

Project Features:

- *Location Services*
 - Query the user for their approximate location in order to determine all other navigational steps.
- *External Directions*
 - Provide Directions to specific buildings.
- *Internal Directions*
 - Provide Directions to specific locations within the building.
- *Live Instructions*
 - Live instructions which enable the user to determine which way they need to go in order to reach a particular destination.
- *Arrows for Navigation*
 - These arrows will be used for providing the user with general assistance on where they are located in the building currently and the general direction they need to go in order to reach their specific location.
- *Search Bar*
 - The search bar enables one to search for a specific room number, and the app will provide them with accurate steps to get to this place.
- *Shortest Path*
 - If there are multiple paths to a specific location, then the app will automatically determine the one that is shortest.

Requirement Specification:

The app will provide specific directions for the CU Boulder student, and act as a guide when they are present in the Engineering Building. This will be done by pointing out the popular locations and landmarks in the building (including main study area, coffee shops, bathrooms, and water fountains) alongside that, if the user is looking to access a specific room in the building there will be detailed instructions on how to get there in the fastest way possible.

Location Services

Functional: The app knows where you currently are, in order to get you where you want to go.

Non-Functional: Query Location Data from native system call

External Directions

Functional: The app will provide you directions to the building in which your destination is located.

Non-Functional: Query Navigational instructions from Google Maps API using location services for the current position.

Internal Directions

Functional: The app will provide you directions to a room within the building

Non-Functional: Breadth-First-Search to find the shortest path to the destination room.
Compose written directions based on direction and weight of location nodes.

Internal Directions

Functional: The app will provide you directions to a room within the building

Non-Functional: Breadth-First-Search to find the shortest path to the destination room.

Written Instructions

Functional: The App will provide you with written directions to the destination room.

Non-Functional: Compose written directions based on direction and weight of location nodes.

Search Bar

Functional: The App will provide you with a text-based search bar to enter in a destination.

Non-Functional: The text from the search bar will be parsed and used to search through the geospatial data saved within local files.

Project Plan

See attached Kanban (Google Sheet) Board

https://docs.google.com/spreadsheets/d/1tUdnFGMW8TEkG-bP1K-htgmwgp8ZyEtEg9XV5_G_IGU/edit#gid=0

(anyone with the link has access)