Final Project Write Up

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When coming up with an idea for what we wanted to do for our project, we felt like we wanted to work with something we had become familiar with in the class, so we chose to work with the accelerometer. To explore other elements, we chose to work with the barometer implemented in one of our group member’s phone, as well as GPS positioning, to create an application that allowed the user to create a map of the area they walked, and to retrieve barometer data to get a better understanding of the atmospheric pressure from location to location.

Collecting the data turned out to be fairly simple; after implementing the application and getting it working so that it collected latitudinal and longitudinal coordinates as well as atmospheric pressure, we simply walked around the campus. The graph of atmospheric pressure based on GPS position and barometer reading would create a “map” that one could overlay over an actual map of the location traversed, to be able to analyze the barometer data for a given point on the map.

Our work was cut into two parts; the first part being the application that collected the data itself, and the second being the part that actually parsed and presented the data retrieved in a way that could be easily understood. The first part did not have too many hiccups. The most notable part of the data collection part that we found was some issues when the person collecting the data kept the phone in their pocket, as the pressure readings were off. Most of the issues came in the data parsing part of the project, as we had to puzzle out how we wanted to present the data. Ultimately, we were able to get to a spot that we liked, which was, as previously mentioned, producing a “map” of the data in the form of a 3D graph that one would hypothetically place of an actual map of the location to examine the data collected.

The app as it stands works reasonably well. As is the case with projects that occur at the end of the semester, there is usually some room for improvement that would could easily be done given some additional time / other commitments not getting in the way. The app does a “rough” but solid job of doing what we want it to do, but the next steps would most likely involve ways to “pretty up” the data, examine the data and present it in different ways, as well as create different visualization methods (heat maps, for example).