Cyclone Parking Android Application Proposal

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1. Project Overview

In now days, car has been consider as the primary transportation for most of the people in Iowa. However, as the number of vehicles increases significant over the past few years, people have had a hard time to provide the information regarding to the parking. For example, in most of the public parking lots, the drivers have to be physically on site in order to know whether this parking lot has available spot or not. This inconvenience has caused tremendous complains among the Iowa State University students because there are only two parking lots that are open for students, and during normal school time, especially around the beginning of the class, the Armory and Gerin parking lots are full of cars that cruising around the parking lot trying to find a spot. Because of the desperate drivers wait outside the parking lots, it brings traffic issues as well.

This issue has bothered the ISU students for quite some time and it still has not been handled properly. Due to the lack of space and founding, the school might not be able to address this issue by construct more public parking for student, therefore a phone application may be the best solution. The estimated time for this parking application is around 2 months and expect to have 4 people working on this app. So the budget is around 65.000$. The development will start immediate when it gets approves and expect to finish with in the two months.

2. Project Description

In order to address the issue in the previous section, our project eases the hassle of finding parking spots. Our app will allow users to find and pay for parking spots. When a user finds a parking meter spot, he/she will enter into the app where they parked and will also pay through the app.
Once a user creates an account using either a net-id or an alternative method, their information will be stored in a database along with their preferred payment method. When searching for a spot a user will see parking spots on an interactive map that pulls information from a database, seeing what spots are currently occupied, and which are free. When a user pays to occupy a spot, that new information is sent to the database, and the map will be updated for other users to see. If a user parks in a spot without paying, other users can report that this a spot occupied without authorization, alerting the parking division so they can quickly give a ticket or tow the vehicle.

3. Approach/Solution

The team will be divided into two groups: one group works on the front end, and the other group works the backend.

Language/Platform/libraries: Android, Springboot,

Complexity:
- Mobile Android App
- HTTP Request (Android Volley)
- Three types of users: General Public, ISU Parking Division, Students/Faculty
- Use Google Maps api
- Pages: Login, Dashboard, Search for Spots, Pay for Spot.
- Database of users, and parking spots
- Display the parking lot using clickable grid view
- Realtime

- GUI
- Server needs to access database values
- App needs to handle hundreds of users

4. Deliverables

The total duration is estimated to be 2 months. All development should be finished during the first and half month and the remaining half month will be mostly used for testing. We expect to start working on this app at the middle of June and customers should get the product by the middle of august

5. TimeLine

We plan to use the 8 weeks like the following:

Week 1: Preparation for the project, establish the server, Database, implement the Google Map Api

Week 2: Implement the User Login, User account and Main UI

Week 3: Parse parking information from our server and display on the app

Week 4: Implement the grid view for parking lot

Week 5: implement the take spot, leave spot and payment

Week 6: Implement the report, file tickets and display them in user account

Week 7: Finalizing everything and testing

Week 8: Testing and do the documents such as the app api.

6. Cost

This project requires 4 programmers so the budget is at 65.000 $ plus 2000 $ per year for paying the server and Google Map Api.

7. Intellectual Property Specify

The Intellectual property belongs to the team that works on this application