

# RASS Parking project Documentation

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## 1 Introduction

This project is aiming to create an automated parking system. The goal is to help parking lot businesses automate their parking reservation process. The website can allocate users and guests parking spots in a parking lot with multiple empty spots.

## 2 Installation and Configuration

This is the alpha version of the RASS Parking project.

Project link: [RASS Parking](#)

Installing Instructions:

```
pip install -r requirements.txt
python3 main.py
```

This project is designed as a web application in order to make integration easy for all operating systems.

This project can be run using browsers such as chrome, firefox, and safari. It can be used on any operating system where these browsers are available (macOS, Windows, iOS, android). The main page leads to user/manager login and reservations.

The website is developed using HTML, CSS, and Javascript. It runs using flask and SQLite is used for the database.

## 3 User types

There are 2 main roles in this project. A person can be a user or a manager.

### 3.1 User account

A user is defined as a person with a car who is about to enter the parking lot.

**Sign Up:** The user can sign up using the "Sign Up" tab. They have to enter a user name, password, their information consisting of full name, phone number, driver's licence number, date of birth, car model, car color, license plate number, credit card number, credit card expiration date, and credit card CVV number.

**Sign In:** A user can use the "Sign In" option to access his/her account using the previously selected username and password. An account can be edited and deleted at any time by the user if he or she is logged in.

**Reservation:** A user can use the reservation feature to select a time and date interval and parking spot for his or her parking reservation. The system will then assign them the parking spot based on its availability, the car size and the selected time. Consequently, after the user confirms his or her reservation, the saved credit card is charged, and the selected parking spot is reserved for that account for the duration included in the reservation time.

### 3.2 Manager

**Sign In:** Managers are created by the web admin. They use the username and password assigned to them by the web admin to sign in.

**Editing the price:** The manager can select a time interval and change parking prices for that time (either discount it or raise it).

## 4 How to use

A user starts with creating an account by selecting the relevant tab from the website's home page and entering the required information the information consists of their own information (name, license number, etc.), their car's information (model, color, license plate number, etc.), their preferred reservation date and time interval, and their credit card information. Consequently, in order to make a reservation in the parking, the user will select a parking spot. If that spot is available for their selected time interval, the site will charge their card and reserve the spot.

A manager can log in and manipulate the price of parking spots. This can be done as discounting some spots in less busy hours of the day or raising the price when the parking is near-full.

## 5 Additional Notes

A manager account can be added only by the web admin.

A new user account can be created to test the user account features.

A new guest account (no sign up needed) can be created for testing the guest account features.

A new manager account can be created by using the web admin account to test the features.

Some new functionalities such as notifications when the reservation time is about to end and extending the stay will be added in the future.

The web app is currently under development and new features are being added.