Senior Project Proposal

Fall 2014

Cal Hockaday

**Concept**

My goal is to create an Android application that will use GPS to track and record routes for cycling, running, cross country skiing, etc. The idea is that the user will use a button to start recording before they set out for whatever they are doing. The application tracks their location until told to stop recording. Once finished a trace of their route will be shown on a Google Map, along with other data like elevation and speed data and averages. The user will have the option to give trips a name and save them. The user will be able to look back at any of their saved trips at any time. I also would like to include with the application some viewable premade maps of popular routes and trails around the Marquette area.

**Technologies Used**

* I will use the Android SDK to create the application, which involves coding in Java and creating layouts and other configuration in XML.
* Google Maps Android API v2
* GPS and related Android API’s
* Keyhole Markup Language

**What I Hope to Learn**

I have made a few Android applications of decent size in the past but I have never done anything with persistent storage or internet connectivity. I want to learn more about creating bigger applications with these types of features that would likely be found in a production application. I’m also interested in learning the Google Maps and GPS API’s for Android, I have never used them before. I also plan to learn good practices for writing and parsing KML/XML files, and how to use these for persistent storage.

**Grading Scale**

|  |  |
| --- | --- |
| User can start and stop GPS recording and location data is collected | 30 |
| Location data is read and drawn onto a Google Map | 30 |
| Speed, distance, and elevation data is displayed along with the route | 15 |
| Data for trips can be saved and viewed later | 15 |
| User can view premade maps of routes around Marquette | 10 |

A (100 – 90)

B (89 – 80)

C (79 – 70)

D (69 – 60)

F (<60)