

## Author

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I'm currently pursuing a Dual degree: B.Sc. in Data science and applications from IIT Madras and B.Tech in Cse from REC. I'm very much passionate about solving real time problem using Data science tools and techniques.

## Description

The Vehicle parking App-V1 is a Flask based web application for managing 4-wheeler parking .It supports admins to create parking lots and spots and users to book,view and manage their parking reservations.All data is stored in SQLite database.

## Technologies used

Python

Flask

Html

Css

Jinja2

Chartjs

SQLite

## DB Schema Design

Tables

1.Users:

- A. Id
- B. Email
- C. Password
- D. Name

2.ReserveParkSpot:

- A. Id
- B. User\_id
- C. Lot\_id
- D. Spot\_id
- E. Vehicle\_number
- F. Start\_time
- G. End\_time
- H. Action

3.Lots1:

- A. Id
- B. Prime\_location
- C. Price
- D. Status
- E. Address
- F. Pin\_code
- G. Max\_slots

- H. Name
- 4,Dels:
- A. Id
- B. Spotid

## Architecture

The project is built using Flask , with controllers structured using Blueprints for routing. Templates contains all Jinja2 Html files and the static folder includes Css,Chart.js.Models.py defines the database schema using SQLAlchemy and app.py handles app initialization and route registrations.

## Features

- User registration and login with role based access(admin/user)
- Profile update and logout options
- Parking slot allocation and status tracking
- Vehicle entry and exit time recordings
- Search and filter options for parked vehicles and user history
- Separate dashboards for admin and users with respective features and data
- Admin dashboard with charts and summary
- Admin dashboard includes pie and bar charts for slot usage and entry patterns
- Real-time Tracking of parking slot status either occupied or un occupied with auto-assignment on vehicle entry
- Booked slots are red in color for easy identification ,while available slots are green colored which improves clarity
- Users can view their recent parking activity ,including vehilcle details,slots and timings
- Users can search for available slots and book them directly from their dashboard

## Video

[https://drive.google.com/file/d/1AF4btuIu1U2u8yLUCQpWiGu0\\_CjIAT\\_5/view?usp=sharing](https://drive.google.com/file/d/1AF4btuIu1U2u8yLUCQpWiGu0_CjIAT_5/view?usp=sharing)