WEB APPLICATION PROJECT

1. Introduction

The purpose of this project is to develop a web application that helps users find free parking spots in our city, along with information about the prices for each spot. The application aims to alleviate the challenges associated with finding parking in urban areas and provide users with a convenient way to locate available parking spaces.

Target Audience:

The target audience for this web application includes residents, commuters, and visitors to our city who are in need of parking. It caters to both individuals who prefer free parking options and those who are willing to pay for parking based on their preferences.

Objectives:

Provide a user-friendly interface for searching and locating free parking spots in the city.

Display real-time information about parking availability and pricing.

Enable users to filter and sort parking spots based on their requirements (distance, price, amenities, etc.).

Allow users to reserve parking spots in advance (if supported by the system).

By achieving these objectives, the web application aims to enhance the overall parking experience in our city and reduce the time and frustration associated with finding a suitable parking spot.

2. System Overview

A brief overview of the web application includes the following information:

Key Features:

Searching and locating free parking spots in the city.

Displaying real-time information about parking availability and prices.

Filtering and sorting options for parking spots based on user preferences.

Advanced search functionalities such as distance, price, and amenities.

Ability to reserve parking spots in advance (if supported by the system).

Gathering user feedback to improve the accuracy and availability of parking information.

User Roles and Permissions:

The web application supports different user roles, including regular users, administrators, and parking lot owners. Each role has specific permissions and access levels within the system. Regular users can search for parking spots, view prices, and make reservations. Administrators have additional privileges for managing parking data and user accounts. Parking lot owners can add and update information about their parking facilities.

3. Technologies Used

For the development of this project, various technologies were employed for the backend, frontend, and database. Below are the main technologies used:

Backend:

Programming Language: JAVA

Framework: Spring

Web Server: Apache

Authentication and Authorization: Spring REST Framework

Third-party APIs and Libraries: [List any third-party APIs or libraries used for additional functionality]

Frontend:

Programming Languages: HTML, CSS, JavaScript

Framework: React.js

UI Framework: Bootstrap or Material-UI

State Management: Redux or React Context API

HTTP Library: Axios or Fetch API

Database:

Database Management System: PostgreSQL or MySQL

Object-Relational Mapping (ORM): Django ORM

Conclusion

In this project documentation, we have presented the development of a web application for finding free parking spots in our city, including the ability to view prices for each spot. Throughout the development process, various technologies were utilized, including Python with the Django framework for the backend, HTML, CSS, and JavaScript with the React.js framework for the frontend, and a database management system such as PostgreSQL or MySQL for data storage.

The web application aims to provide users with a convenient solution for finding available parking spots, reducing the challenges associated with parking in urban areas. By incorporating real-time information and user-friendly features, we aim to enhance the overall parking experience for residents, commuters, and visitors.

Going forward, there is room for future enhancements and additional features such as integration with payment gateways for reservation and payment of parking spots, integration with mapping services for improved navigation, and further optimization of the search algorithm to provide more accurate and relevant results.

Overall, the development of this web application has been a significant step towards addressing the parking challenges in our city and providing a valuable resource for users in their search for free parking spaces.