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On-Cloud Parking Management System

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1. INTRODUCTION

1.1 Overview

On-Cloud Parking Management System: An application designed for people to easily find parking spaces in daily life. This application aims to help people save time and find parking spaces faster. This document contains detailed information about the project's requirements and the SRS document explains how users interact with the application.

1.2 Scope

Most of the people who own a car find it difficult to find parking spaces in crowded places, so sometimes they have to park their cars in remote parking spaces and walk. This causes them to waste too much time. There are not enough apps that fix this problem. This application has been made necessary to remove from these troubles.

On-Cloud Parking Management System project is designed to solve the parking problem that people experience in their daily lives both practically and quickly. This application allows people to interact with a new mobile technology. This interaction puts the closest and best car parks at your disposal. It also offers you many other services as well as parking. This project is easier access, cost efficient etc. It creates opportunities.

After you subscribe to the application, you have your own profile. In addition, the application has a home page. From this home page you can see the most popular parking lots near you. If you wish, you can see the car parks in the district you want from the search section. You can then access the detailed information of the car park you have chosen (Address, Location, Phone etc.) Can make reservations for parking lots. If you want, you can pay in the parking lot or by mobile payment method.

1.3 References

<https://www.parkjet.co/>
https://tutorial.djangogirls.org/en/django_admin/
<https://tutorial.djangogirls.org/en/django/>
<https://developer.mozilla.org/en-US/docs/Learn/Server-side/Django/Introduction>

2. OVERALL DESCRIPTION

2.1 Product Perspective

Parking Management System on Cloud is designed to provide easy, time-saving and reliable vehicle parking for daily parking problems. The project is divided into two parts: park information section and park reservation section. The parking information section shows you the five most popular car parks closest to you and gives you detailed information about the parking lots in your area or area you are looking for. These will be location, address, phone, price, vehicle capacity, rating, reviews and extra services. The second part is the parking lot reservation section, in this section you can reserve the car park you have selected and choose the payment method yourself. Payment methods are divided into two. By mobile payment and hand payment

2.2 Development Methodology

We planned to use Python Django Framework, an easy software development methodology, to develop the project. Django Framework, PC, Windows, Mac, Linux etc. It works on any platform. It provides a layer between our developer and the database called ORM (object-relational mapper) that makes it possible to move or migrate our applications to other large databases with a few rows. Django can be installed and used easily. Django is a framework that is at a very good level in terms of security. It has an expandable management panel. When Django is installed, an admin panel of its own comes up. At first, we can develop this panel, which is very useful in basic operations, according to our wishes and desires. It provides detailed error reports. It is easier to solve the problem easily among the errors given in detail. From this point of view, the detail in the error report is more than the PHP language.

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2.3 User Characteristic

2.3.1 Participants

2.3.1.1 The user must be over the age of 18 to make a reservation.

2.3.1.2 The user must have a driving license to be able to make a reservation after exceeding the age limit.

2.3.1.3 The user must have internet banking to be able to make mobile payments.

2.3.2 Admin

2.3.2.1 Only parking lot attendants can login as an admin.

3. REQUIREMENTS SPECIFICATION

3.1 External Interface Requirements

3.1.1 User Interfaces

The user interface will be worked on Android.

3.1.2 Hardware Interfaces

For the application, a smart mobile phone and the mobile phone must contain an android operating system.

3.1.3 Software Interfaces

It does not require extra software.

3.1.4 Communications Interfaces

No need for an interface for extra communication.

3.2 Functional Requirements

3.2.1 Enter Page Management Use Case

- Sign Up
- Exit

Diagram :

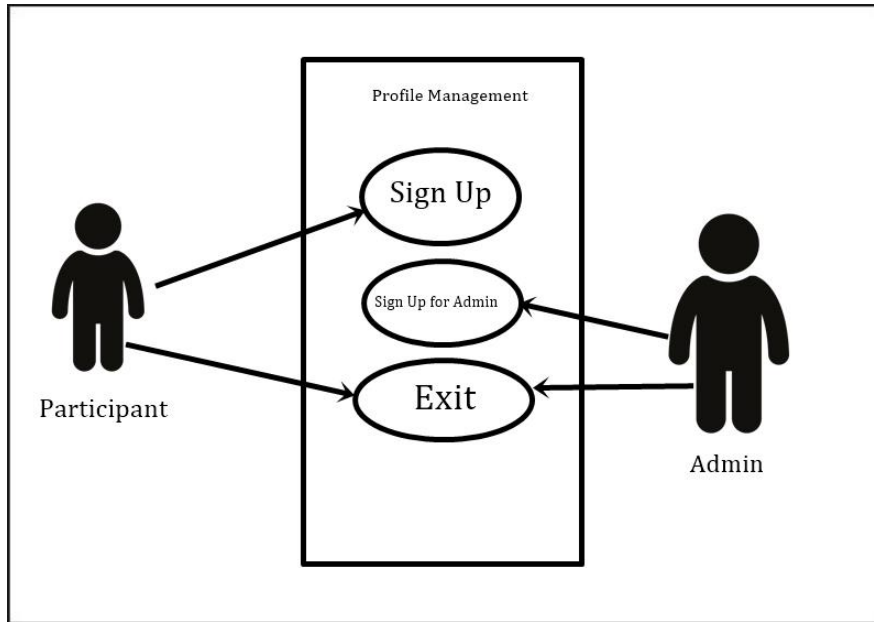


Figure 1 Profile Management Brief

Description :

In the Profile Management diagram (Figure 1), necessary information is given to enter the participant's and admin's system. The participant and manager can use the following common function: Exit. Apart from these, the participant can also use the Sign Up function and the Administrator can use the Login functions as Administrator.

First Step Step Description :

1. The participant will start after logging into the system.
2. The administrator must log in to the system using a password.
3. Administrator and Participant can leave the system.

- Search
- Profile
- Past
- Campaign
- Favorite
- Evaluation
- Settings
- Exit

Diagram :

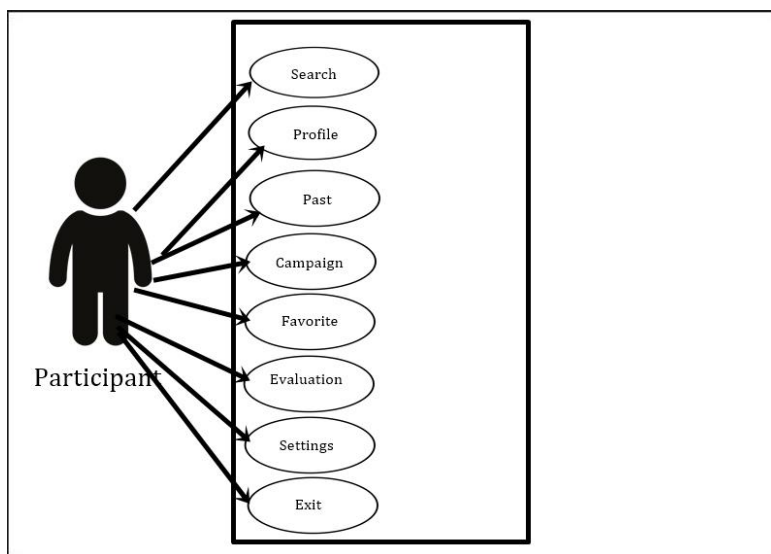


Figure 2 Home Page Management Brief

Description :

Figure 2 main page usage diagram. As shown in this diagram, the user can enter the search section and search for whatever they want there. If the user selects the profile section, they will access their own information. The past section will reach the list of the car parks the user has visited before. The campaign part will be special opportunities for the user. Favorite part, on the other hand, can access the list of parking lots that the user uses, likes and wants to go again. The user can choose and edit this list. Evaluation section is the section where the user gives one to five stars and comments on the parking lots where they have gone before. Settings section is the section where the user can access their own application settings. Exit part is designed for those who want to log out of their account.

First Step Step Description :

1. If the user selects the search section, they can search for the desired address or select one of the available districts.
2. If the user selects the profile section, they can access their information in the application.
3. If the user chooses the past section, he / she will get the list of the car parks they have visited before.
4. If the user chooses the campaign section, he / she will get special discounts or opportunities.
5. If the user selects the favorite section, they can access your list of car parks that they often use, like and want to go back to.
6. If the user selects the evaluation section, they can give a rating between one and five to the car parks they have visited previously and write comments if they wish.
7. If the user selects the settings section, his / her own application can access the setting section. If he wants, he can make changes in these settings.
8. If the user selects the exit section, they can log out from their own account.

3.2.3 Settings Menu Management Use Case

- User Settings
- Registered Vehicle Information
- Password
- Delete Account

Diagram :

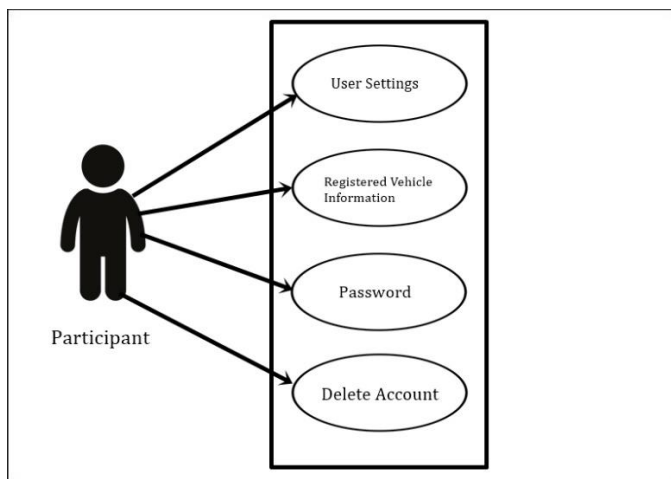


Figure 3 Settings Menu Management Brief

Description :

Figure 3 shows participant option menu use case diagram. The user can change her/his personal information in the User settings section. You can enter or correct the information of the vehicle or vehicles from the Registered vehicle information section. The user can change her/his password in the Password section. In the Delete Account section, the user can delete their account permanently or temporarily.

First Step Step Description :

1. The user can access their personal settings from the user settings section and make changes if they wish.
2. The user can add their vehicle or vehicles from the registered vehicle information section and then change them if they wish.
3. The user can change her/his password from the password section.
4. The user can delete her/his account temporarily or permanently from the delete account section.

3.3 Performance Requirement

Since the application is still in the design phase, no detailed information is provided, but the user must have a smart android phone that can connect to the internet as a first step.

3.4 Software System Attributes

3.4.1 Portability

- On-Cloud Parking Management System is designed for android phones using Django.

3.4.2 Performance

- The user should not make a reservation without entering vehicle information.
- The user must enter the card information when making mobile payments.
- To become a member, the detailed contract must be read and approved.

3.4.3 Usability

- After the user makes a reservation, a warning notification is sent at certain time intervals, if she/he still does not go, it will be temporarily then blocked.

3.4.4 Adaptability

- There is no need for adaptability as no data is received and recorded since the run time.

3.4.5 Scalability

- There is no need for Scalability as no data is received and recorded since the run time.

3.5 Safety Requirement

There is no need to take any extra security measures for the application.

4. REFERENCES

<https://www.parkjet.co/>

https://tutorial.djangogirls.org/en/django_admin/

<https://tutorial.djangogirls.org/en/django/>

<https://developer.mozilla.org/en-US/docs/Learn/Server-side/Django/Introduction>