Project Proposal

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CSCI 380 W01 - Introduction to Software Engineering

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Table of Contents

Proposal Project

Project #4 : Parking Registration

Abstract

Our system is a mobile application targeted for the Android operating system. The application aims to solve the problem of finding an available and reliant parking space. This will save the users valuable time and offer an efficient and effective user interface to reserve, extend, or cancel their reservation as needed. General and authenticated users can view parking areas and reserve a parking spot for a specific amount time. Authenticated users gain the benefit of canceling, extending, and viewing their current reservation through our mobile application. Upon reservation, users are able to cancel their reservation up until an hour earlier of their booked time. Users can initiate a transactional payment online to reserve their parking location. After the transactional payment is verified, users will get a notification about their reservation information which includes a unique parking number all sent via email. There are several existing solutions within this application domain such as Spot Hero, Icon Parking Systems, Park Whiz, and Parking Panda. Our solution uniquely diverges from the existing competition as we will offer the ability to simultaneously reserve multiple parking spots within the same location.

Tools & Technologies

- Languages
    - Java SE 8
    - Javascript ECMAScript 6
        - Node.js [Enables Javascript On Back End] [8.10.0]
        - React-Native [Front End UI Development] [0.5.4]

- Tools
    - Android Studio [3.0.1]
        - Integrated Development Environment
    - Atom [1.24.1]
        - Lightweight Text Editor
    - Google Firebase [Back End]
        - User Registration & User Authentication
        - Firebase Realtime Database [NoSQL]
    - Git & Github [Concurrent Developer Tracking]

Existing Systems

- Spot Hero - https://spothero.com/
- Icon Parking Systems - https://iconparkingsystems.com/
- Park Whiz - https://www.parkwhiz.com/
- Parking Panda - https://www.parkingpanda.com/

Target Users

Our target audience are users who are above the legal driving age and in possession of a device that is capable of downloading and executing our application. Specifically, our target audience are users aged between 18 and 40 who commute frequently in high traffic and commercial areas such as large cities or famous destinations, and have access to a smartphone running the Android operating system.

Here is a study conducted by the NYC Department of City Planning that validates the need for our application.
https://www1.nyc.gov/assets/planning/download/pdf/plans/manhattan-core-public-parking/mncore_study.pdf

A few of our application use cases are as follows …

- Reserved Parking Spaces For Company Employees
- Parking Garages
- Hotel Parking
- Valet Parking
- Airport Long-Term Parking

Timeline

Total Time: March 5th 2018 - May 7th 2018

March 12th - Deadline: Project Planning

March 19th - Deadline: User Login & User Registration

March 26th - Deadline: Database

April 2nd - Deadline: Payment, Email And Notification Systems

April 9th - Deadline: User Interface

April 16th - Finish Core Application, Ready For Testing & Bug Removal

April 23rd - Overall Testing Complete

April 30th - Demonstration Of Project

Team Members & Skillset

TEAM LEADER : Rajendra Bhagroo

- Rajendra Bhagroo - FullStack Development Experience
- Christopher Guevarra - Java
- Chengjun Dong - HTML Web designing with Javascript
- Myeongkeun Kim - Java