Functional requirements

Create route to valid location

Save routes

Heat maps

Current user location

Save locations

Search for locations

Report protest action or emergency

Create public event

View all locations

Request addition, removal, or modification of locations

Register as student, staff, admin or guest

Login

Manage user accounts

Add profile information

Non-Functional requirements

**Performance requirements:**

Performance:

-Offline activities should have a response time of +/- 2 seconds (instantaneous) when responding to an activity, while online activities such as calculating routes should have a response time of +/- 2-4 seconds so that the users have an uninterrupted experience.

-It should also allow the integration of a variety of services.

Reliability:

-The application should be reliable, in that it will provide the fastest route every time without fail and complete all other computations successfully.

- All activities should be completed with a 10% error allowance.

-The application should provide accurate locations in a constantly changing environment.

Security:

-Data transmission should be securely transmitted without unauthorized access, or loss of information.

**Design Constraints:**

- The system should be accessible on smart devices, such as Android and iOS devices.

- The system should not use GPS, but only the WiFi network.

- The proposed system should be able to be integrated into the Computer Science Department's Web site.

- The system should be a modular system, to reduce the dependencies in the system.

- Software Fault Tolerance: If a malfunction cannot be avoided, then the software design should be constrained so that the system can recover without causing damage to the system.

- The system should have an aesthetically pleasing and easy to use interface.

- The system must be able to run on smart devices which has limited processing power, battery life and storage space. The system must thus use resources efficiently.

- The system needs to use open source technologies.

Software System Attributes

Users should have the option to withdraw all information gathered by the system.

The system should be available online as well as offline.

The system should stay updated, to ensure reliable information. For instance the maps of campuses should be updated regularly.

The system should easily be updated, without complications.

The system should be managed efficiently, checking for problems regularly.

The system should be secure to prevent unauthorized modification or access of information.

The system should be user-friendly, the application should meet the requirements of the user by providing good access for disabled users, and resulting in a good overall user experience.