PURBANCHAL UNIVERSITY

DEPARTMENT OF COMPUTER ENGINEERING

KHWOPA ENGINEERING COLLEGE

LIBALI-8, BHAKTAPUR

A FINAL PROJECT REPORT

ON

Car Rental System

Project work submitted in partial fulfilment of requirements for the award of the degree of Bachelor of Engineering in Computer Engineering (Fifth Semester)

SUBMITTED BY

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UNDER THE SUPERVISION OF

Er. Shiva Pd. Mahato

27 February 2024

DEPARTMENT OF COMPUTER ENGINEERING

KHWOPA ENGINEERING COLLEGE

LIBALI-2, BHAKTAPUR

CERTIFICATE

This is to certify that the project entitled "Car Rental System" submitted by Mr. Praful Man Thaku, Mr. Rocky Shrestha, Mr. Saurav Basukala, Mr. Sohan Basnet in a partial fulfillment of the requirements for the award of the Degree of Bachelor of Computer Engineering of Purbanchal University, is a bona fide work to the best of our knowledge and may be submitted before the examination board for their evaluation.

Panel of Examiners:

Name	**Signature**	**Date**
External Examiner		
Er……	……..	……
Project Supervisor		
Er. Shiva Prasad Mahato	……..	…….
Head of Department		
Er. Bikash Chawal	……..	…….

ACKNOWLEDGEMENT

In performing our project, we had to take help and guidelines of some respected persons, who deserve our greatest gratitude. We would like to express our deepest gratitude to **Department of Computer Engineering** of **Khwopa Engineering College** and our supervisor **Er, Shiva Pd. Mahato** sir. We would like to thank our friends, seniors, and all those who have been guiding and helping us indirectly for the completion of project.

ABSTRACT

Car rental system is used to rent a car for a certain period of time to other person. Such services provides people to travel without other intervention. Consumers provide information to this application by filling in their personal information. When a consumer creates an account on the website, he or she can reserve a car. Customers are aided by this automated method, which allows them to fill in the specifics according to their needs. It contains information on the sort of car they want to hire. The system's main functions include: signing in and log in functionality, customers can look up various cars listing with details included, user may select and add products to shopping cart, realistic payment method. The goal of this system is to create a system where customers can book their automobile and request services.

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CHAPTER I

INTRODUCTION

1.1 Background

The earliest known example of cars being offered for rent dates back to 1906. The German company Sixt was established in 1912 under the name Sixt Autofahrten und Selbstfahrer (Sixt Car Cruises and Self Drivers). [1]

Joe Saunders of Omaha, Nebraska first started with only one borrowed Model T Ford in 1916, but by 1917, his Ford Livery Company was renting out 18 Model Ts at 10 cents per mile. The company name became Saunders Drive-It-Yourself System and then Saunders System. By 1926, Saunders had expanded to 56 cities. Saunders' company was bought by Avis in 1955. [2]

An early competitor to Saunders was Walter L. Jacobs, whose Chicago-based Rent-a-Car opened in 1918 with twelve Ford Model T. The company was bought in 1923 by John Hertz. [3]

The sector expanded rapidly in the US; in 1926, the American Driveurself Association assembled over 1200 delegates in Chicago. [1]

National Car Rental, Europcar, Enterprise Rent-A-Car, Thrifty Rent A Car, and Budget Rent a Car are some of the new companies to enter this field.

1.2 Motivation

As per the growing population, the need for transportation too is high. People prefer to travel in their own car rather than public ones. People want to have their own private cars but due to high prices they are unable to do so. Seeing this problem, we saw the need to develop a proper car rental system. Moreover, with the booming tourism industry there is a high demand for the car rental service. So, we have no hesitation to make this as our academic project.

1.3 Statement of problem

Developing an online car renting system can encounter a range of challenges. Trust and security issues often lead to concerns about fraud and data breaches, while fraudulent activities and payment disputes can harm users. Ensuring accurate car information, promoting a positive user experience, and complying with regulations are also significant hurdles. Managing inventory effectively, resolving disputes, and addressing environmental concerns add complexity. Additionally, competition from other platforms and geographic limitations can impact the system's success. Overcoming these issues requires a combination of technological solutions, stringent security measures, clear policies, and robust customer support to maintain user trust and platform credibility.

Previously developed systems basically were decentralized i.e. customers visits the site and requests for the automobile and then he explicitly contacts the owner hires the service.

1.4 Objectives

The main objective of this project is to develop centralized car rental system.

1.5 Scope and Applications

This project is designed so that people can rent the cars for specific period of time instead of hiring the car. In context of our country, as we are rich in tourism, tourists both local and foreign want to visit different places on their own cars but require daily hiring of cars which is expensive. By using our system, customer can rent the car and ride it by them for specific period of time.

CHAPTER II

LITERATURE REVIEW

Car rental especially car rental has long history from being a directly to customer, to now a digital system based rental services. User can directly choose the car online and get it delivered it to their place. One of the oldest and still operating, service is Hertz car rental service. It has both web app as well as mobile app. Using Hertz, user can choose their own car and the destination to deliver it. The destination to receive the car and return can be selected by the user. The time to deliver the car and return can be selected by the user. The amount of time to rent the car can also be selected by user. [4]

Revv-selfdrive car rental is one of the popular rental app of India. It provides user with the extra feature of subscription where they can get rental cars for cheaper price. The user does have to provide security deposit for renting the cars. People who are travelling from state to state are really the customers of this service. [5]

From these existing services, we can see the scope and need of rental services. So, we will be creating a user-friendly management system.

CHAPTER III

PROJECT MANAGEMENT

3.1 Team Management

All the required efforts for this project were done by all of the four members of a team:

a. Praful Man Thaku(770326)
b. Rocky Shrestha (770331)
c. Saurav Basukala (770339)
d. Sohan Basnet (770344)

3.2 Work Breakdown Structure

S. N	Week / Job Description	Duration	1st week	2nd week	3rd week	4th week	5th week	6th week
1.	Problem identification	4days						
2.	Analysis	4days						
3.	Design	6days						
4.	Coding	21days						
5.	Implementation & testing	6days						
6.	Documentation	42days						

Fig.:3.1 Gantt Chart

CHAPTER IV

METHODOLOGY

4.1 Context Diagram

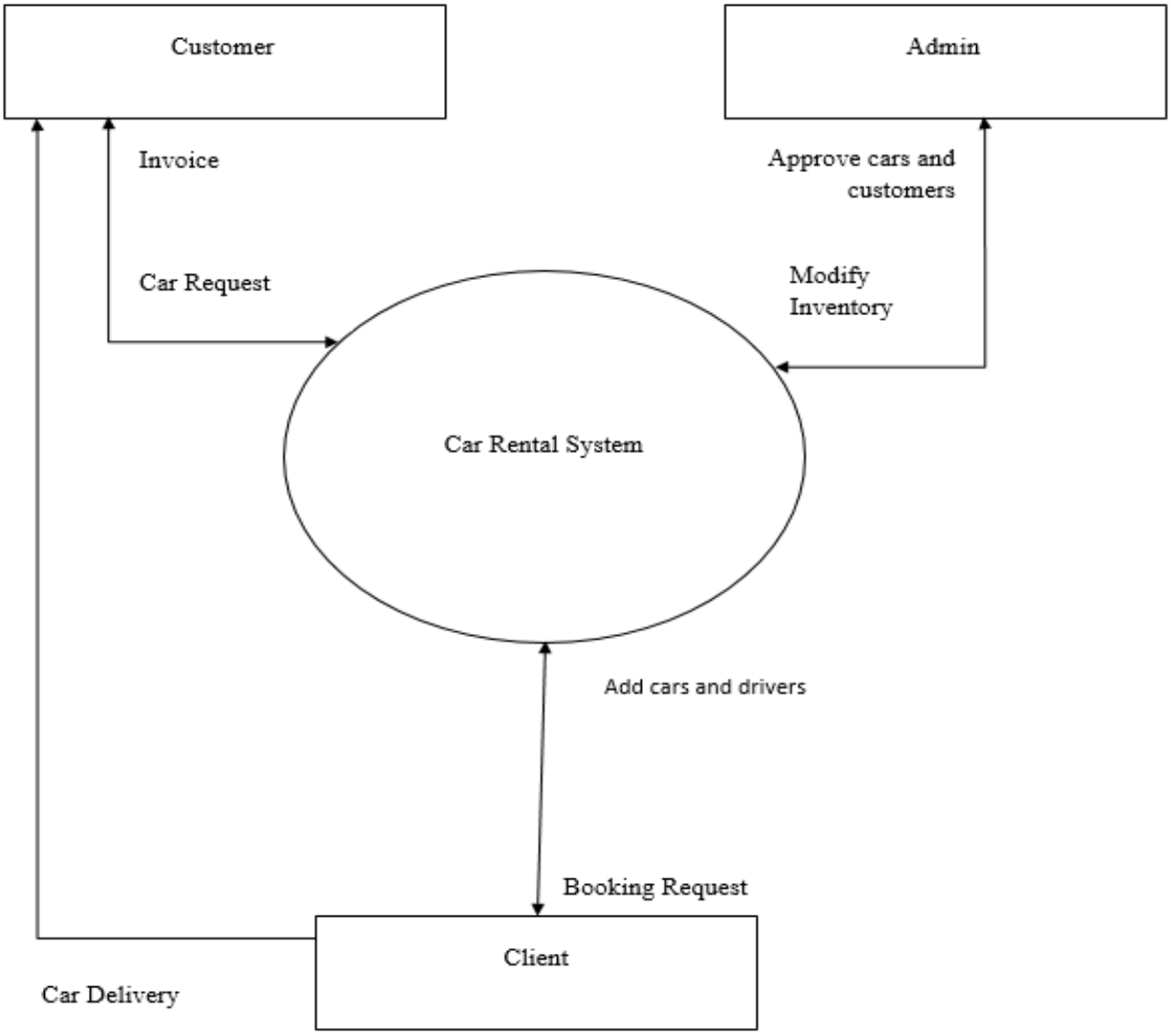


Fig 4.1: Context Diagram

In the context of a car rental system, the scenario involves a client adding their car for renting. The client, representing the car owner, interacts with the system to provide details about the vehicle they want to make available for rent. This information typically includes make, model, availability, and rental terms. The system, overseen by an admin, processes this information and adds the car to its inventory for potential renters to view and book. This interaction ensures that the client's car becomes part of the available options within the car rental platform.

4.2 ER Diagram

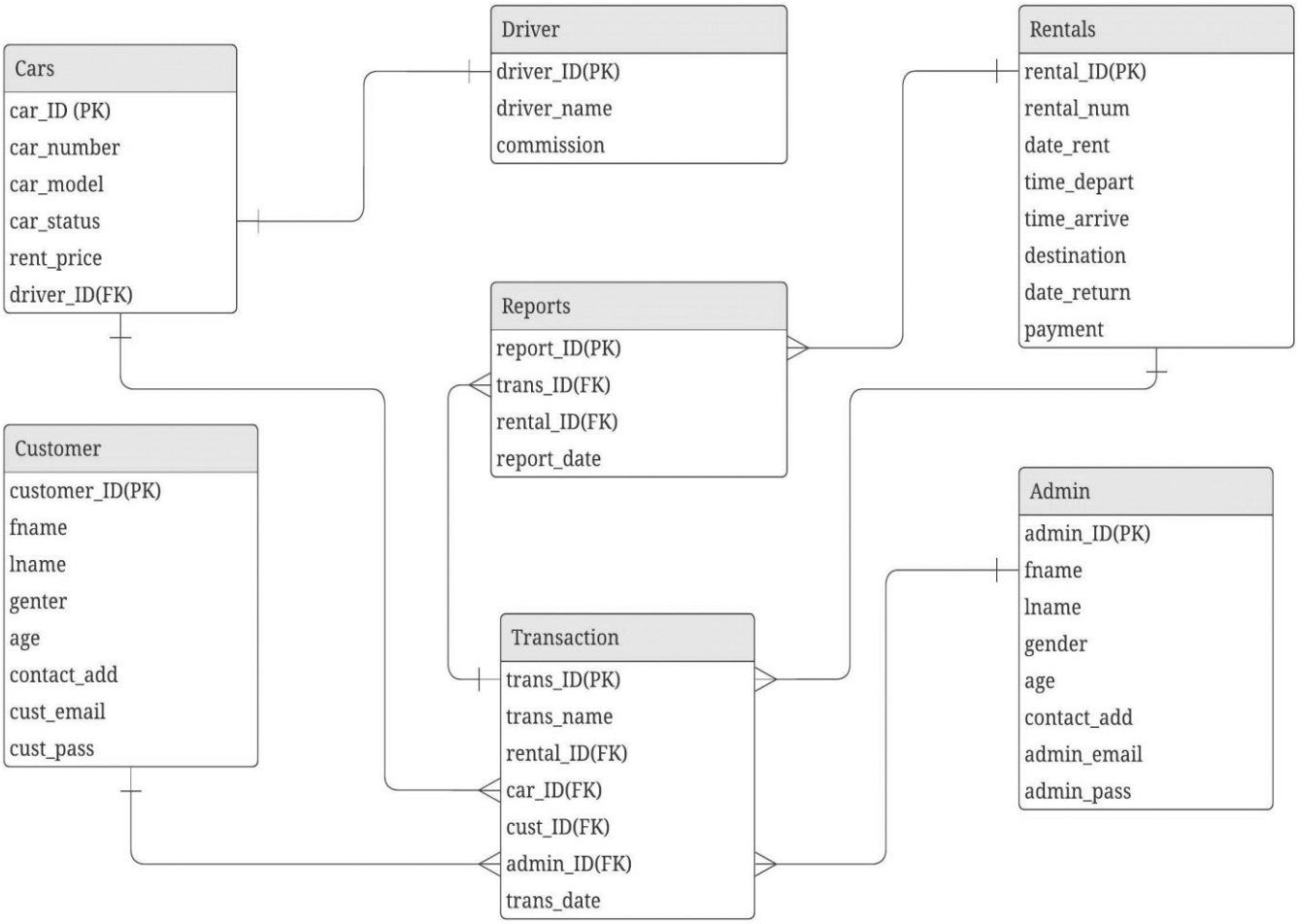


Fig 4.2: ER Diagram

4.3 Use Case Diagram

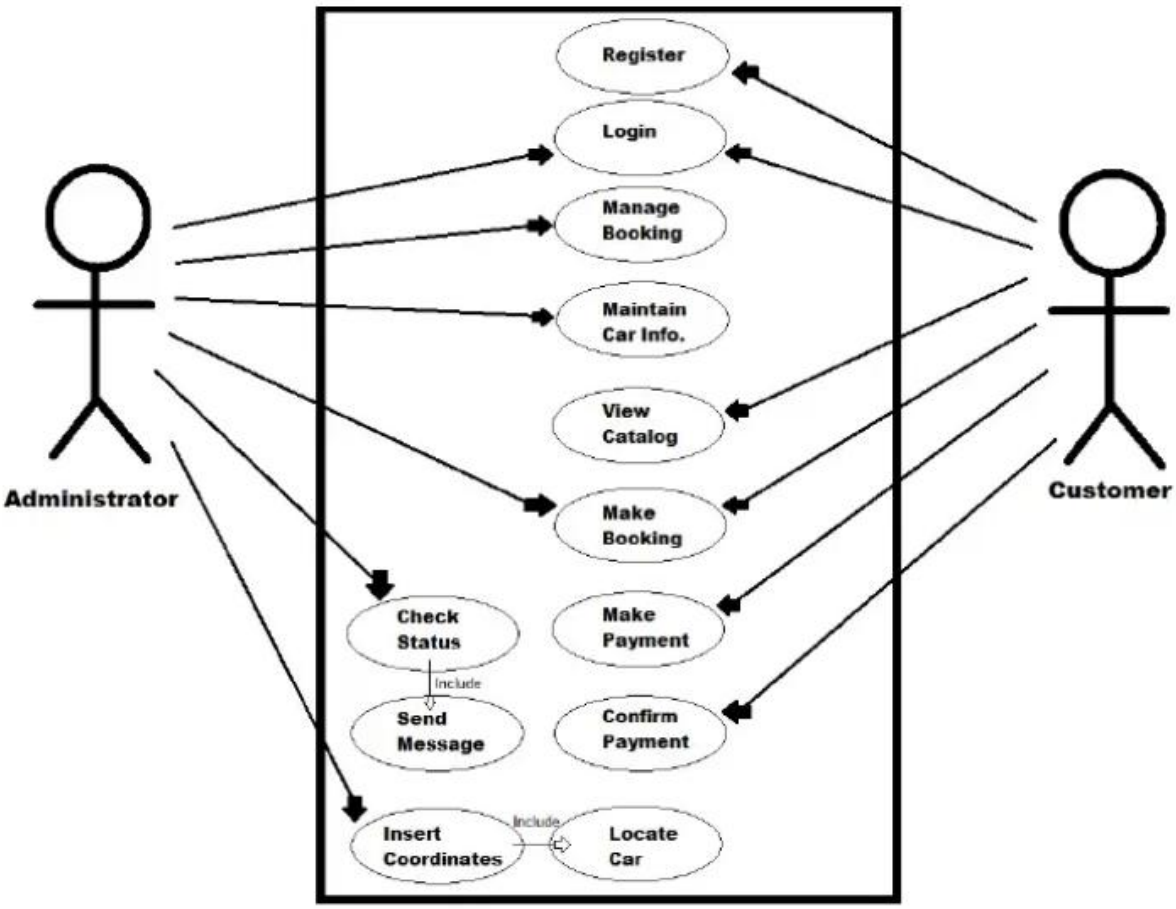


Fig 4.3: Use Case Diagram

4.4 Tools and Platform

Tools:

- HTML
- CSS
- PHP
- MYSQL

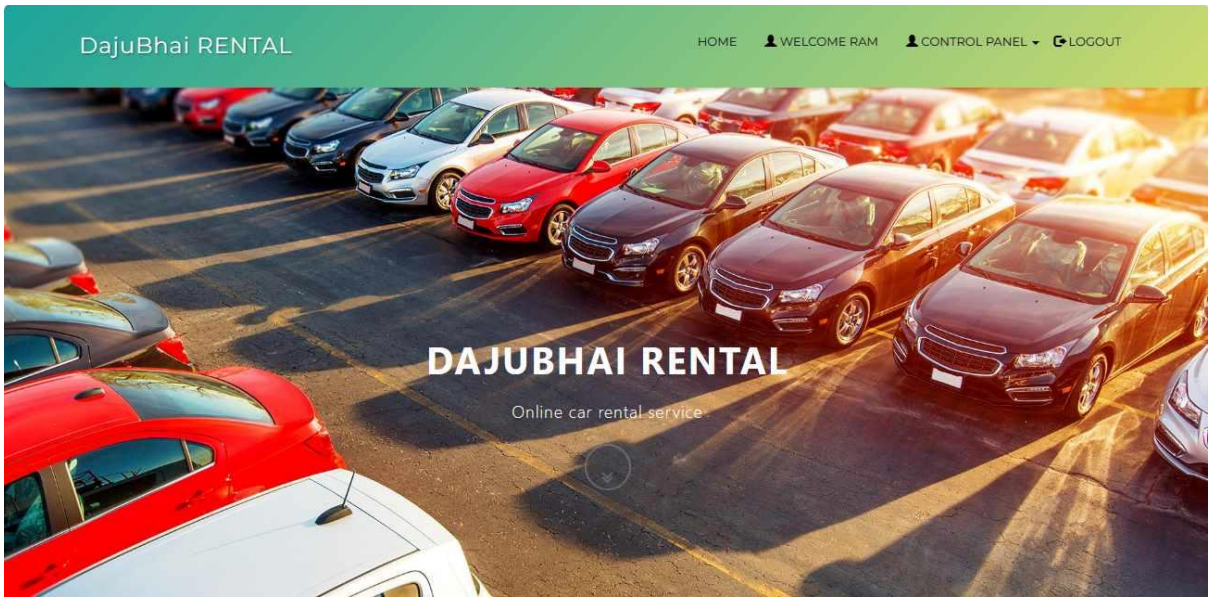
Platform:

- VS-CODE
- WINDOWS

CHAPTER V

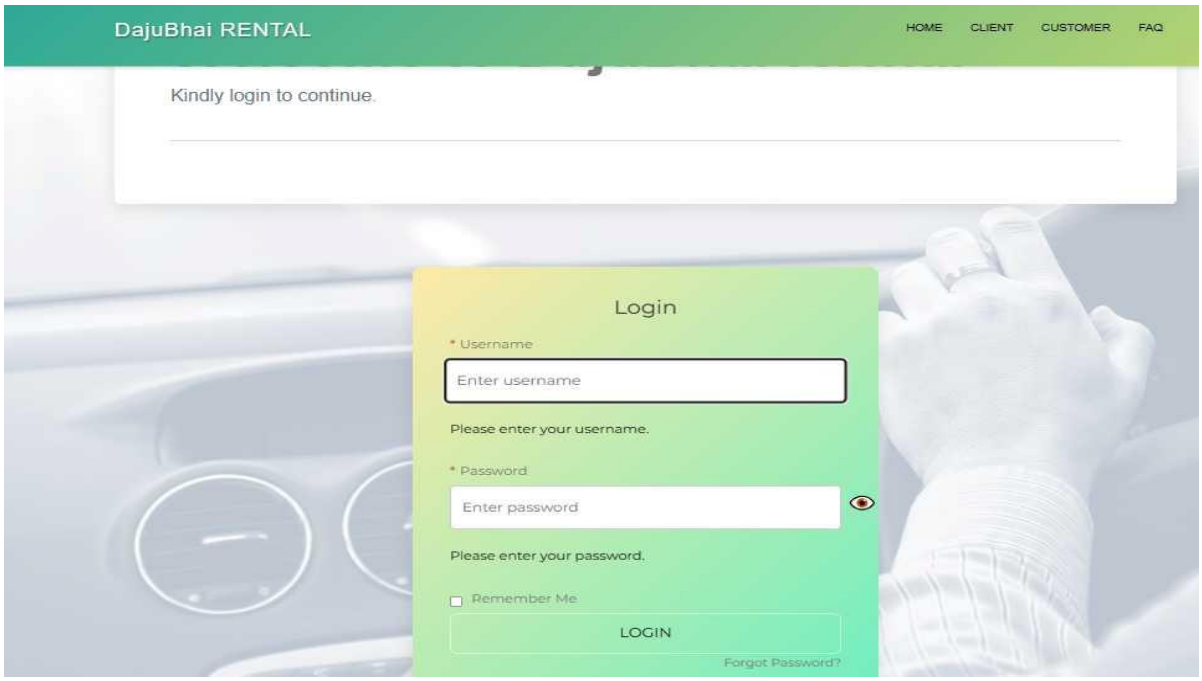
OUTCOMES LAYOUT

5.1 Output



5.1 Home Page

Typically, the home page of a website serves as the most significant landing page for both new and returning visitors. Essentially, this single page creates an overall impression of website in a matter of seconds.



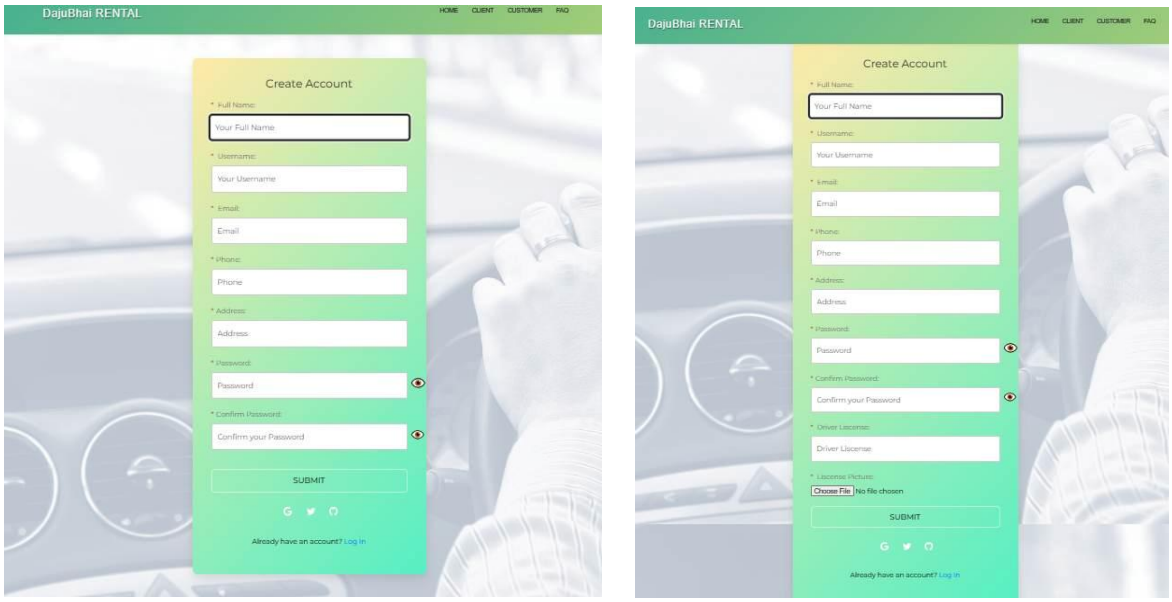
5.2 Login Page

In the login page, the same credentials of the user have to be inserted. The username is shown but the password is hidden and saved as '*'. If the username and password match as when registered, then display page appears if not then, "Login error." is displayed.

If the user credentials is invalid, then we can retrieve the account; either by username or by password.

5.3 Car Verification Section

Here, the car verification can enhance the security and reliability of the platform.

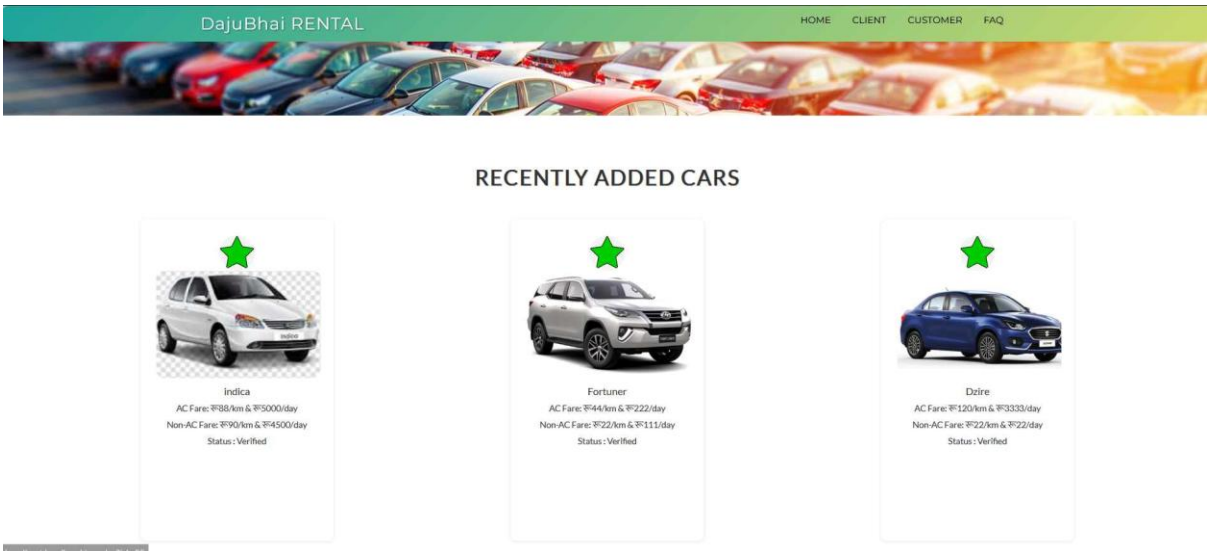


5.4 Registration Page for Client and Customer

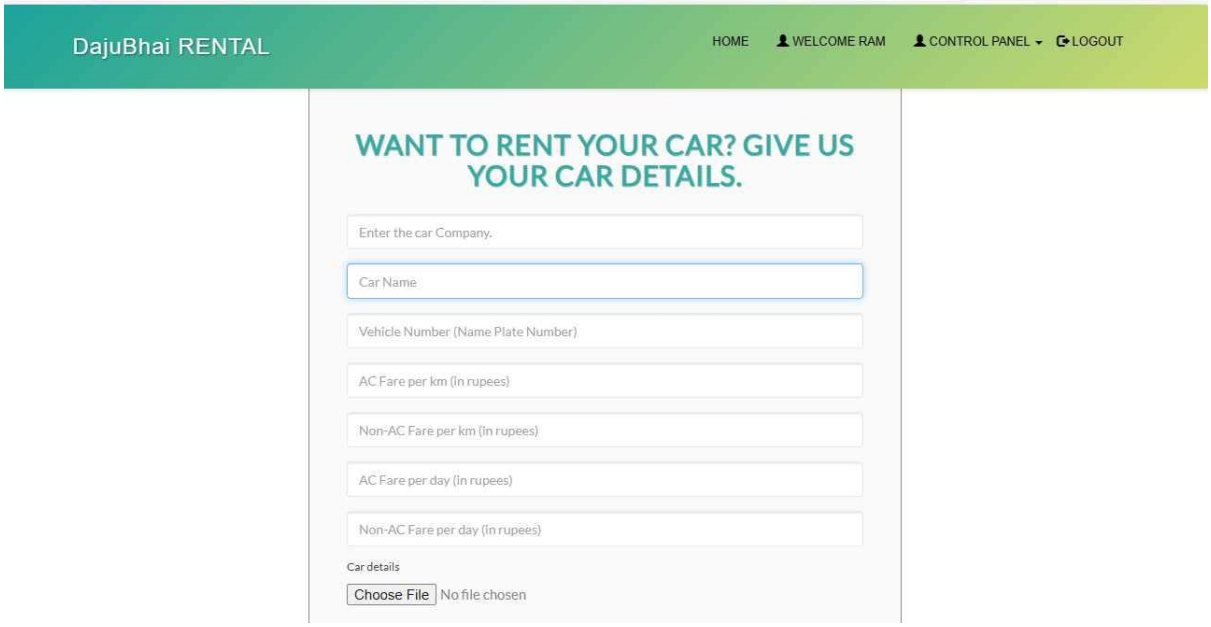
New users can sign up using their name, username and password on this page. The registered new users are client or cutsomer by default.

5.5 Customer Verification Section

It provides the authenticating process of a customer's identity. It can come in many forms, including email verification, address verification, and phone number verification, but it always involves confirming that a person is who they say they are.

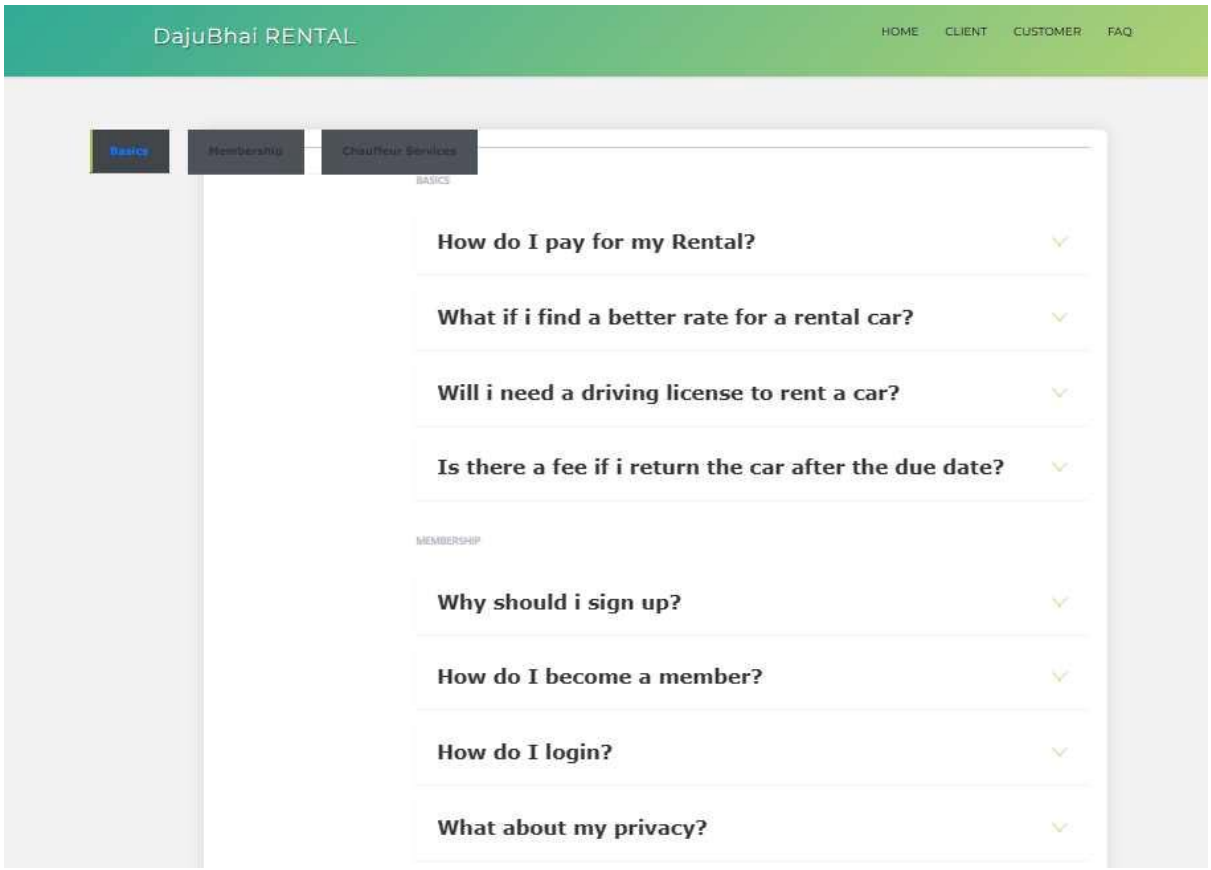


5.6 Available cars



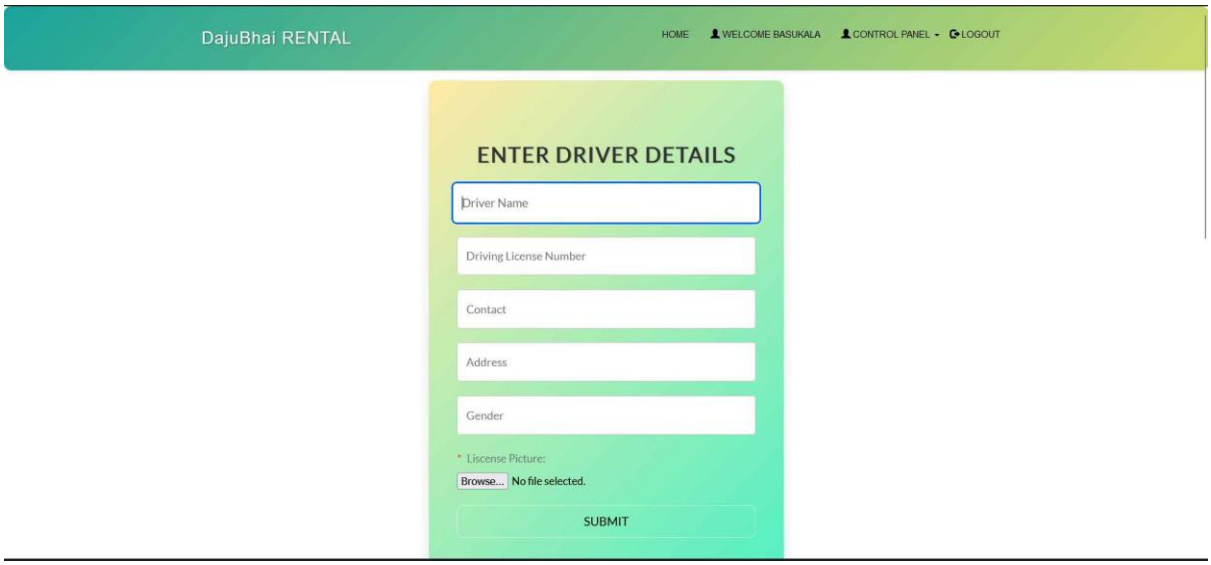
5.7 Rent your car

The categories of different cars are displayed on this page. Through this page, customer can rent car as per their need.



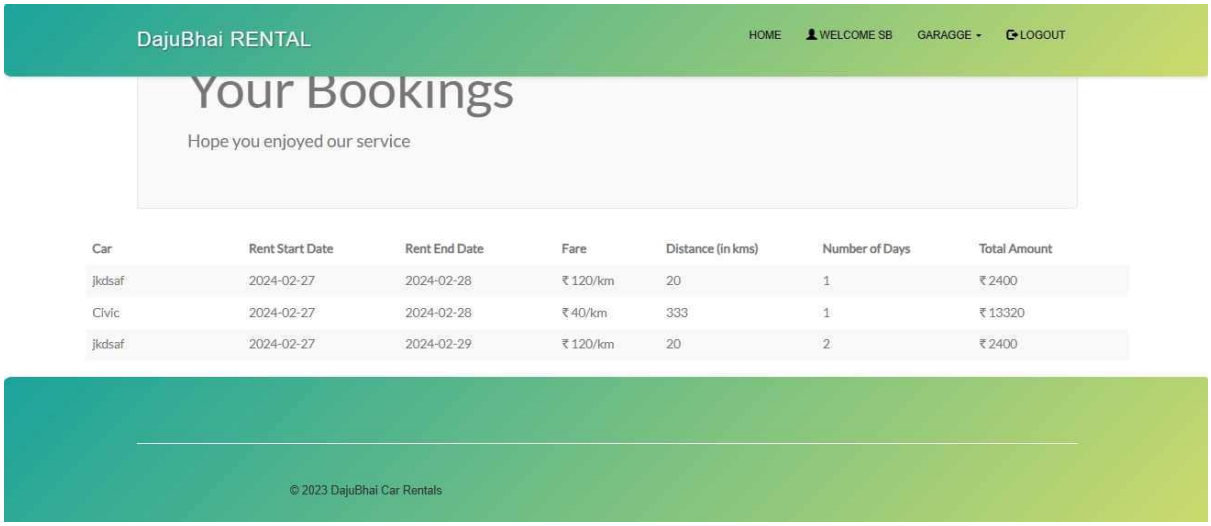
5.8 FAQ Page

The FAQ (Frequently Asked Questions) page involves providing clear, concise answers to common inquiries both the clients and customers may have.



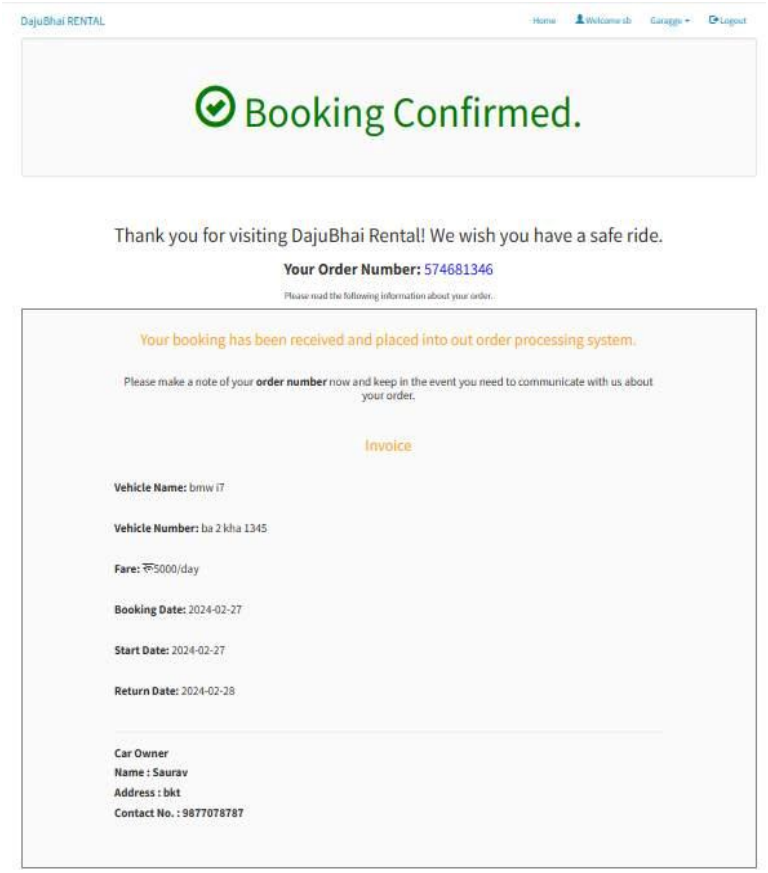
5.9 Add a driver

The driver can be added using their name, license number, contact number, address, gender and his/her license picture.



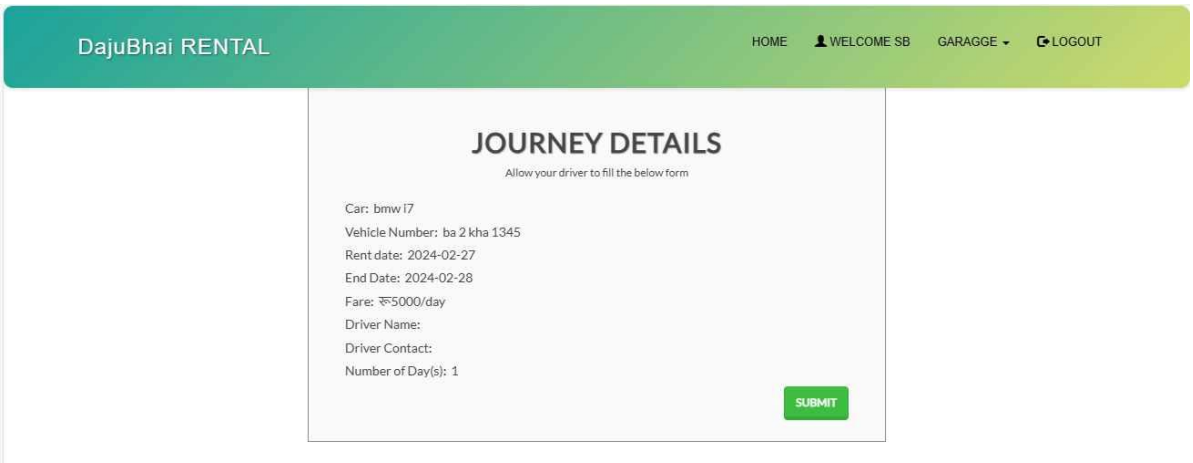
5.10 Booking Detail Page

In this page, you can see the booking details of available cars that are booked by the customers.



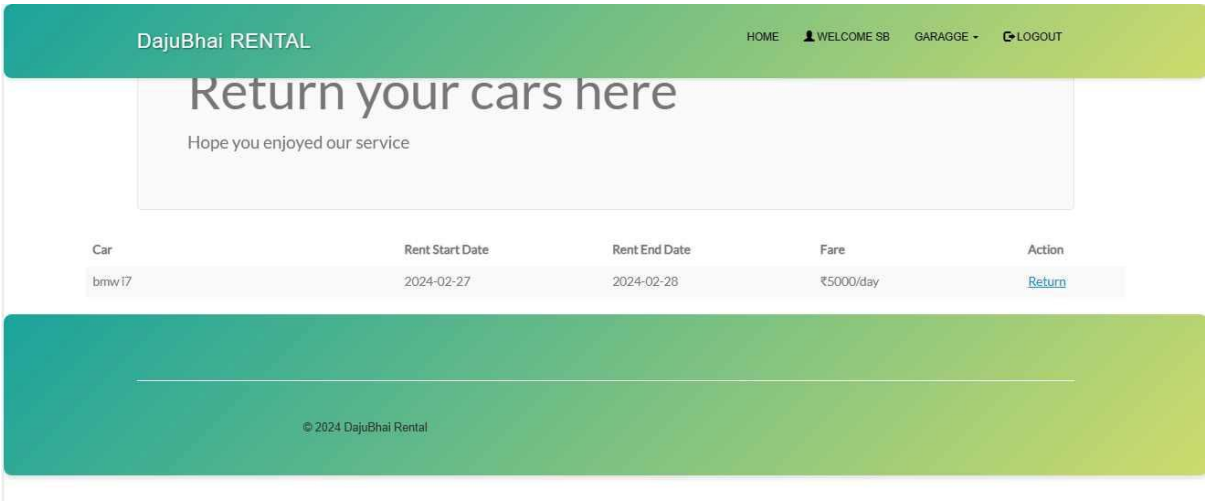
5.11 Booking Confirmed

Customers can select the optimal car, determine the date and location for pickup and drop-off, and arrange any necessary additional services.



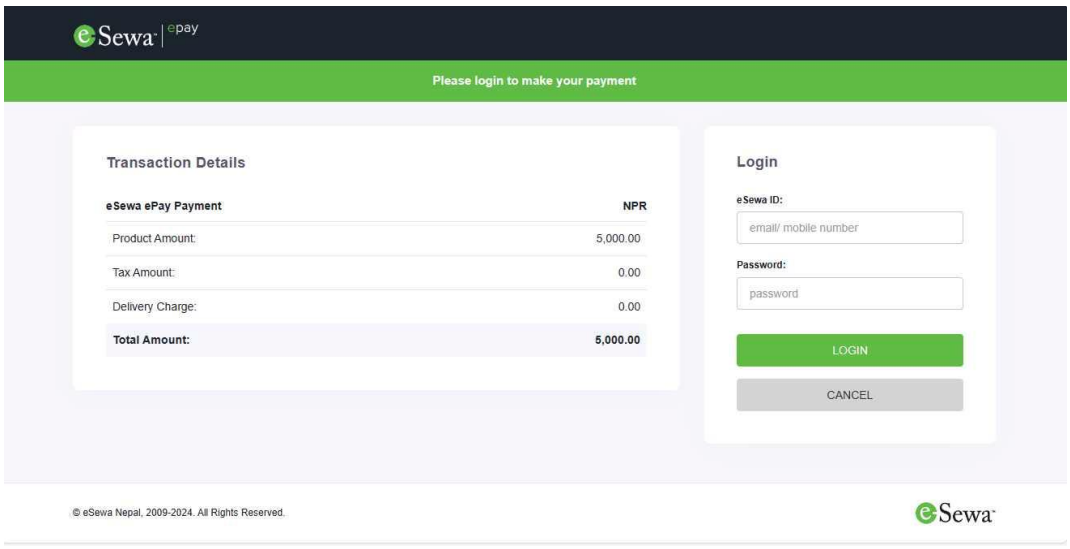
5.12 Journey Details Page

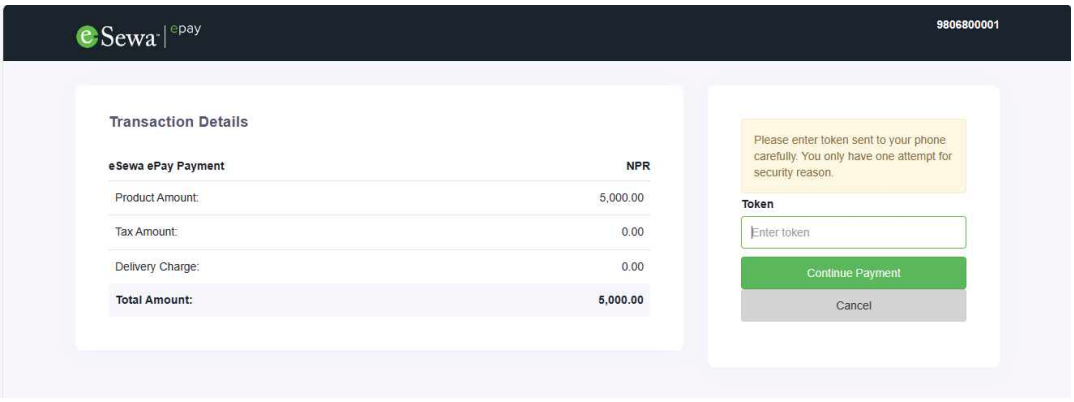
A journey detail provides the distance travelled from the origin to the final destination with its fare price.

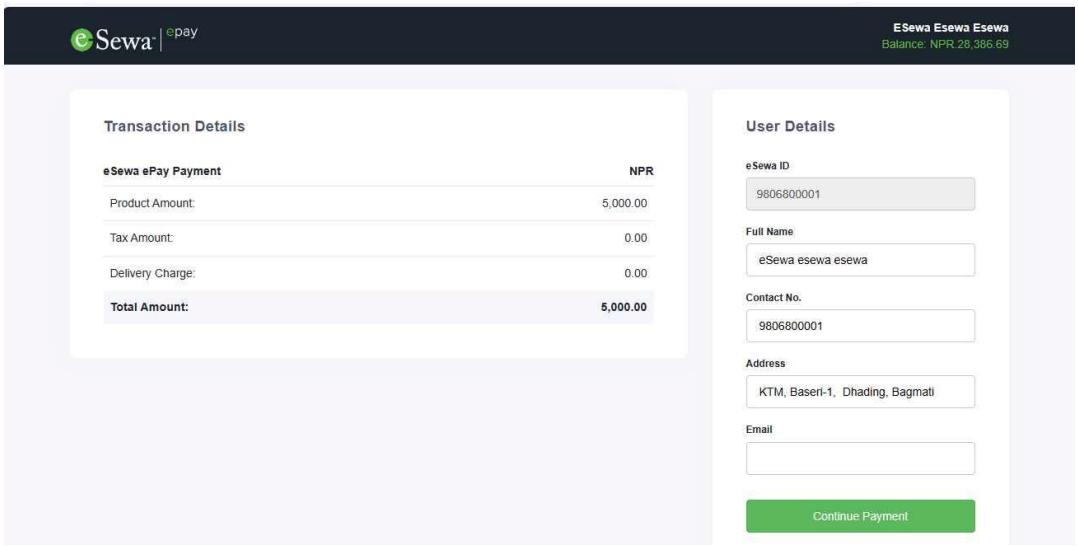


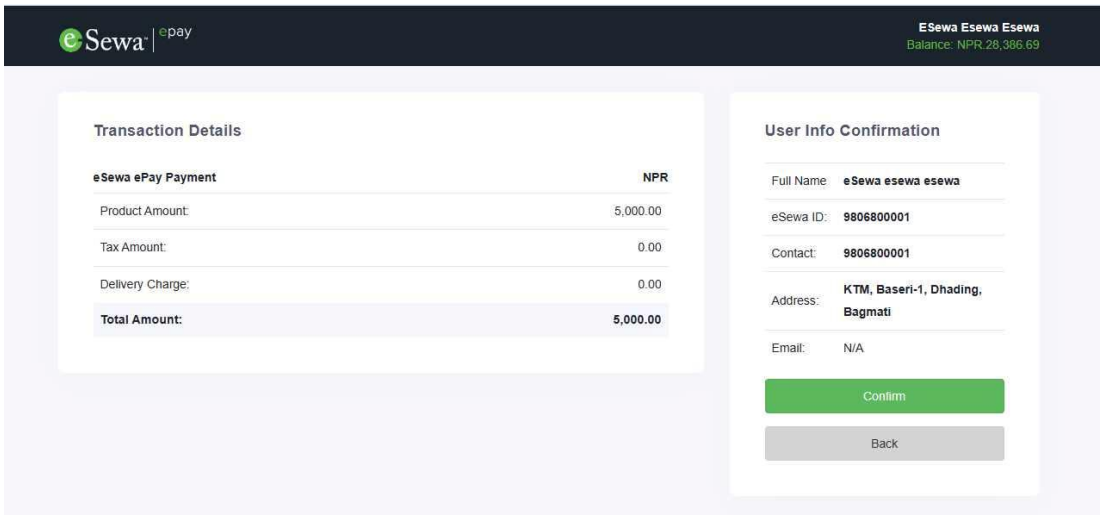
5.13 View Return Car Page

This page shows the total number of cars that have been returned from the customers from starting day of rent to the end day of rent.









5.14 Payment Page

This page allows customer to pay their bill easily and securely. It includes the customer id, customer name, contact number, address and email.

CHAPTER VI

CONCLUSION AND RECOMMENDATION

6.1 Conclusion

Implementing a car rental system offers numerous benefits such as increased convenience, flexibility, and cost-effectiveness for both customers and rental companies. It streamlines the booking process, enhances fleet management, and improves customer satisfaction.

6.2 Recommendation

To maximize the effectiveness of the car rental system, it is recommended to focus on continuous technological advancements, ensuring user-friendly interfaces, incorporating flexible pricing models, maintaining a well-maintained and diverse fleet, and prioritizing customer service excellence. Additionally, regular evaluation and updates based on customer feedback and market trends are essential to stay competitive in the industry.

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