ITIS/ITCS 4180/5180 Mobile Application Development
In Class Assignment 5

Basic Instructions:

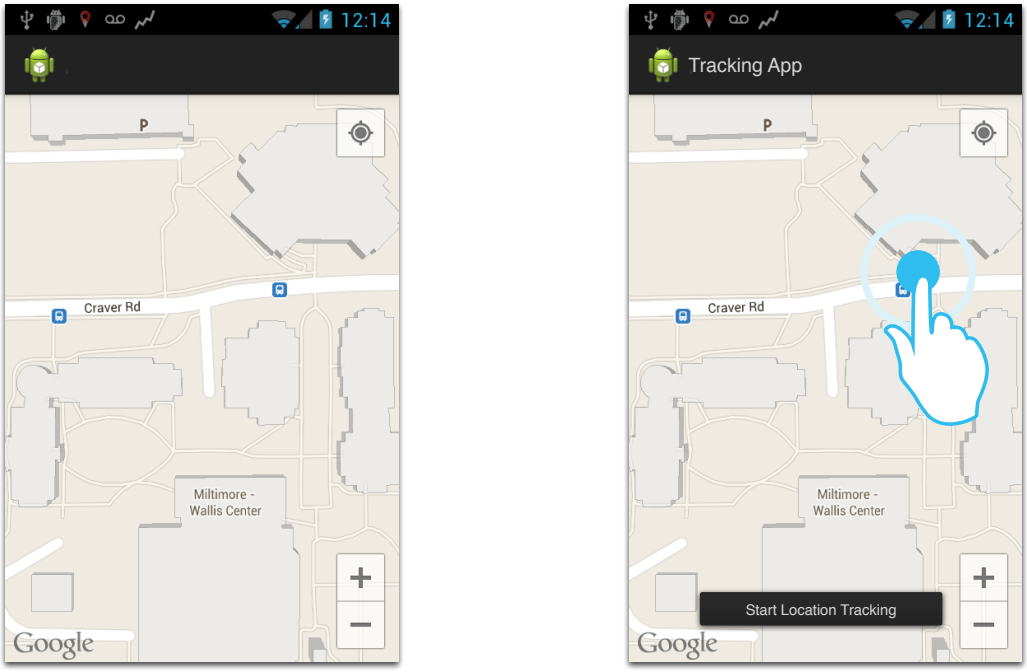
1. In every file submitted you MUST place the following comments:
   a. Assignment #.
   b. File Name.
   c. Full name of all students in your group.
2. Each student should submit only one assignment. This is a special in class assignment that will be an individual effort and will count as one of the homework assignments.
3. Please download the support files provided with this assignment and use them when implementing your project.
4. Export your Android project as follows:
   a. From eclipse, choose *"Export…"* from the File menu.
   b. From the Export window, choose *General* then *File System*. Click *Next*.
   c. Make sure that your Android project for this assignment is selected. Make sure that all of its subfolders are also selected.
   d. Choose the location you want to save the exported project directory to. For example, your *Desktop* or *Documents* folder.
   e. When exporting make sure you select *Create directory structure for files*.
   f. Click Finish, and then go to the directory you exported the project to. Make sure the exported directory contains all necessary files, such as the .java and resource files.
5. Submission details:
   a. When you submit the assignment, compress your exported Android project into a single zip file. The format of compressed file name is InClassAssignment#.zip
   b. You should submit the assignment through Moodle: Submit the zip file.
6. **Failure to follow the above instructions will result in point deductions.**

In Class Assignment 5 (100 Points)

Notes:

1. The recommended Android Virtual Device (AVD) should have **minimum SDK version set to 12 and target SDK at least 17**. The app should display correctly on 3.2" QVGA (ADP2) (320x480: mdpi).

In this assignment you will implement a simple location tracking application. The application tracks the user's current location using the device's GPS and draws the tracked user's path on a Google map using polylines.



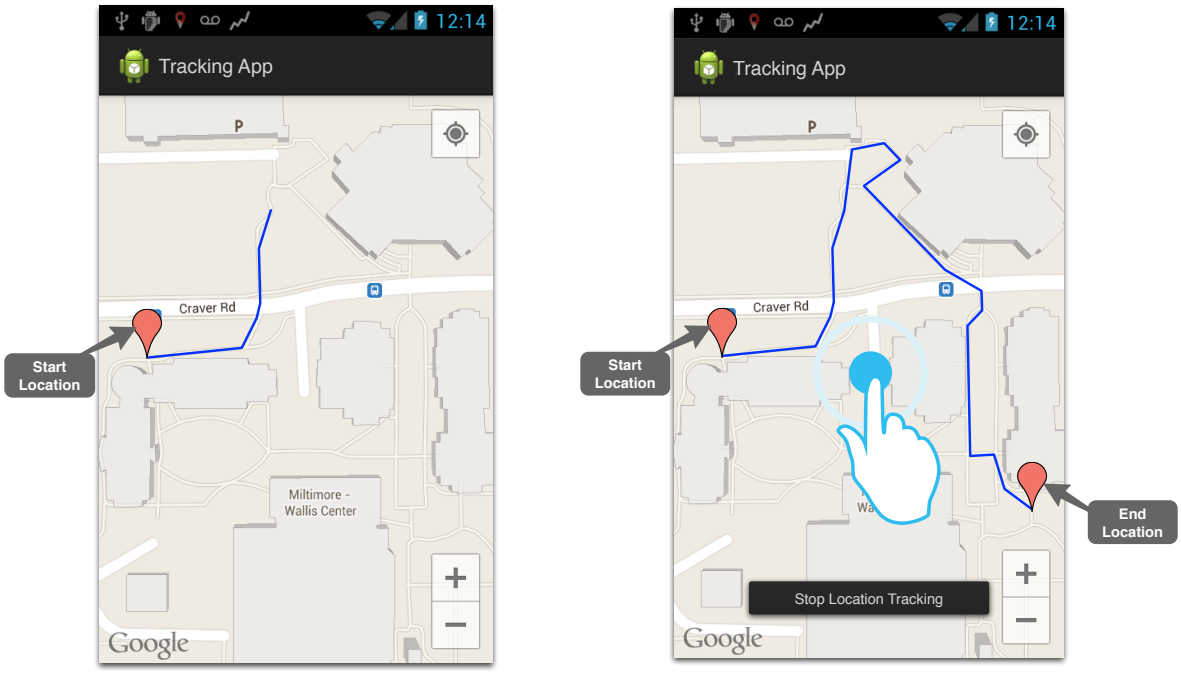
(a) Displaying empty map (b) Location tracking started using long touch

Figure 1, Main Activity

MainActivity: This app is composed of a single activity. This activity should display a Google Map Fragment. The implementation requirements include:

1. A location manager should be used to retrieve your current location, through activating the location provider (GPS). Make sure to configure the location listener's minimum distance and time appropriately.
2. Location tracking includes the logic required to enable the location provider and listener, it also includes the logic required to draw the tracked locations on the Google map. The location tracking is initially turned off when the app starts. Upon a long touch the location tracking should be started, a toast message should be shown to indicate that the tracking has started, see Figure 1(b). Finally if the user long touches the map while tracking this should end the location tracking, a toast message should be started to indicate that the tracking has stopped.
3. A marker should be used to display the start and end locations on the Google map.

4. Using PolyLine display on the map the path taken so far by the user. The path should be updated periodically when the user's location changes. For more information about PolyLine: https://developers.google.com/maps/documentation/android/shapes



(a) Start marker and polyline tracking location (b) Location tracking stopped using long touch

Figure 2, Main Activity