# Parking Navigator (Desktop Application)

**Project Overview:**

The Parking Navigator admin portal provides comprehensive management capabilities for parking facilities. Admins can efficiently manage users, reservations, and memberships, while also analyzing data through intuitive analytics tools. Pricing and revenue management functionalities enable precise control over pricing structures and revenue tracking. The portal offers employee management features and incorporates user feedback mechanisms to continually improve service quality. With seamless integration of parking slot management and history tracking, administrators can ensure optimal utilization of parking resources while delivering an exceptional parking experience for users.

**Problem Statement:**

The increasing number of vehicles on the roads has led to a significant challenge in managing car parking spaces efficiently. Current parking systems often suffer from issues such as lack of available spaces, inefficient allocation of resources, and inconvenience for users. Additionally, traditional methods of payment and access control can be cumbersome and time-consuming. This results in frustration for both drivers and parking lot operators, leading to decreased satisfaction and potential revenue loss.

Furthermore, with the growing emphasis on sustainability and reducing carbon emissions, there is a need for parking solutions that encourage the use of alternative transportation methods and optimize parking space utilization. Existing parking management systems often lack the integration of such features, hindering efforts to promote eco-friendly practices.

**Problem Solution:**

The Parking Navigator project's solution focuses on developing a desktop application tailored for parking facility administrators, facilitating efficient management of reservations and memberships. This solution emphasizes real-time management capabilities, dynamic pricing strategies, and a feedback system to enhance operational efficiency and user satisfaction. By leveraging technology to optimize parking resource allocation, the project aims to mitigate the issues of parking space scarcity and improve the overall parking experience.

**Scope:**

The development of this app will assist the admins to manage all their parking problems in the future. They will have a centralized platform to ensure and monitor the parking space is optimized. They can also tackle the matters related to memberships and accommodations.

**Basic Features:**

1. Users Management: Admins can view real-time information about Users, check the users with bookings, check regular customers and delete data of the customers.
2. Reservation Management: Allows users to reserve parking spots in advance, ensuring convenience and peace of mind, especially during peak hours or events.
3. Analytics and Reporting: Allows admins to check the analytics in the form of tables and graphs, track different features such as user databases, different vehicles data and revenue details etc.
4. Pricing Management: It allows admins to set price structure, maintain them, and update the criteria and prices respectively according to hours and vehicle type.
5. Membership: It allows admins ko keep track of the memberships by their categories, view their details, manage, and delete the subscriptions.
6. History Management: Maintains a record of past parking, check average park time, total cars entered to date, and the list of car models entered so far.
7. Parking Slot Management: It allows to monitor all the available slots by their categories, reserve and end the booking of the slot.
8. Revenue Management: It help maintaining and checking the revenue records such as profits, profits by vehicle types, and profits attained by the memberships.
9. Employee Management: It allows the individual employees to view their status and account, change password, add, or remove other employees.
10. Feedback and Rating System: Allows users to provide feedback on their parking experience and rate the facilities, helping operators identify areas for improvement and enhance overall customer satisfaction.

**Project Plan:**

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| --- | --- | --- | --- |
| Iteration | Module Name | Deliverable | Features Implemented |
| 1 | Basic Functionality | Minimum Viable Product (MVP) | Users Management |
|  |  |  | Reservation Management |
|  |  |  | Parking Slot Management |
|  |  |  | Pricing Management |
| 2 | Enhanced Features | Improved Functionality | Membership |
|  |  |  | History Management |
|  |  |  | Employee Management |
|  |  |  | Revenue Management |
| 3 | Final Polishing | Final Product with Additional Enhancements | Analytics and Reporting |
|  |  |  | Feedback and Rating System |

**Group Members:**

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