

CSCI 4237 Project Proposal

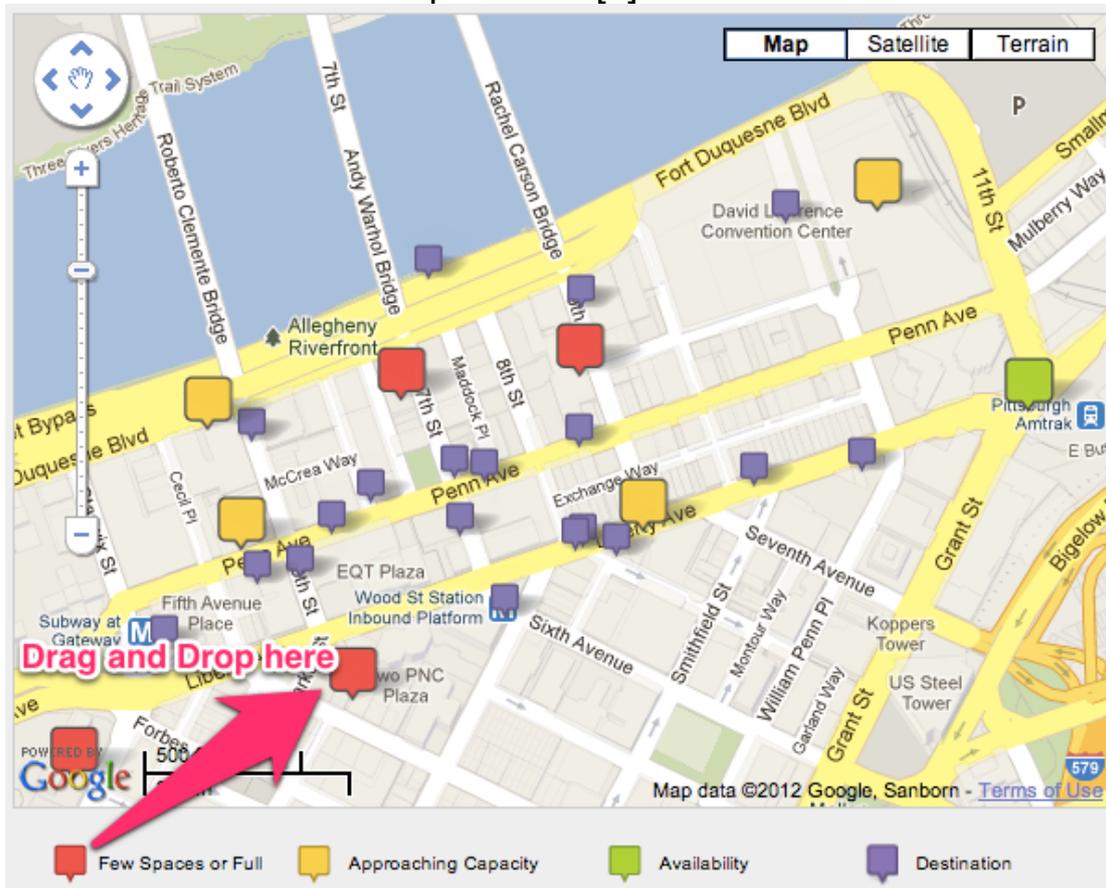
ParkDC

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Project Abstract

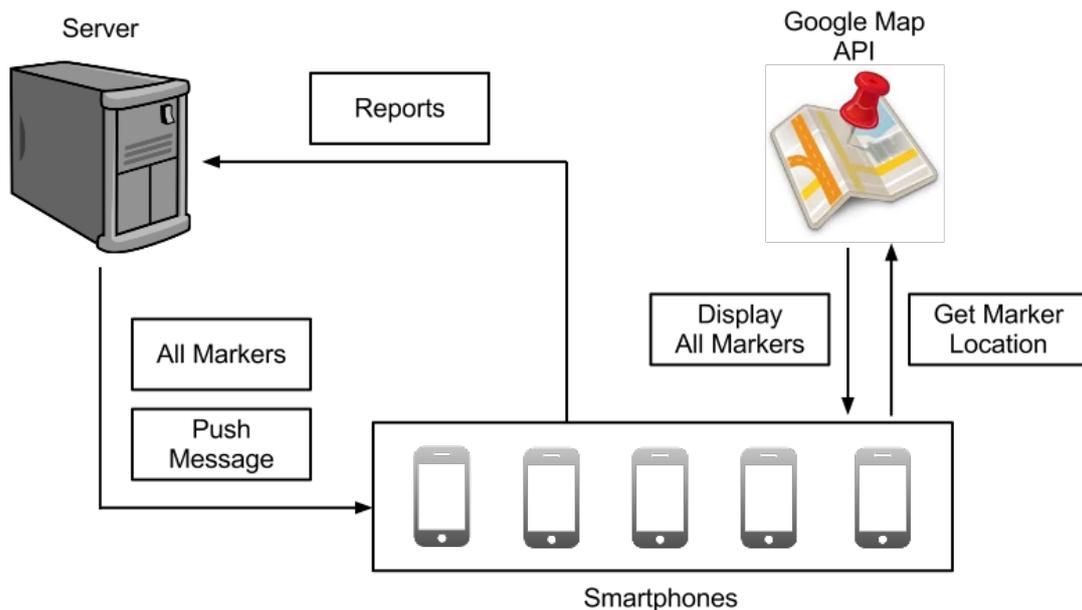
ParkDC is an application that pushes real-time street-parking information to Android Phones. Every user can report the number of parking vacancies when they see any available places to the server and the server will push this message to other users that are looking for a street parking place. When opening the app, users will see marked map like this [1]:



Then the user could simply drag one of the icons that represent the parking status on a street to the map.

Strategy

The following figure gives the architecture of the ParkDC.



Initially, the app will automatically request map information from Google Maps using its API and present the local map of the user's current location. The users could have several choices such as searching the parking information of a preferred area, reporting a street parking vacancy, etc. Also, the server will push updates, i.e. change of vacancies of the street of the selected area to the users who are looking for parking places. I plan to deploy and run this app on an Android Phone or Android Tablet.

Unknowns & Problems

- How to efficiently design the database structure for storing parking locations in a real time maner?
- How to combine the backend and frontend? Using RESTFul Http request through private API from the server?
- How to make the "drag and drop" report process more user-friendly?

Implementation Plan

Milestone

1. Design user interface in simulator;
2. Design database;
3. Implement the user report phase;
4. Implement the parking place request phase;
5. Test it on WTK simulation – add some mark information to the database and run it to see if it displays the marked map;
6. Test it on Android Phones – first, test it on the street where there is WiFi covering in DC; then refer this app to friends to help collect data and test it.

UI sketch:



Reference

[1] ParkGHP, <http://www.theatlanticcities.com/technology/2011/10/5-best-us-city-parking-apps/282/>