404 Group Not Found presents…

Milestone 1

Team Introduction:

Team Number: 104-2
  Team Name: 404 Group Not Found

The team consists of the following members:

Peng Jiang, Ryan Campbell, Jason Nguyen, Baiyu Chen, Jasper Niemeyer, and Robert Cope

Application Details

Vision Statement:

To Illuminate the current state of wireless connectivity in order to inform and optimize users' networking experience

App Name:

As of now, the project has just been finalized and a name is still in the process of being decided upon. The team will choose from its final list of names at the next meeting. The current list of potential names includes:
- WirelessSeer
- Reveal Wireless
- Wifi Thermomap
- Wifi Heatmap
- Wifiluminatti
- WifiLumerlyify
- Wifiology

App Description:

The app uses a Raspberry Pi to inspect wifi traffic in a given location and report back to users via a web interface an estimate for the number of people in that location. For example, if the device were in CSEL or in one of the libraries on campus, the user could determine whether or not that area was vacant enough to study there or if it were too crowded.

Proposed App Architecture:

The app will consist of a web front end built using HTML, CSS, and Javascript. The front end will communicate with a postgres database on the back end. This database will store data sent from the Raspberry Pi device. A code stack will need to be decided upon for the Raspberry Pi. It will likely be using either python or c++ to parse incoming wifi data and write SQL batch updates to the postges

database. An initial proposed diagram for the project architecture is included at the end of this document.

At this point the team is still researching and deciding how to host and deploy the app. Most likely, this will be Heroku, unless we discover major advantages with another free host.

Developement Plan

Version Control:

Version control will be handled with github. The repository will be created at the next meeting when we finalize the app name and plan the basic structure of the project. The team will also discuss and decide upon the rules/structure of our work flow for contributing, branching and committing changes to the repository at the next meeting.

Methodology:

The team has decided to adopt some Agile methods. A portion of the weekly meetings will be used to discuss sprint goals for the next meeting and to have a brief retrospective on the previous week's work. The team will use Trello as a Kanban board for task management.

Communication Tools:

Communication is maintained on Groupme. Trello will be used for task management.

Meeting Times:

Unless otherwise rescheduled, the team will meet weekly on Mondays from 5pm-7pm.

Initial Architecure Diagram

Server

PostgreSQL

REST API (NodeJS?)

HTTP Server (NGINX?)

Web Frontend

End U

Node

Batch Job

Cache

Collector Process

Radio