Android Programming Tutorials Book**, version 3.1.
- iii. Chapter 10 (“Using the Camera”) from the **Busy Coder's Guide to Advanced Android Development**, version 1.9.1.

The equivalent from Mark, Nutting and LaMarche, **Beginning iPhone 4 development**, can be found in:

- i. Chapter 16, “Where Am I? Finding Your Way with Core Location”
- ii. Chapter 17, “Whee! Gyro and Accelerometer!”
- iii. Chapter 18, “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, some of which will be available for borrowing. For those groups that have a member with an Android device, please share the device amongst you for testing.

Due date: February 15th, 9am. **Submit your solution through Blackboard.**

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