

PASSPARK.COM
ONLINE PARKING RESERVATION SYSTEM
A PROJECT REPORT SUBMITTED IN PARTIAL
FULFILMENT OF REQUIREMENT
FOR THE AWARD OF THE DEGREE
MASTER OF COMPUTER APPLICATION (MCA)
OF
MAHATMA GANDHI UNIVERSITY, KOTTAYAM
BY
Alfin varghese
Reg No : 22PMC108



**MARIAN COLLEGE
KUTTIKKANAM**

(AUTONOMOUS)

MAKING COMPLETE

Marian College Kuttikkanam Autonomous

Peermade, Kerala – 685 531

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Under the guidance of

Mr. Satheesh Kumar S

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PG Department of Computer Applications

Marian College Kuttikkanam Autonomous



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PG DEPARTMENT OF COMPUTER APPLICATIONS

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MAHATMA GANDHI UNIVERSITY, KOTTAYAM

KUTTIKKANAM – 685 531, KERALA.

CERTIFICATE

This is to certify that the project work entitled

PASSPARK .COM

is a bonafide record of work done by

Alfin varghese

Reg No : 22PMC108

In partial fulfillment of the requirements for the award of Degree of

MASTER OF COMPUTER APPLICATIONS [MCA]

During the academic year 2022-2023

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Finally, I express my deep appreciation to all my friends and family members for the moral support and encouragement they have given to complete this project work successfully.

ALFIN VARGHESE

ABSTRACT

The Parking Reservation System is a parking guidance and reservation system in towns. The project contains the admin sides and the user side. The admin can view and manage the users, and manage the parking area. The users are the clients who want to park their vehicles in the parking area. A user has to login first to make the parking pass. If he/she has not registered, they can register first and then login. Then users can book parking slots. Looking for spaces to park can be really hectic in a busy town in regard to walking distance to your destination from your vehicle, safety of the vehicle...etc. If one happens to be a stranger in town it gets more difficult to operate around the town. This project is a very simple project that solves all these parking cycle issues.

OBJECTIVE AND SCOPE

- The objective of a parking reservation system is to provide a convenient and efficient way for individuals or organizations to reserve parking spaces in advance
- Reservation Management: The system allows users to search for available parking spaces, view their details (such as location, availability, and pricing), and make reservations based on their preferences.
- User Registration and Authentication: Users need to create accounts and authenticate themselves to access the reservation system. This enables personalized experiences, such as storing payment information, maintaining reservation history, and receiving notifications.
- Availability Management: The system must keep track of parking space availability in real-time, updating the status as spaces are reserved or become vacant. This information should be reflected accurately to users during their search and reservation process.

PROBLEM STATEMENT

The current parking system faces several challenges, including inefficiencies, lack of convenience, and difficulty in finding available parking spaces. These problems lead to frustrated users, wasted time, and suboptimal utilization of parking resources. Therefore, the objective is to develop a parking reservation system to address these issues and provide a seamless parking experience for users.

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1.INTRODUCTION

1.1 PROBLEM STATEMENTS

The current parking system faces several challenges, including inefficiencies, lack of convenience, and difficulty in finding available parking spaces. These problems lead to frustrated users, wasted time, and suboptimal utilization of parking resources. Therefore, the objective is to develop a parking reservation system to address these issues and provide a seamless parking experience for users.

1.2 PROPOSED SYSTEM

The proposed parking reservation system aims to overcome the challenges of the current parking system by providing a comprehensive and user-friendly platform for reserving parking spaces. The system will leverage technology to streamline the process, enhance convenience, and optimize parking space utilization. Key features of the proposed system include:

1.3 FEATURES OF THE PROPOSED SYSTEM

The features of this website are:

- Responsive website design.
- User-Friendly navigation.
- Online Reservation Portal.
- Real-time Parking Space Availability.
- Administrative Dashboard.

1.FEATURES AND HIGHLIGHTS

FEATURES AND HIGHLIGHTS

- 1.Users can register and login into the system.
- 2.Users can search parking places.
- 3.Users can view different parking locations.
- 4.Users can add vehicles .
- 5.In user home page user can edit and view vehicles details.
- 6.User can take print of booking details.
- 7.User can book parking slots for their vehicle.
- 8.If we click book now in slot ,book now will changes to booked state.
- 9.The available slots number will reduce when booking slots.
- 10.The Admin can view
 - 1.Todays vehicle entries
 - 2.Yesterdays vehicle entries
 - 3.Last 7 days vehicle entries
 - 4.Total vehicle entries
- 11.Admin can add Vehicle Category.
- 12.Admin can edit Vehicle category.
- 13.Admin can Manage IN and OUT Vehicles.
- 14.Admin will get between dates report.

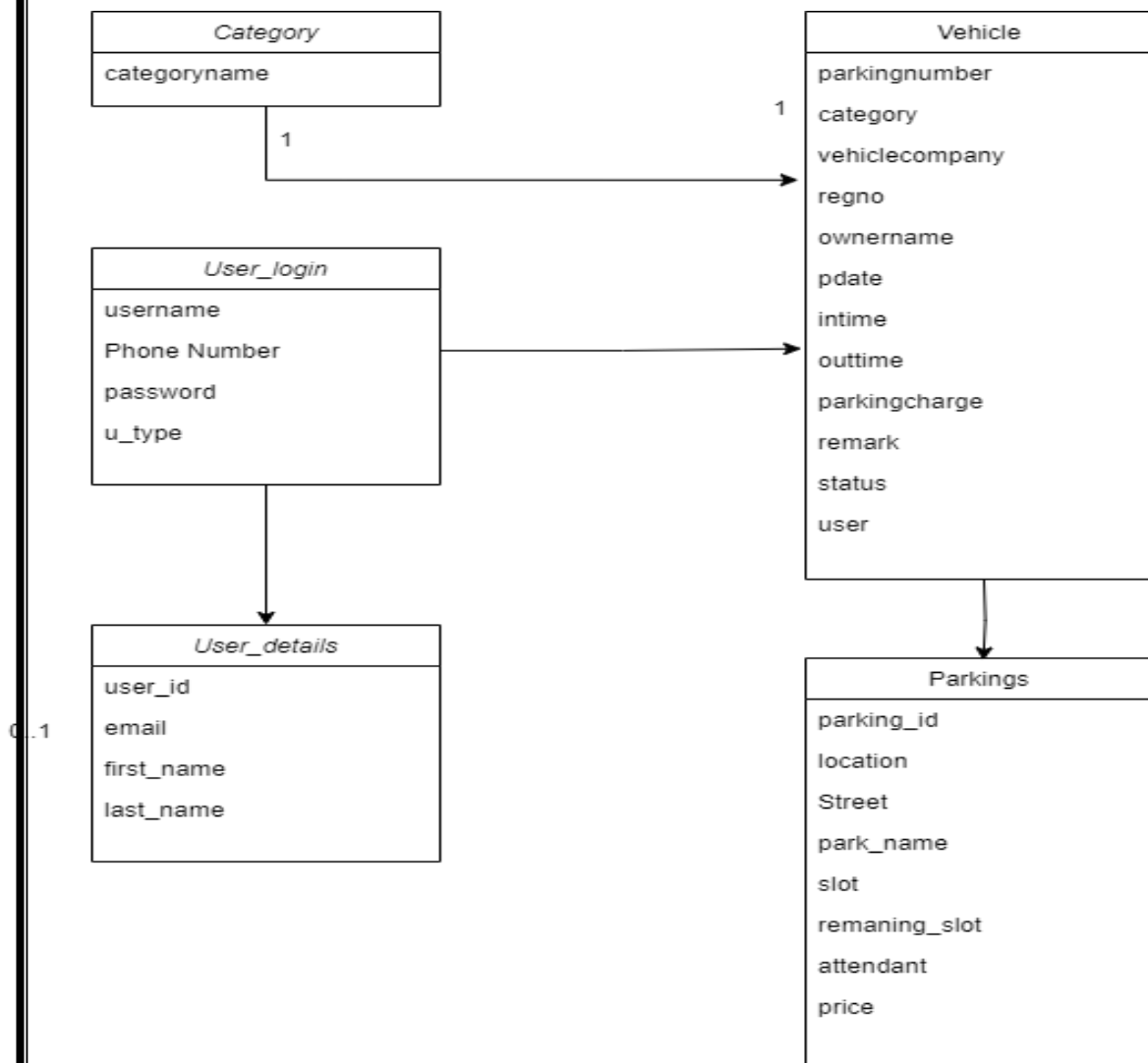
TECHNICAL ASPECTS

- **Presentation Layer:**
 - **User Interface (UI):** This layer includes the components that interact with users, such as web pages or mobile app screens.
 - **Django Templates:** Django's built-in template engine allows you to define HTML templates that render dynamic content and interact with the back-end.
- **Application Layer:**
 - **Django:** Django serves as the back-end framework, handling HTTP requests, routing, and managing the application's business logic.
 - **Django Views:** Views receive requests from the user interface, process data, and generate appropriate responses. They interact with models, services, and external APIs as needed.
 - **Django Forms:** Forms handle user input validation and data submission, allowing users to input and update travel-related information.

2.DATABASE CLASS

DIAGRAM

CLASS DIAGRAM

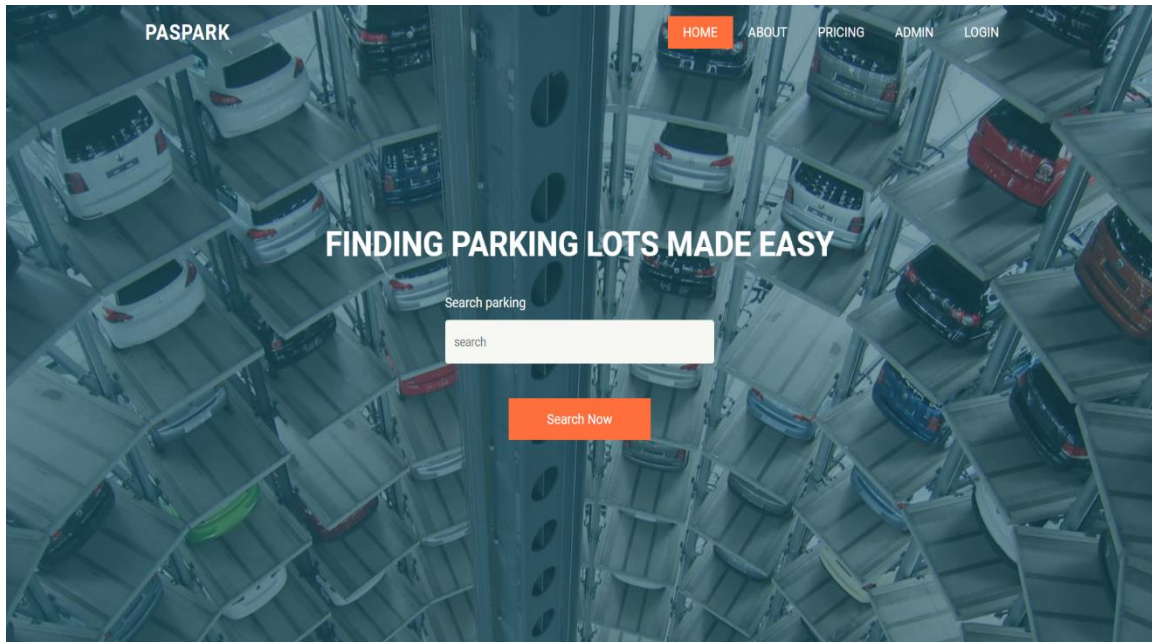


3. CHALLENGES FACED DURING THE DEVELOPMENT

- **User Authentication and Authorization:** Implementing a secure and reliable user authentication and authorization system can be challenging. You need to ensure that only authenticated and authorized users can access and perform actions within the reservation system.
- **Database Design and Management:** Designing an efficient and scalable database structure for storing parking-related information can be complex. Plan the database schema carefully, considering factors such as user data, parking lot information, reservations, and availability. Use appropriate indexing and caching techniques to optimize database performance.
- **Reservation Conflict Resolution:** Managing conflicts when multiple users try to reserve the same parking spot simultaneously can be tricky. Implement a mechanism to handle conflicts and ensure that only one user can reserve a spot at a given time. Techniques like optimistic locking or using timestamps can help in resolving conflicts.
- **Payment Integration:** Integrating payment gateways or implementing a secure and reliable payment system can be challenging. Ensuring secure transactions, handling different payment methods, and managing refunds and cancellations require careful implementation and adherence to security standards.
- **User Experience and User Interface:** Designing an intuitive and user-friendly interface for making reservations can be a challenge. Conduct user research, gather feedback, and iterate on the user interface to provide a smooth and hassle-free experience for users. Focus on usability, responsiveness, and accessibility considerations.
- **Testing and Quality Assurance:** Thoroughly testing the parking reservation system to identify and fix bugs, as well as ensuring its reliability, can be a significant challenge. Implementing unit tests, integration tests, and conducting usability testing can help ensure the system functions as expected and meets user requirements.

4. SCREENSHOTS

SCREENSHOTS

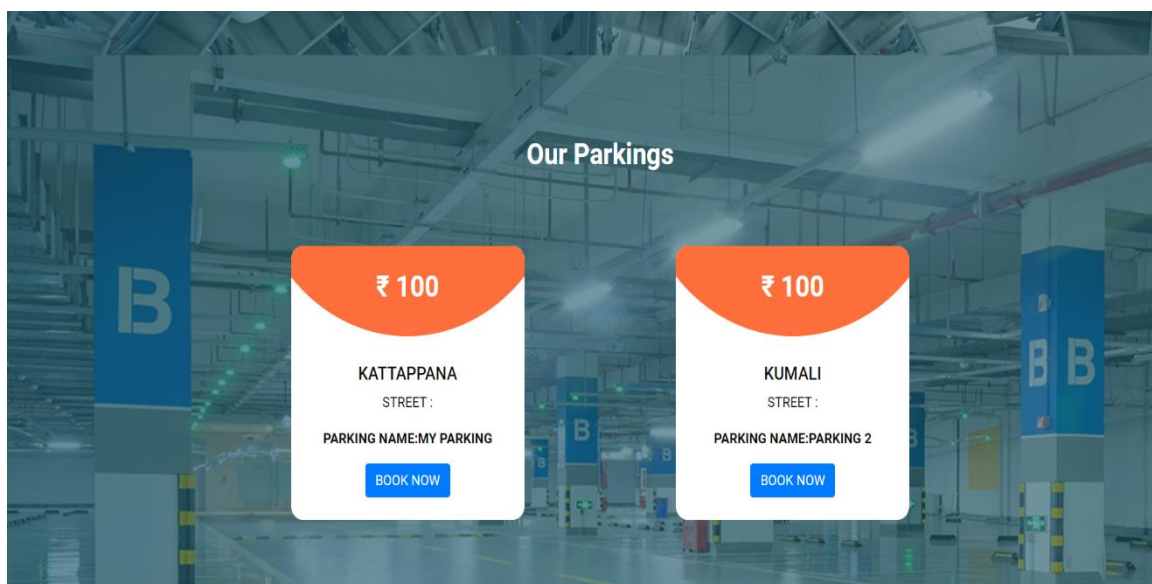


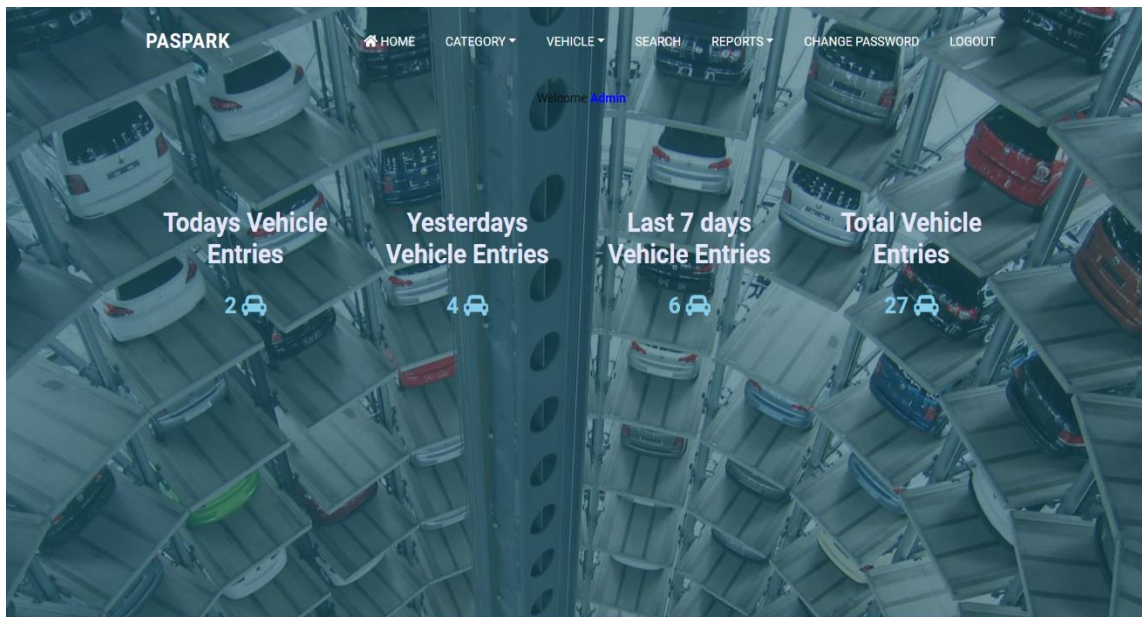
INDEX PAGE

User can search and view parking locations.

User login and registration can be done in index page

Admin login portal also see in index page





ADMIN HOME PAGE

Admin can view number of vehicles Entered today, Yesterday, last 7 days and Total entries information's.

Admin can add category

Admin can see the vehicle in details and vehicle out details.

Admin can search vehicles using parking id.

Admin can get the detailed reports between the dates.

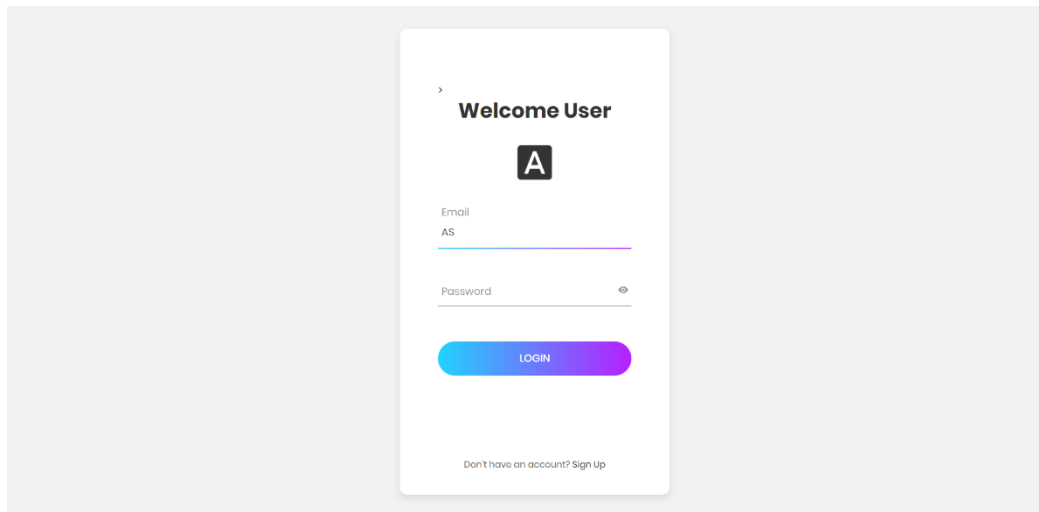
Admin can change password

S.No.	Parking Number	Owner Name	Vehicle Reg No.	Action
1	88498579	Hari	MP04A2300	View Edit
2	77628675	adv	a22	View Edit
3	22920304	dim	KL 12 1234	View Edit
4	87894692	manu	12345	View Edit
5	89193802	alb	jskd	View Edit
6	75795228	niff	jskd44	View Edit
7	19814472	ALBIN	KL 01 1234	View Edit
8	45154285	albin	KL 09 1234	View Edit
9	33106077	Alfin	KL 09 1234	View Edit
10	74845136	alfin	kl 09 2345	View Edit

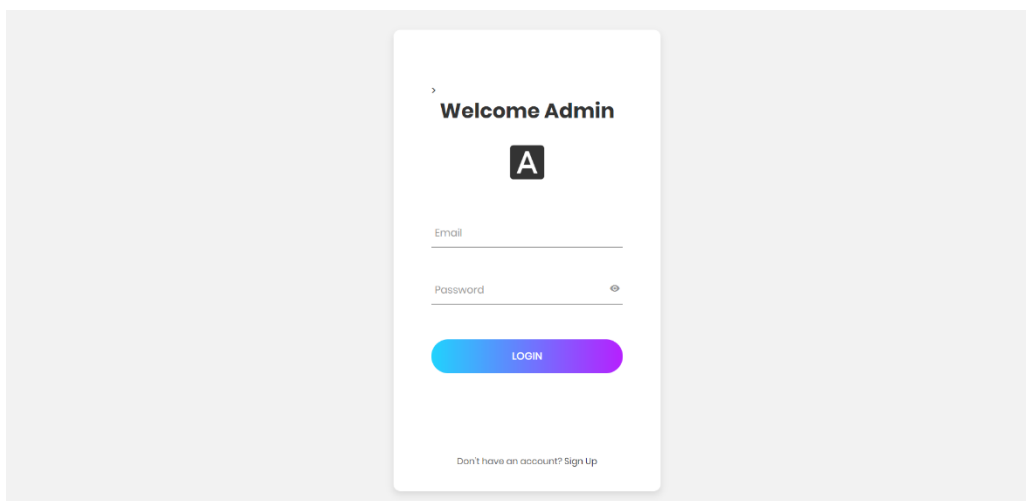
MANAGE OUT GOING VEHICLE

Admin can view the details of outgoing vehicles and incoming vehicles.

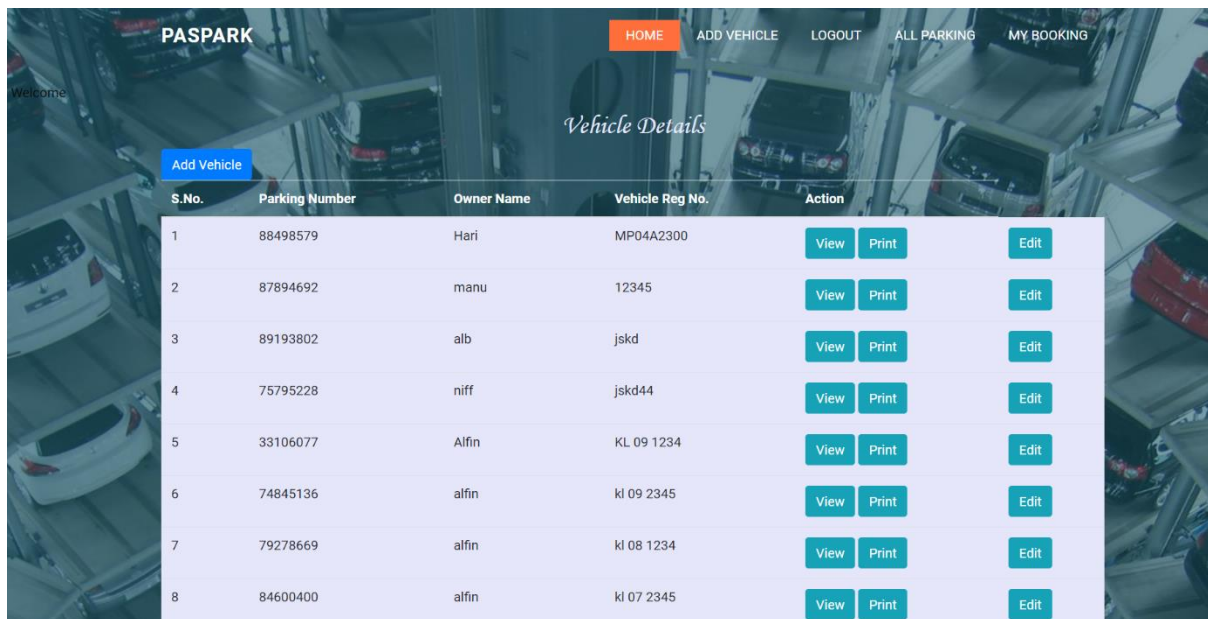
Admin can download details in the formats of excel, csv and pdf



USER LOGIN



ADMIN LOGIN



The screenshot shows the PASSPARK web application interface. At the top, there is a navigation bar with the logo 'PASSPARK' and several menu items: 'HOME' (highlighted in orange), 'ADD VEHICLE', 'LOGOUT', 'ALL PARKING', and 'MY BOOKING'. Below the navigation bar, there is a 'Welcome' message and a 'Vehicle Details' heading. A blue button labeled 'Add Vehicle' is visible on the left. The main content area displays a table with 8 rows of vehicle information. Each row includes a serial number (S.No.), parking number, owner name, vehicle registration number, and a set of action buttons (View, Print, Edit).

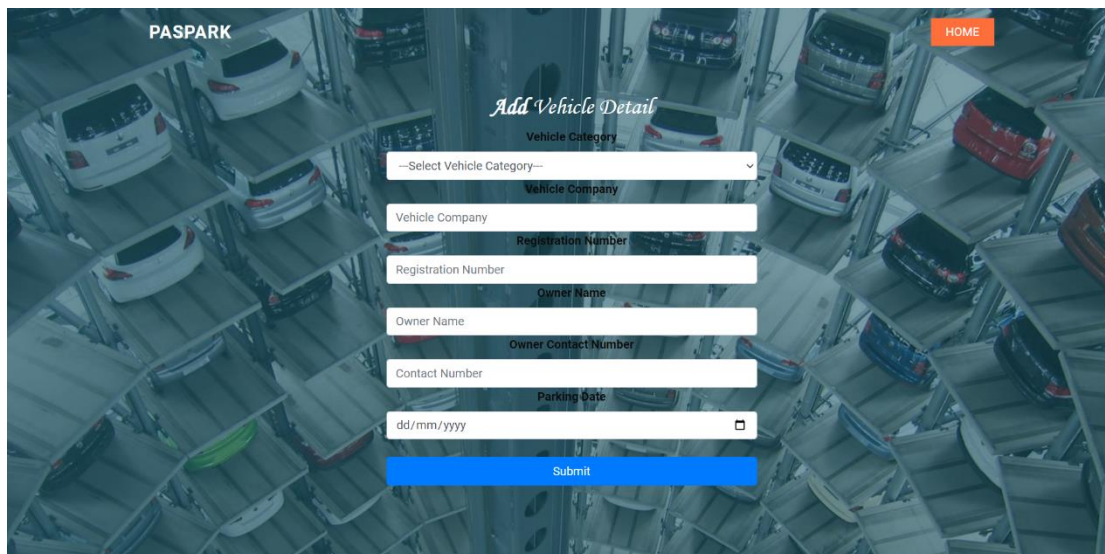
S.No.	Parking Number	Owner Name	Vehicle Reg No.	Action
1	88498579	Hari	MP04A2300	View Print Edit
2	87894692	manu	12345	View Print Edit
3	89193802	alb	jskd	View Print Edit
4	75795228	niff	jskd44	View Print Edit
5	33106077	Alfin	KL 09 1234	View Print Edit
6	74845136	alfin	kl 09 2345	View Print Edit
7	79278669	alfin	kl 08 1234	View Print Edit
8	84600400	alfin	kl 07 2345	View Print Edit

USER HOME PAGE

The user can see vehicle details in home page .

They can view ,print and edit the vehicle details.

In user home page there is an option add vehicle ,we can add vehicle and book parking slots for our vehicle.



PASSPARK

HOME

Add Vehicle Detail

Vehicle Category
--Select Vehicle Category--

Vehicle Company

Registration Number

Owner Name

Owner Contact Number

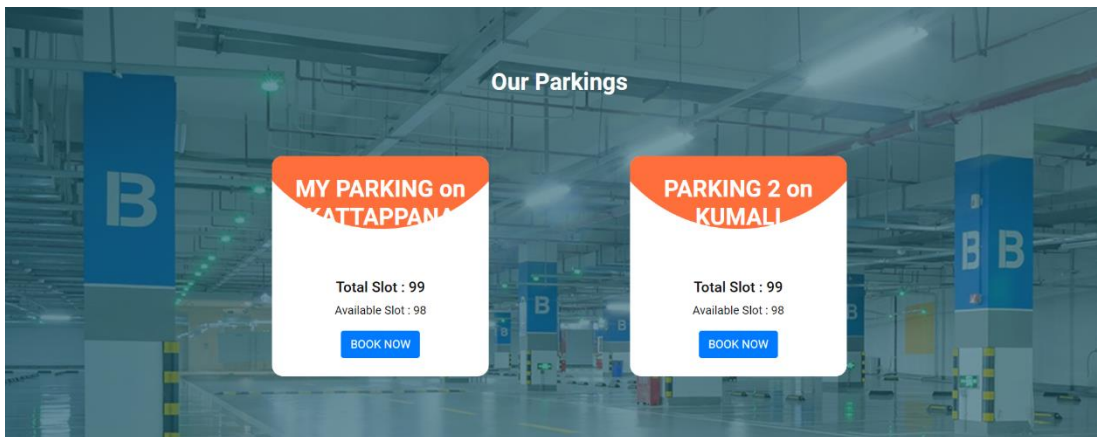
Contact Number

Parking Date
dd/mm/yyyy

Submit

VEHICLE ADD

We can add vehicle details.



PARKING LOCATIONS

We can the available parking locations.

5. FUTURE ENHANCEMENTS

FUTURE ENHANCEMENTS

- **Mobile Application:** Develop a mobile application for the parking reservation system to allow users to easily book parking spaces, receive notifications, and manage their reservations on their mobile devices.
- **Real-Time Availability:** Implement real-time availability updates to provide users with up-to-date information on parking space availability.
- **Advanced Booking Options:** Add advanced booking options such as hourly, daily, weekly, or monthly bookings to accommodate different user needs and preferences.
- **Loyalty and Rewards Program:** Implement a loyalty program to reward frequent users with points, discounts, or exclusive benefits. This can encourage customer retention and increase user engagement.
- **Pre-Booking and Pre-Payment:** Allow users to pre-book and pre-pay for parking spaces in advance, reducing waiting times and providing a seamless parking experience.
- **Integration with Cashless Payment Systems:** Integrate the parking reservation system with cashless payment systems, such as mobile wallets or contactless payment methods, to offer convenient and secure payment options for users.
- **Analytics and Reporting:** Implement analytics and reporting features to provide insights into parking space utilization, popular time slots, revenue generation, and other key metrics.

6.CONCLUSION

CONCLUSION

The project was successfully completed within the time span allotted. All the modules are tested separately and put together to form the main system. Finally, the modules are tested with real data and it worked successfully. Thus the system has fulfilled the entire objective defined. Our goal of developing this project Parking Reservation System has come to a good result without many defects. Online vehicle parking reservation system improves the existing system since we are in computerized world. With this new system is mandatory, it enables the user of the system (client, employee, System administrator) to reserve a parking lot online and this reduces the wasting of time of the clients looking for where to park, increase the safety of the property since the parking lot is numbering. So this system provides all the available best services to all the customers

7.REFERENCES

REFERENCES

- <https://parclick.com/>
- <https://planyo-extras.s3.amazonaws.com/website/parking/parking.html>