Mobile Based Parking Portal Application

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ABSTRACT

The MOBILE BASED PARKING PORTAL APPLICATION, which can be utilized in large businesses and retail centers where parking is offered in the floors, is the greatest solution for today's parking issues. The major goal of this project is to make efficient use of the scarce parking space and to inform vehicles of the precise position of the parking space. In multi-story parking lots where human surveillance is challenging, this workable concept can be employed efficiently. The owners of the automobiles can save time by using this model in such locations. Utilizing real-time data from sensors installed in the parking area, the Smart Parking mobile app aids in locating a spot to park the vehicle. The ideal remedy for the allocation of parking spaces based on tickets is suggested here in order to prevent random people from using spaces that have already been reserved. A communicative method is used to identify open parking spots by taking into account the overall number of parking spaces, the number of cars that are already parked, the number of cars waiting to park, and the number of cars that are about to leave. The mobile app, which is installed in each parking row, gathers all the necessary data and texts it to customers' phones, including spot allocation, slot direction, and billing. MOBILE B is the cause of today's parking issues.

INTRODUCTION

The mobile-based parking portal application simplifies car parking assignments, money collections, expenses, and space discovery. It requires user authorization, allowing users to view the entire parking area, available spaces, and their details. This tool is highly beneficial for managing parking spaces. The application provides detailed rates for parking spaces, requiring input of car numbers, contact names, and phone numbers to reserve separate spaces for each vehicle. The administration collects rental information for each car and costs for parking and maintenance. Finding free parking spaces has become challenging due to lack of availability data. Wireless network technology can help automate remote parking, saving time and reducing supervision in existing parking systems. This solution alleviates driver stress and ensures convenience for commuters.

Methodology

User Register

This module is intended for new software users, and access to features requires registration and authentication. Once a user registers, the system grants them access rights to utilize the system.

User Login

The login module, accessible only to authorized users with the created password, serves as the project's entry point and aids in data entry.

View Over All Parking Status

The system monitors parking lots, calculates empty spaces, resolves conflicts, and allows users to select suitable spaces. It supports hourly fees and updates the system's state with new vehicles, ensuring a seamless and effective system.

Book for Parking

The user can reserve a parking spot at a low cost, with the booking status pending until the admin accepts the request. The reservation system allows users to view available spaces and check parking hours.

View Booked Status

The parking system provides real-time data, plots parking times for each spot, and supports businesses by charging hourly fees. Bookings are considered pending until the admin approves them, at which point they change to Booked.

View Parked details list

The user can easily locate their cars in the detailed cars report by viewing all parking spaces' details.

View and process booked details

The parking status will stay pending until the admin accepts it, who is responsible for accepting the request. The admin can access the user's booking information.

Detailed Reports

The administrator will provide a comprehensive report detailing the current status of parked cars in the lot, which will serve as a reference for future reference.

System Architecture:
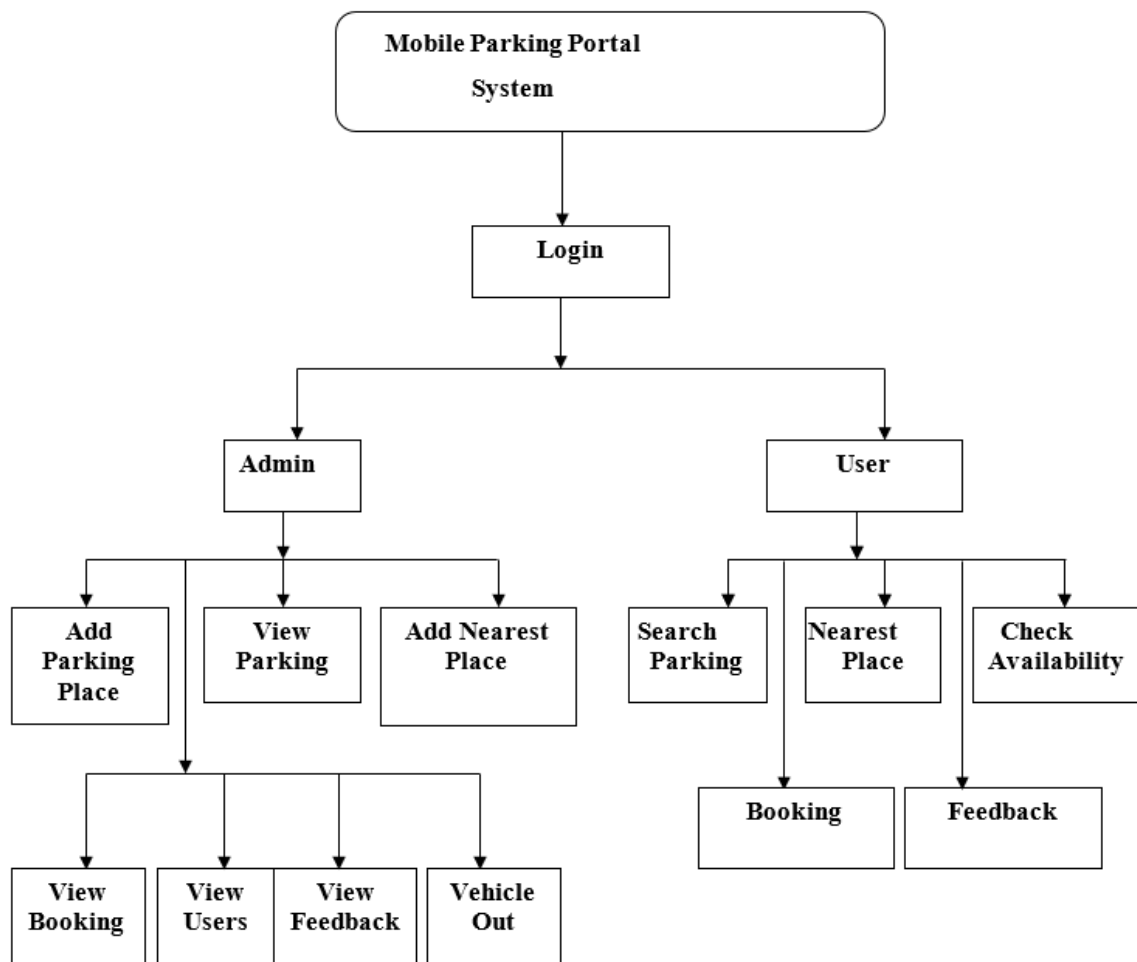
ER Diagrams

A structured method for visualizing corporate data, an entity-relationship model represents its constituent parts as interconnected entities with connections and requirements. Three tiers of ER models are used for development in the three-schema method of software engineering.

Data Flow

A two-dimensional diagram that depicts how data is processed and transmitted in a system. The graphical depiction identifies each data source and shows how it interacts with other data sources to achieve a common outcome. To develop a data flow diagram, a person must

1. Identify external inputs and outputs,

2. Determine how the inputs and outputs relate to each other, and

3. Explain with graphics how these connections relate and what they result.

This type of diagram helps business development and design teams visualize how data is processed and identify or improve certain aspects.

Data Flow Diagram
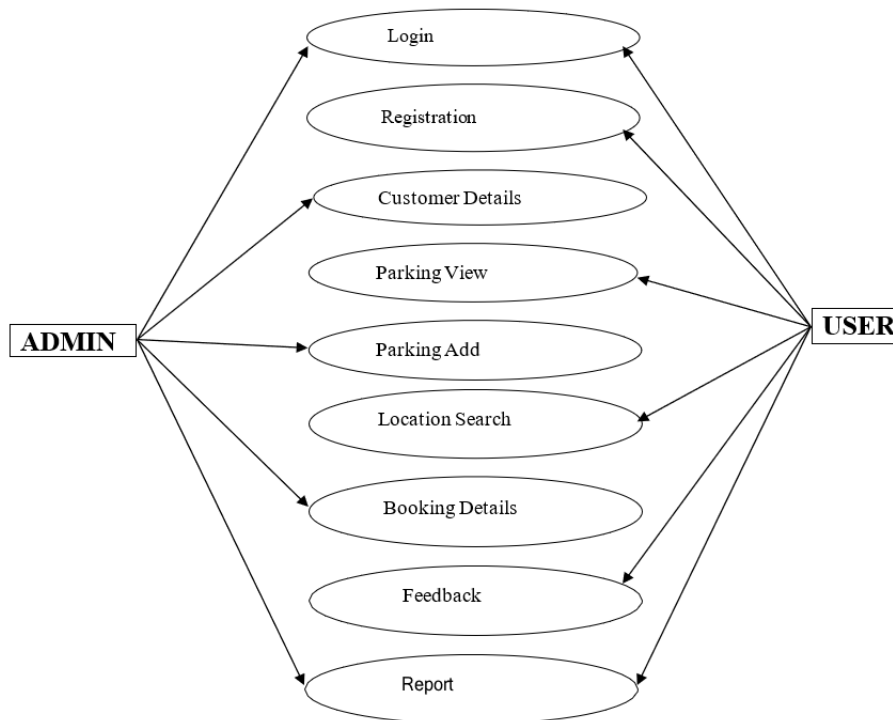
SYSTEM TESTING AND IMPLEMENTATION

System testing involves user training, comprehensive data testing, and successful system usage. Users test the system, making necessary changes. Errors are fixed and documented for future use. Users must undergo training to effectively use the system.

UNIT TESTING:

Unit testing, also referred to as module testing, is a technique used to confirm that each module is operating correctly and producing the desired results throughout the programming phase**.**

INTEGRATION TESTING

Integration testing is a methodical process to verify a program's architecture and identify interface-related issues. It's challenging to isolate the cause due to the cost of the entire program**.**

VALIDATION TESTING

The software is developed after integration testing, interface issues are resolved, and validation tests begin. Acceptance of function features or deviations may result in a deficiency list.

OUTPUT TESTING

The proposed system undergoes output testing and performance validation to ensure accurate output formats, meeting user needs for hard copies and electronic versions.

CONCLUSION

The suggested parking method enhances performance by lowering expenses and eliminating user errors. Waiting times have been decreased, according to simulations and actual implementations. The best outcome happens when the majority of cars can park without paying for a place. Future research will concentrate on security and widespread application.

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