Team 34 Project Charter

Lighthouse

**Team Members:**

Charlie Schmidt, Leon Yee, Caleb Chua, Sriram Kiron

**Problem Statement:**

There are many different places to park on the Purdue campus, and there are multiple types of permits you can have. Permissions for different permits change based on the day and time, and even if all of these details are figured out, parking can still be hard to find. **Lighthouse** makes this process easy, allowing the user to input what kind of permit they have, if any, and shows on a map all the closest available parking to a destination. Other factors, such as parking availability and frequency of parking tickets, can be crowdsourced from other users as well. While there are other apps that allow you to find parking, none of them are focused on or even work on a college campus, and none of them allow this crowdsourcing of information.

**Project Objectives:**

1. Allow the user to make an account, then input the parking permits they have, as well as what kind of car
2. Track all the places to park on campus, and organize them based on permit availability and different permissions at different times
3. Map each parking place on an interactive map, and allow the user to choose a destination; sort the closest places based on distance to the destination (and availability to the user)
4. Collect crowdsourced data, such as parking spot availability, parking tickets, and new parking spots
5. Add alerts for different time-sensitive things (i.e. time is running out at your parking spot, snow is coming so you should move your car, etc.)

**Stakeholders:**

Users: University students looking for a simple yet efficient method of discovering parking spaces.

Developers: Charlie Schmidt, Leon Yee, Caleb Chua, Sriram Kiron

Project Manager: Yu Shi

Project Owners: Charlie Schmidt, Leon Yee, Caleb Chua, Sriram Kiron

**Deliverables:**

* Mobile app built with React centered around map API that shows parking
* JavaScript and Firebase backend that services user requests and stores all required parking data
* Manually collect data and information about Purdue parking locations and details
* Extend parking data to other universities using automatically collected information from online resources
* Feature to scan user’s schedule and devise places and times for parking
* Parking options on Purdue map, where to go depending on what parking permit you have and what time you are parking, maybe random parking lots that are usually empty (Chauncey), maybe places to illegally park short-term :) (Charlie)
  + Difference between spothero is that spothero doesn’t work in college campuses, and this would be catered towards college campuses
  + Some sort of app
    - flutter, swift, react native
    - map api, filters, sorting
    - we (us) need to map the parking places, figure out permits, street parking places
  + Potential features:
    - Accounts
    - crowdsourcing data - heat map of parking spots?
    - Schedule inputting to figure out parking times
    - maps api to get directions (could just redirect to maps)
    - timer for timed parking
    - weather forecast for snow?

Deliverables

1 Problem Statement (1.0 point)

(a) Clear and well-defined problem statement.

(b) How will your project be different from existing or similar services?

(c) Be as detailed as you can in 2-4 sentences.

2 Project Objectives (1.5 points)

(a) List clear and well-defined project objectives (high-level statements that clearly specify what your project is trying to achieve.)

(b) DO NOT LIST YOUR USER STORIES HERE!

(c) Be as detailed as you can.

3 Stakeholders (0.5 points)

(a) Clearly state all relevant stakeholders.

4 Deliverables (1.5 points)

(a) List and describe well-defined project deliverables in details (major outputs or services that will be delivered by the end of the project.)

(b) Specify any platform(s) and/or framework(s) which you plan to use.

5 Overall Organization (0.5 points)

(a) Styling, clarity, right information in the right section, etc.

(b) Please make sure to include team number and the names of all your team members.