CSCI 188 Project Proposal

Metro Guide

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Project Abstract

The purpose of "Metro Guide" is to provide up to the minute details on the DC metro system to the end user. The user will be able to use his GPS and locate the closest metro stop. While viewing a stop in the app, the train schedule will be posted for the upcoming few trains. Also, any sort of alerts issued by the Metro police/staff will pop-up and notify the user.

Strategy

The overall design will tie heavily into google maps, and its API features. Also important will be access to the DC Metro's APIs. As of this writing, I have gained access to both. This app will rely on the phones ability to locate itself, whether via GPS or cell signal triangulation. I hope to make this app a web service, and be platform agnostic. Using javascripts, php, and some more advanced javascript libraries I should be able to access the necessary sensors on the phone.

Unknowns & Problems

The biggest unknown at this moment is whether or not I will be able to access the low level hardware (i.e. sensors) using javascript. I am slightly familiar with an html5 locate procedure, but I will need to investigate this more.

Implementation Plan

There will be several incremental steps that will lead to the finished app. First and foremost, I need to figure out how to implement the html5 location procedure. I plan to make a very basic site with one button labeled "locate me" and then print out the coordinates of the user on the post screen. Once I am confident that this is accurate and precise, I will look to implement the APIs from google and the dc metro. To test this portion, I will setup a simple google maps iframe which will then post "thumbtacks" on the coordinates of the metro stops as outputted by the metro API. When this is accomplished, I will begin work on the GUI for my web app. I see the homepage of this app as a clean black page with a few buttons lined up vertically. The buttons will include a "find nearest", "list all", and "alerts". Each of these buttons will bring the user to a particular subprogram. The locate me page will post a google maps image of the user with the zoom automatically set to be the closest in while still showing the 3 closest stations. A user can then click on any of these thumbtacks to be brought to the station

hub. The station hub will be accessible whenever a user clicks on a station name or thumbtack, and will have many points of entry from throughout the program. The list all page, will show a user a list of all the stops in alphabetical order. A slider will be atop this list that can narrow the list to a particular line of the station. A user will again click the stop and be brought to that station's hub page. And lastly, alerts will feature a list of recent alerts (outages, etc.). I also plan to implement a dialog popup that will post an alert in real time as they are received.