



CAR RENTAL SERVICE

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Abstract: The Project of “Online Car Rental System” is developed with an aim that it gives the user an easy-to-understand insight to access the content of the website. The project is designed as to be used by Car Rental Company expertise in renting cars to customers. It is a system design particularly for enormous, premium and small car rental business. The car rental system provides the user with complete functionality of listing and booking cars. It is an online based system through which users can access available cars, register, view profile and book car.

Index Terms -Car, Rent, Payment.

I. INTRODUCTION

The Car Rental System is the web office to book vehicles online inside barely any snaps in a manner of speaking. Some people are unable to maintain ownership of a vehicle, and for such people, this approach is incredibly helpful. Besides, the raising taxi fares and inconsistent bus arrivals continue to discourage people from taking up public transport. And in recent times cars have become the most convenient mode of transportation.

So, Online Car Rental System will frequently aim to provide the best services possible, both in terms of man and machine, tour consumer, and other factors. Our car rental service makes it simpler, less stressful, and more enjoyable to rent and use a car as desired. Also, this initiative includes a collection of cars ranging from luxury to affordable cars. This system includes several cars, depending on the comfort level requested by the customer and obtained in accordance with the vehicle edge area inside the zone. Booking should, in a sense, be accessible through the network. It's a web-based application. So, it would be beneficial for both the renter and the transport provider if a web- based application could be designed or developed to allow for the use of transportation whenever and wherever practicable. And because most individuals utilize their smart phones frequently and it is convenient for users who are familiar with web technology, many organizations adopt web-based technologies. The creation of a web-based system that enables online registration and car reservations for customers as well as efficient management of the firm's car rental operations are the specific objectives. To make it easier for customers to rent a car anytime they need to.

HISTORY

How Car Rental System got started?

The first documented examples of car rental date back to 1904, when a Minneapolis bicycle shop began renting out cars. In 1912, a few years later, the German corporation Sixt was founded. Three cars were initially available for rent, but it gradually increased.

Joe Saunders had an epiphany in Omaha, Nebraska, in 1915 when he saw that no one offered cars for rent there. He only hired one salesperson, German native Frank Arndt, and he immediately began renting out Arndt's Model T. His business was so successful that he was renting out 120 of these by 1917. Saunders Drive-It-Yourself System was the name of the business, which he also advertised in the neighborhood newspaper. But because of drawbacks of Car Rental System, we thought about web-based application of Car Rental System.

OBJECTIVE

- It is a system that was created specifically for large, luxury, and small car rental businesses.
- The car rental system offers full listing and booking features.
- This system also offers options for tourism and travel.
- It has No Redundancy of data.
- It is time saving.
- It is an easy, User-Friendly Interface.
- More suitable to customer with administrator to communication on internet

PROBLEM STATEMENT

A car rental is a vehicle that can be used for a cost and for a set amount of time. Even when they do not have access to their own personal vehicle or do not own a vehicle at all, getting a rental car helps people travel around. The person who needs a car must contact a rental car service and arrange to get one. This solution improves customer retention while simplifying staff and vehicle management.

PRODUCT SCOPE

This project covers a wide range of topics, from management theory to the field of computing, and it necessitated doing numerous studies to meet its goals. These are the areas covered:

- This involves research into the methods used in the Car Rental System, the processes involved, and the opportunities for improvement.
- The program was designed using PHP technology.
- Because the system is a web- platform, it will be accessible 24/7, except any projected minor temporary server issues.

METHODOLOGY

To complete this project, we need to choose the optimal approach with the potential for future market growth. We ultimately decided to use the Waterfall methodology to plan and develop the idea for this system project. The Waterfall Model, developed by Winston W. Royce in 1970, is the earliest technique of organized system development. The DoD began using this highly organized development method in the 1970s for software projects. It is still used today and was created from the project lifecycles for defense and aerospace projects. In the field of software development, the waterfall model is still popular and frequently utilized.

- **Requirement Analysis & Definition:** In this stage, all potential requirements for the system that will be created are gathered. The end-expectations users for the system's features and limitations are known as requirements. The end-needs users are acquired through consultation, evaluated for validity, and the possibility of implementing them into the system under development is also investigated. Eventually, a requirement specification document is produced as a reference for the model's conclusion part.
- **System and software design:** Before beginning the actual coding and design, it is important to understand what we plan to build and the materials that will be needed. In this phase, the system design is created while the required specifications from the first phase are examined. System Design helps in defining the overall system architecture and specifications, as well as the hardware and system requirements, and serves as an input for the following stage of the model.
- **Implementation and Unit Testing:** After getting the system design documentation, this process begins with the actual coding of the task. We shall refer to the system's initial development in terms of small programmers, or "units," which are then integrated in the following stage. Unit testing refers to the process of developing and testing each unit for functioning. Unit testing primarily checks that the modules or units adhere to their requirements.
- **Integration and system testing:** As mentioned above, the system is divided into pieces that are created and tested for functionality before being integrated. During the integration phase, these components are combined into a full system that is tested to ensure that all of the modules communicate with one another, and that the system operates in accordance with the requirements. The programmer will be sent into
 - The customer after being successfully tested.
- **Operations & Maintenance:** In "The Waterfall Model," this phase is essentially perpetual. In most cases, difficulties with the developed system that are not discovered during the development life cycle arise once practical usage of the system begins, hence the problems with the system are resolved after deployment of the system.

RESEARCH GAP

Existing System:

- Car Rental System service will help users to book a car for some fee specified.
- They had to manually rent the vehicle through their offices. It was a difficult task to manage rental vehicles.
- Keeping track of all the rental cars was a problem.

Proposed System:

- Users can now rent a car at any time thanks to the usage of internet technologies.
- Using our car rental system for reservations is easy. Effort and time are saved.
- It will also require a unique booking ID.
- It allows users to look up available cars, view profiles, and reserve automobiles for a specific time frame. Its user-friendly design makes it easy for users to search for and rent cars for the required duration.
- The rental cars must be divided into categories like budget and luxury.

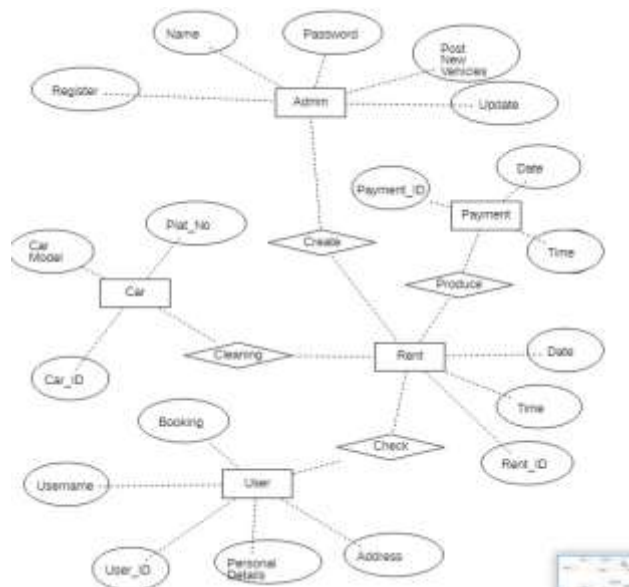


Figure: 1 (ER Diagram)

An Entity Relationship (ER) Diagram is a form of flowchart that shows the relationships between "entities" like people, things, or concepts within a system. ER Diagrams are most frequently used in the disciplines of software engineering, business information systems, education, and research to build or solve relational databases. We perform the ER Diagram on Star UML.

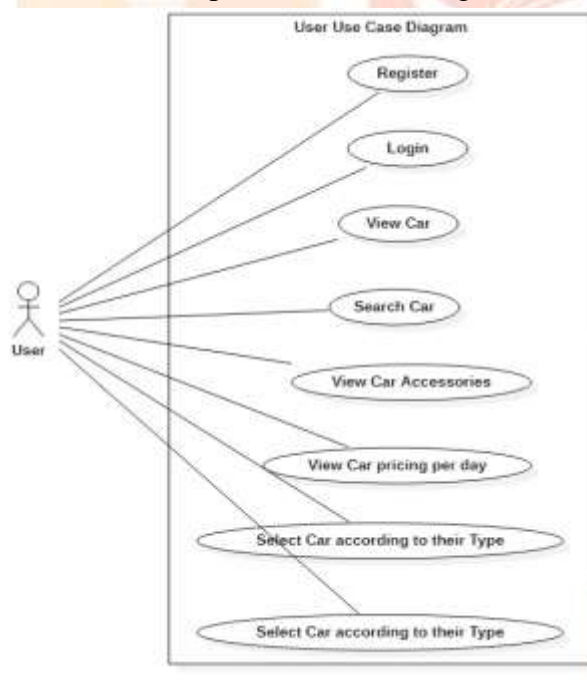


Figure: 2 (Use Case Diagram of User)

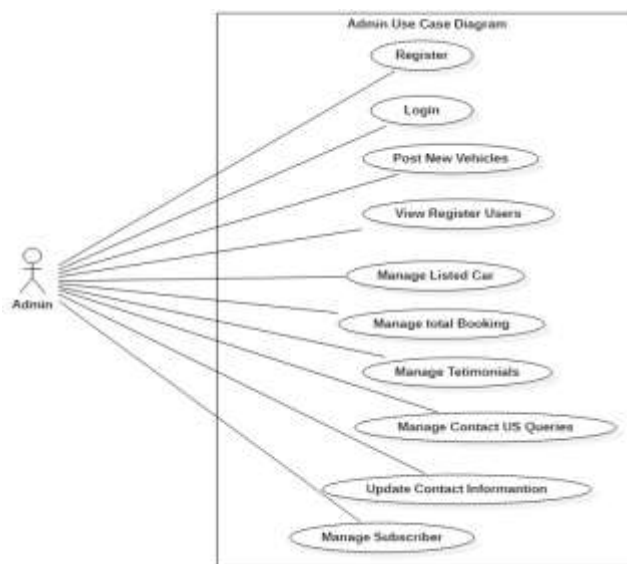


Figure: 3 (Use Case Diagram of Admin)

Use case diagrams are used to show how dynamic a system is. The system's requirements, which consider both internal and external factors, are accumulated. It refers to individuals, use cases, and a number of other things that refer to the actors and components responsible for putting use case diagrams into effect. It displays the potential interactions between a system component and an external entity. We have performed 2 Use case Diagram, one for User and other for Admin.

FUTURE SCOPE

Car Rental certainly has a big future, mainly due to fuel hikes and increasing price rises of cars. Some people living in busy cities prefer rental cars because of the lack of sufficient parking spaces and rushing through their day with very little time on their hands.

The growth of the global car rental market is adequately measured in the graphic made by Mordor Intelligence.

RESULT

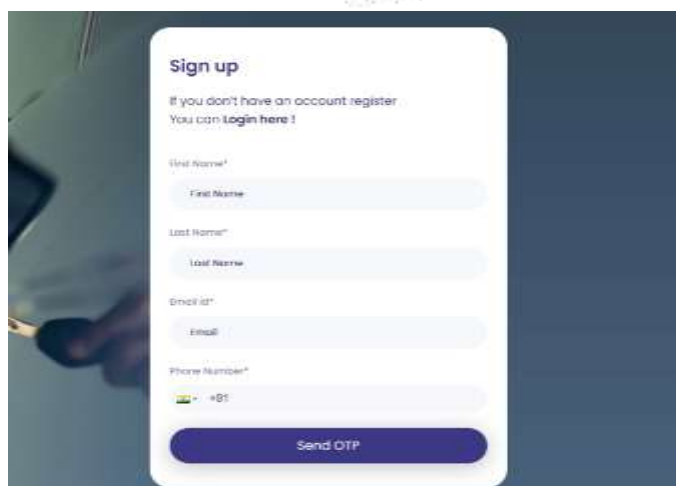


Figure: 4 (Admin Login Page)



Figure: 5 (Admin Dashboard Page)



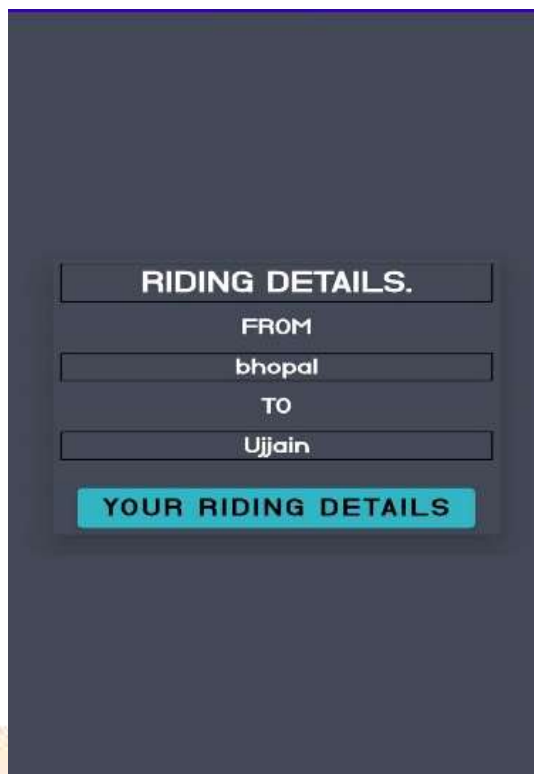
Figure: 6 (Home Page)



Figure: 7 (Home Page car listing)



Figure: 8 (city name Page)



RIDING DETAILS.	
FROM	bhopal
TO	Ujjain
YOUR RIDING DETAILS	

Figure: 9 (booking page)

CONCLUSION

Compared to the past, when all activities related to the car rental system were restricted to a single physical site, the industry has emerged with new pleasures. Even while the need for physical locations is still present, the power of the internet has changed the nature of functions and how they are carried out. Customers can now reserve cars online, rent cars online, and, after becoming a member, either have the car delivered to their house. Customers and Car Rental Companies both benefit from the web-based car rental system, which makes it easier to run the company and fulfils consumer needs at the touch of a button.

ACKNOWLEDGEMENT

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REFERENCES

- <https://legacy.reactjs.org/docs/getting-started.html>
- <https://www.zoomcar.com/in/indore>
- <https://www.w3schools.com/>
- <https://www.mychoize.com/deals>