

A
Project Report
On
“ONLINE VEHICLE RENTAL SYSTEM”

Submitted in partial fulfillment of the requirements of
the degree of

Bachelor of Technology

In
Computer Engineering

Affiliated to
**Dr. Babasaheb Ambedkar Technological University,
Lonere**

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CERTIFICATE

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DECLARATION

I declare that this written submission represents my ideas in my own words and where others ideas or words have been included; I have adequately cited and referenced the original sources.

I also declare that I have adhered to all principles of academic honesty and integrity and have not misrepresented or fabricated or falsified any idea/data/fact/source in my submission.

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ABSTRACT

The Vehicle Rental System is being developed for customers so that they can book their cars and bike from any part of the world. This application takes information from the customers through filling their details.

A customer being registered in the website has the facility to book a Car and bike which he requires. The proposed system is completely integrated online systems. It automates manual procedure in an effective and efficient way. This automated system facilitates customer and provides to fill up the details according to their requirements. It includes type of car they are trying to hire and location. The purpose of this system is to develop a web site for the people who can book their Car and bike along with requirements from any part of the world. Vehicle rental system provides Car to User in their location on short time.

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CHAPTER I

INTRODUCTION

1.1 Introduction to online car rental system

This project is designed so as to be used by Vehicle Rental Company specializing in renting cars and bike to customers. It is an online system through which customers can view available cars and bikes, register, view profile and book vehicles. Here, User has to Login to book vehicles. The user can search for cars and bikes easily and book. For bookings, the user has to provide information such as Booking Dates and Text Message. All vehicle details are provided and it also includes Car's and bikes feature and Overview. The user can also post their Testimonials and the user can update their Profile as well as passwords anytime they want from the site. Admin can Add/Manage vehicle brands; manage vehicle, bookings, testimonial, pages and many more. It's easy to operate and understand by users. This site makes customers easy for vehicle rental. The design is pretty simple and the user won't find it difficult to understand, use and navigate.

1.2 Reason for the Project

- **Enhance Business Processes:** To be able to use internet technology to project the rental company to the global world instead of limiting their services to their local domain alone, thus increase their return on investment (ROI).
- **Online Vehicle Reservation:** A tools through which customers can booking available cars and bike online prior to their expected pick-up date or time.
- **Customer's registration:** A registration portal to hold customer's details, monitor their transaction and used same to offer better and improve services to them.
- **Group Booking/Event Management:** Allows the customer to book space for a group in the case of weddings or corporate meetings.

1.3 Problem Statement

A car rental is a car that can be used temporarily for a fee during a specified period. Getting a rental car helps people get around despite the fact they do not have access to their

own personal car or don't own a car at all. The individual who needs a car must contact a rental car company and contract out for a car. This system increases customer retention and simplify car and staff management.

1.4 Aims & Objective

- To produce a web-based system that allow customer to register and Booking car online and for the company to effectively manage their car rental business.
- To ease customer's task whenever they need to rent a car

1.5 Scope

This project traverses a lot of areas ranging from business concept to computing field, and required to perform several researches to be able to achieve the project objectives.

CHAPTER II

ONLINE VEHICLE RENTAL SYSTEM

2.1 How Car Rental Services Work

A Vehicle rental is a car that can be used temporarily for a period of time with a fee. Renting a car assists people to get around even when they do not have access to their own personal car or don't own a car at all. The individual who want to rent a car must first contact the car rental company for the desire car. This can be done online. At this point, this person has to supply some information such as dates of rental, and type of vehicle, fuel type, etc. After these details are worked out, the individual renting the car must present a valid Identification Card (Aadhar Card, Passport, PAN card) during handling over the car. Most companies throughout the industry make a profit based of the type of cars that are rented. The rental cars are providing a car every type. And customers are free to choose any car of their choice based on their purpose and availability of such car at a time of reservation.

2.2 Benefits of Online Car Rental Services

- This online vehicle rental solution is fully functional and flexible.
- It is very easy to use.
- It saves a lot of time, money and labour.
- Eco-friendly: The monitoring of the car activity and the overall business becomes easy and includes the least of paper work.
- The software acts as an office that is open 24/7.
- It increases the efficiency of the management at offering quality services to the customer.

CHAPTER III

TESTING

3.1 Testing

Testing is evaluation of the software against requirements gathered from users and system specifications. Testing identifies important defects, flaws, or an error in the application code that must be fixed. It also assesses the feature of a system. Testing assesses the quality of the product.

3.2 Unit Testing

Unit testing refers to the testing certain functions and areas of the code. It gives the ability to verify that all the functions work as expected. Eventually, it helps to identify failures in the algorithms as well as logic to help improve the quality of the code that composes a certain function.

3.3 Integration Testing

Integration testing is basically a logical extension of unit testing. In simple words, two tested units are combined into a component and the interface between them is tested. It identifies problems that occur when different units are combined. The different modules of this project have undergone integration testing while being merged.

3.4 System Testing

System testing tests the behaviour of whole system as defined by the scope of the development project. It might include tests based on risks as well as requirement specifications, business process, use cases or other high level descriptions of system behaviour, interactions with the operating systems and system resources. It is most often the final test performed to verify that the system meets the specification and its objectives. System testing has been performed at the completion of each feature and is still taking place to make improvements on the existing system.

CHAPTER IV

TASK AND ACTIVITIES PERFORMED

4.1 System Analysis

System Analysis is a detailed study of the various operations performed by a system and their relationships within and outside of the system. Here the key question is- why all problems exist in the present system? What must be done to solve the problem? Analysis begins when a user or manager begins a study of the program using existing system. During analysis, data collected on the various files, decision points and transactions handled by the present system. The commonly used tools in the system are Data Flow System Analysis is a detailed study of the various operations performed by a system and their relationships within and outside of the system. Here the key question is- why all problems exist in the present system? What must be done to solve the problem? Analysis begins when a user or manager begins a study of the program using existing system. During analysis, data collected on the various files, decision points and transactions handled by the present system. The commonly used tools in the system are Data Flow Diagram etc. Training, experience and common sense are required for collection of relevant information needed to develop the system. The success of the system depends largely on how clearly the problem is defined, thoroughly investigated and properly carried out through the choice of solution. A good analysis model should provide not only the mechanisms of problem understanding but also the frame work of the solution. Thus it should be studied thoroughly by collecting data about the system. Then the proposed system should be analysed thoroughly in accordance with the needs. System analysis can be categorized into four parts.

- System planning and initial investigation
- Applying analysis tools for structured analysis
- Feasibility study
- Cost/ Benefit analysis.

4.2 Problem Analysis

This stage there is no existing system previously; we are developing a new system. Till now no system is available with this type of features and facilities. This system is developed for the all types of users with highly flexible and configurable product is envisaged to ensure global marketing

4.3 Design and Development Problem

- Problem in running XAMPP.
- To debug the error during the development.
- To show a relationship between entity.
- Minor error with database table.

4.4 Feasibility Analysis

A feasibility analysis is conducted once the problem is clearly understood. The purpose of the study is to determine whether the problem is worth solving. It is an analysis and evaluation of a proposed project to determine if it is technically feasible.

4.5 Economical Analysis

The economic feasibility of a system is used to evaluate the benefits achieved from and the costs incurred for the project or system. This is done by a process called cost benefit analysis. It provides tangible and intangible benefits like reduction in cost, more flexibility, faster activities, proper database management, etc.

The application is medium scale application and is economically feasible for us to accomplish it. This involves cost benefits analysis. Thus there is no problem of high cost and cost benefits analysis.

4.5.1 Software Analysis

- Consumes a long-time for development of web application.
- Research and analysis cost to determine the actual need in real world.
- Implementation of application in the server and cost associated with the space in server.

4.5.2 Data Conversion

Another cost associated while implementing this web application is the data conversion. The previously used software database must be stored and backup such that there will be no loss in implementing a new web application which consumes time as well as money.

4.5.3 Operational Feasibility

The system is operational feasible as the system can be operate by normal users with basic computer skills without any additional trainings. We have developed this system with the willingness and ability to create, manage and operate the system which is easy for the end users to operate it.

CHAPTER V

HARDWARE AND SOFTWARE REQUIREMENT

Hardware Requirement:

Processor	:	Intel Pentium Dual Core
RAM	:	512 MB
Hard Disk	:	160 GB Space

Software Requirement:

Operating System	:	Windows /iOS/Unix
Web Browser	:	IE/Google Chrome/Firefox
Technology	:	PHP
Tools	:	XAMPP
Web Design	:	HTML, CSS, JAVASCRIPT
Back End	:	MYSQL
Scripting Language	:	PHP

CHAPTER VI

EXISTING SYSTEM

Although many online portals have come into the picture for providing online car booking service. But most of the car renting companies are using traditional way to deal with the customer. Which are time and labour consuming? An existing system can provide manually paper work or excel sheet to track the booking and registered cars details. The user has to go in the office where the user can get the car on rent and book their car. Most of the time user does not get a sight of the car in which he is planning to travel. Which results in compromising the travel comfort? In the existing system, you cannot provide feedback of the user to the admin directly. The user gets fluctuation every time he/she travels. Maintaining excel sheet or paper book record of reservation is very laborious work. Chances of error are more. No automation involves which means they are very slow to process.

6.1 Problem Statement

The Manual car rental system provides services only during office hours. So; customers have limited time to make any transactions or reservation of the cars. The existence of the online car rental systems nowadays has overcome the limitation of the business operation hour. There are some customers who faced a problem in choosing car to be rented which suitable with some of the important requirements.

- To rent a car a prospective renter must first go to the nearest office to register as a client.
- Cars that provide difficulties to rent out are normally advertised in local or national newspaper. It involves a lot of paper work and consumes time
- Details are stored in papers
- Maintenance is a huge problem
- Updations, changes in details is a tedious task
- Performance is not achieved up to the requirements.

CHAPTER VII

PROPOSED SYSTEM

The proposed system facilitates the customers to fill up their details, and to give a brief description of a car they want to book. This new system is very helpful for customers who want to hire their cars through this site.

This Car Rental System project will enable the user to rent a car. The user shall login to the system and check for availability of cars. The user specifies a type of car and the journey date and time. The Car Rental System shall check for the availability of the car and rent the car to the customer. All the data regarding the rental cars are stored in MySQL database. The user has to enter his name, address, phone details and check for the cars available for rent. The UI is very simple and the connectivity to back end is robust. The main advantage is that the user shall be able to choose a car depending on his budget.

7.1 Advantages:

- First the customer has to make a reservation and later on in the process has to do registration.
- Second if the customer had already registered himself then he can continue booking in his own account by giving his customer id or mail id.
- Thirdly, the customer can amend details or update his details.
- Maintenance is easy and performance is good
- It is easy to use and understand.
- It reduces the time complexity.

CHAPTER VIII

SPECIFICATION OF PROPOSED SYSTEM

Modules:

- Guest
- Registered Users
- Admin

Guest Users

Guest user can view the website and checkout the information about rental cars. Guest users can also inquiry through contact us page.

Register Users

Anyone can register through the registration page. After a successful registration user can log in with valid email and password. User can recover own password by providing some register info.

After successful login user can do the following things–

- Car Booking
- View Car booking history
- Update His/Her profile
- Update his/her password
- View details of car
- Logout

Admin

Admin is the super user of the website who can manage everything on the website.

Admin Features–

- Admin can create car brands

- Manage Car Brands(Edit, Delete)
- Post Car
- Manage car(Edit, Delete)
- Manage Booking(Admin can confirm and Cancel Booking)
- Manage Contact us Query
- Admin Can the details of registered users
- admin can also update the page content
- Admin can update the contact us details
- Manage Subscribers
- Admin Dashboard(Admin can view the count of reg users, total booking,total subscribers, total queries etc)
- Change Password(admin can change own password)
- logout

CHAPTER IX

SYSTEM ARCHITECTURE AND DESIGN

9.1 Data Flow Diagram (DFD)

A Data Flow Diagram (DFD) is a graphical representation that depicts the information flow and the transforms that are applied as data moves from input to output.

Zero Level Data Flow Diagram

Zero Level DFD of online car rental system, it elaborate high level process of online car rental system. It is overview of whole online car rental system there are some high level entities for the process of car rental system.

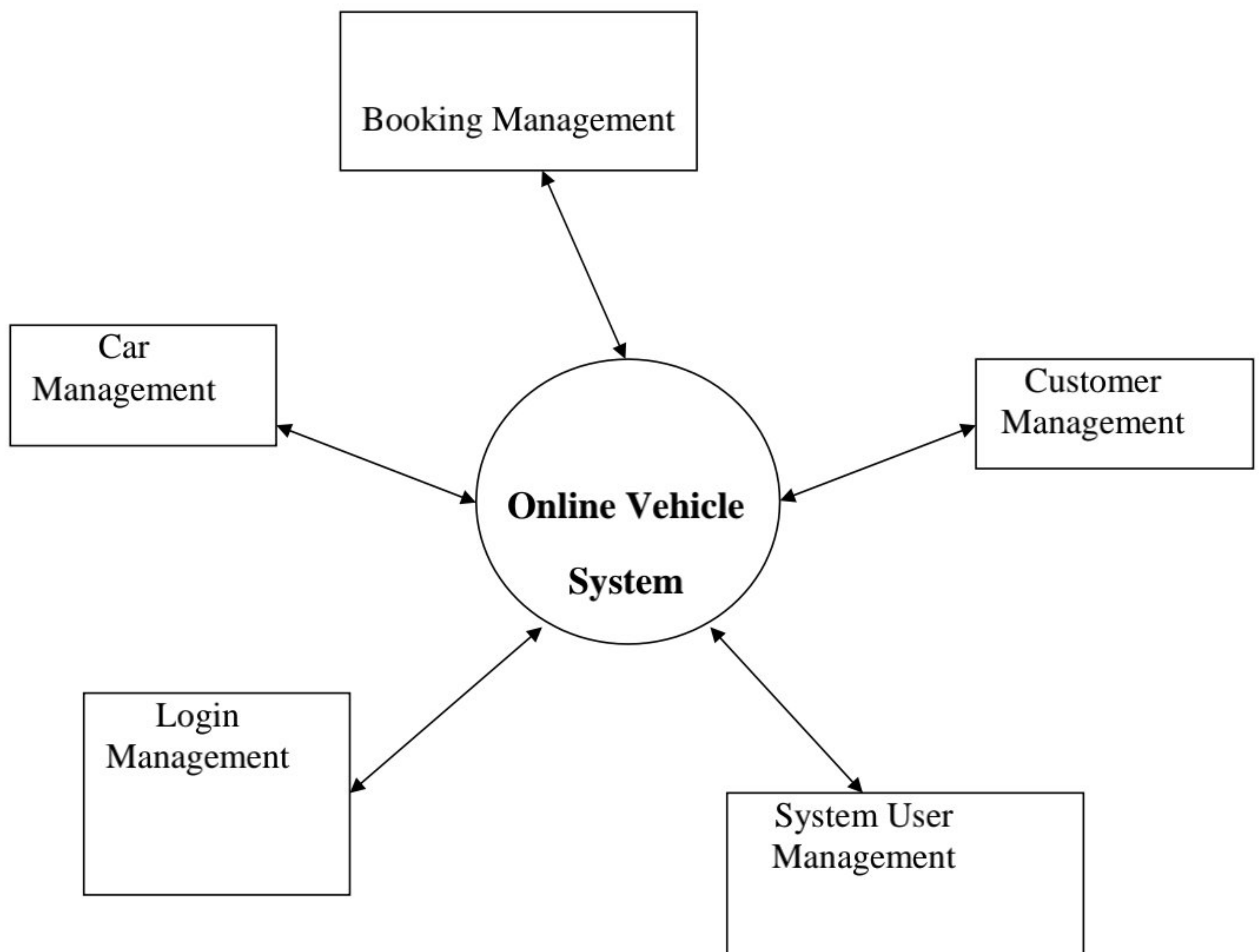
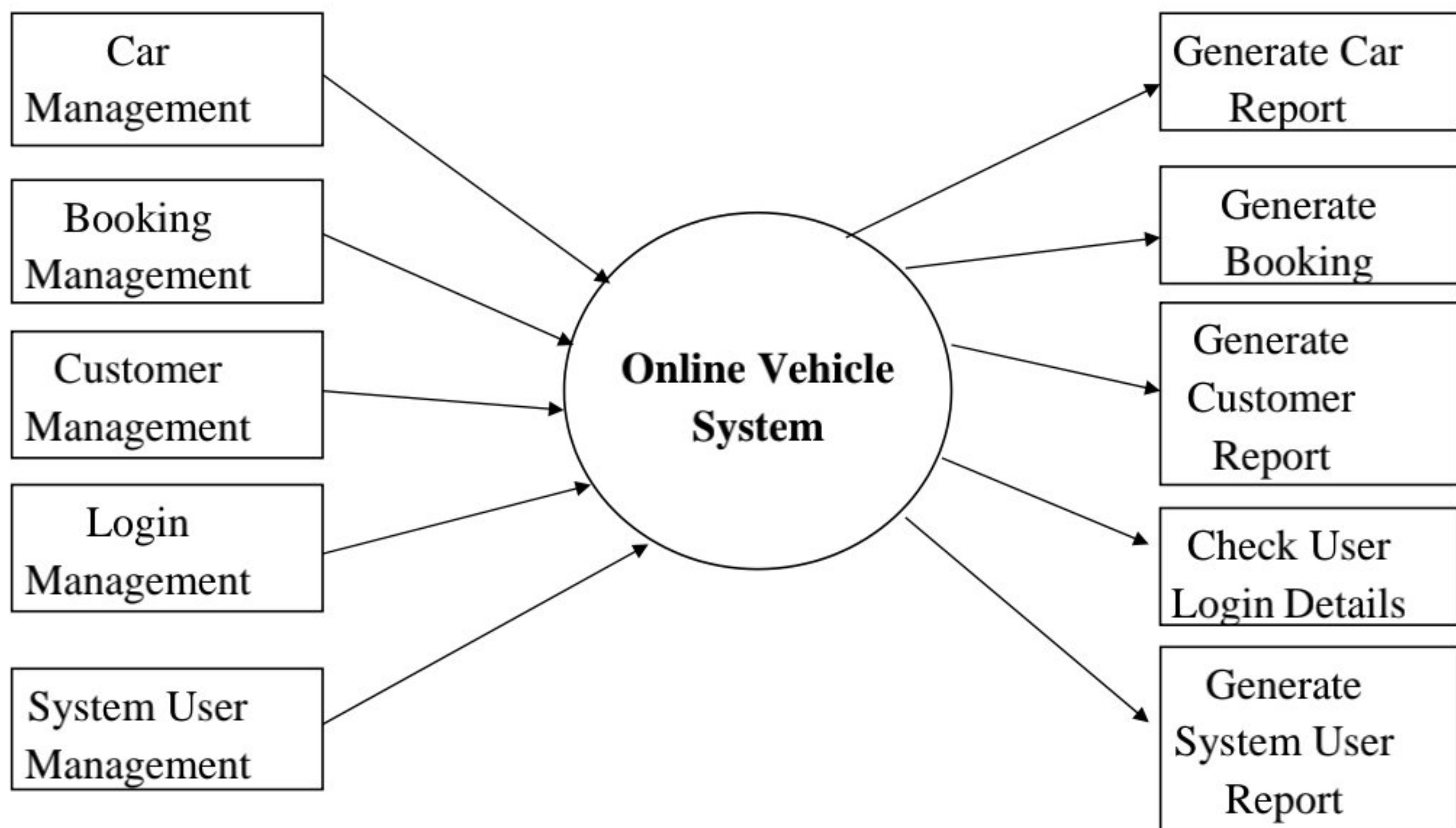


Figure 1: Zero level DFD

First Level Data Flow Diagram**Figure 2: 1st level DFD**

1st Level DFD of online car rental system shows how the system is divided into sub system, each of which deals with one or more of the data flows to or from an external agent which together provide all the functionality of online car rental system as whole, above are some given entities and output of 1st level.

Second Level Data Flow Diagram

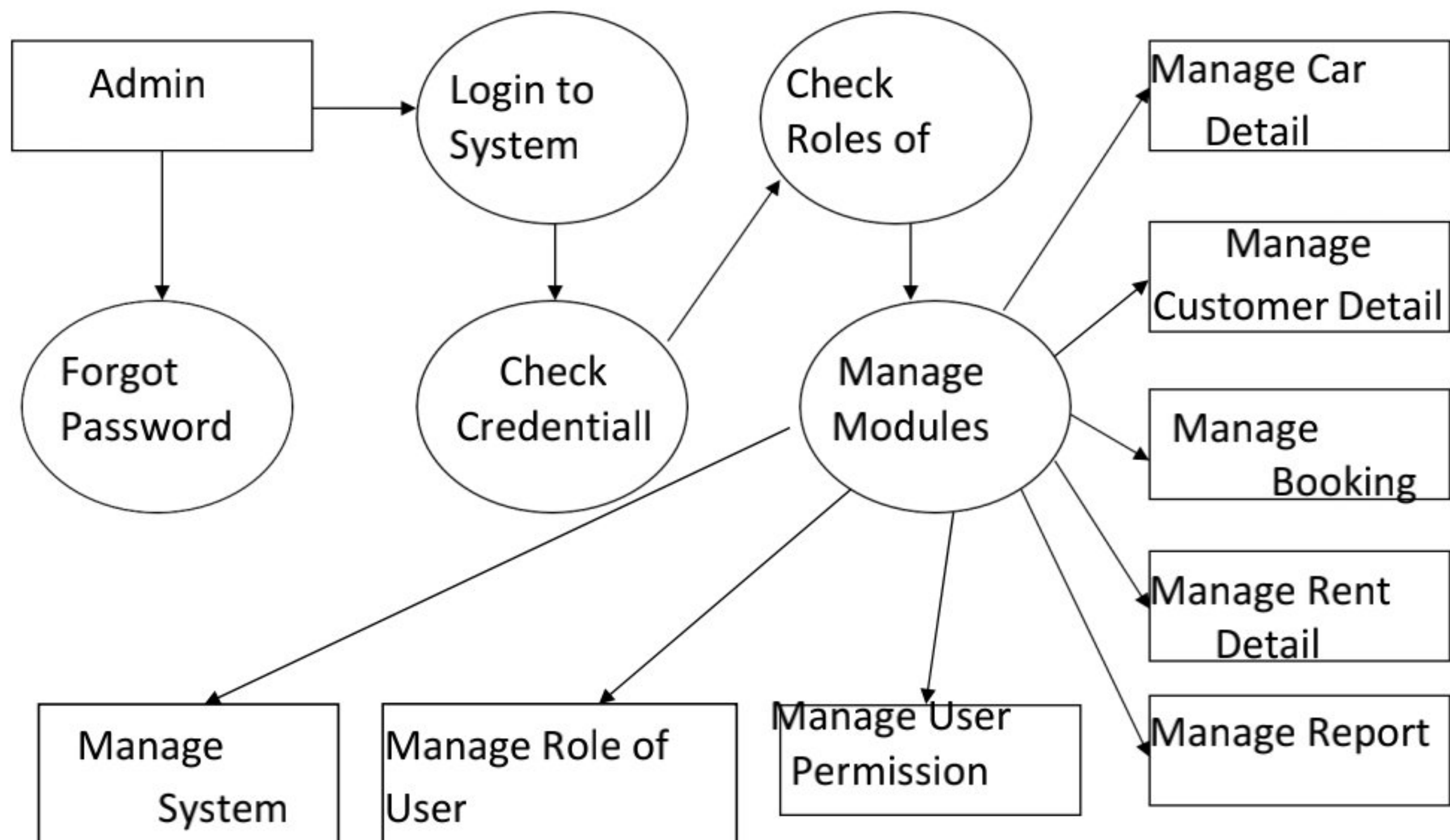


Figure 3: 2nd level DFD

ER-Diagram

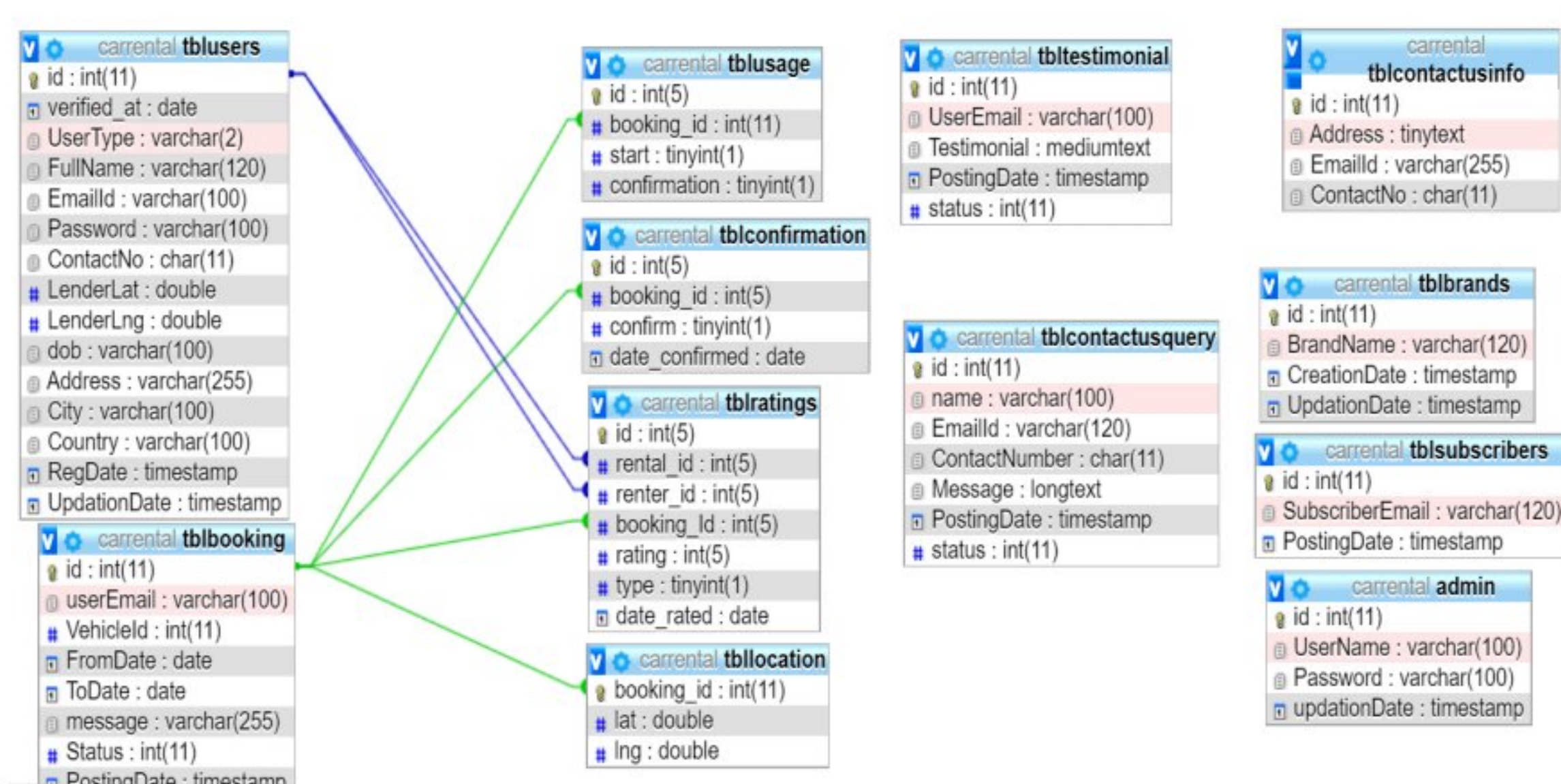


Figure 1: ER Diagram

ER diagram show all the relationships between entity sets stored in the database. It illustrates the logical structure of the database. It helps to visualize how data is connected in general ways.

CHAPTER X

USE CASE DIAGRAM

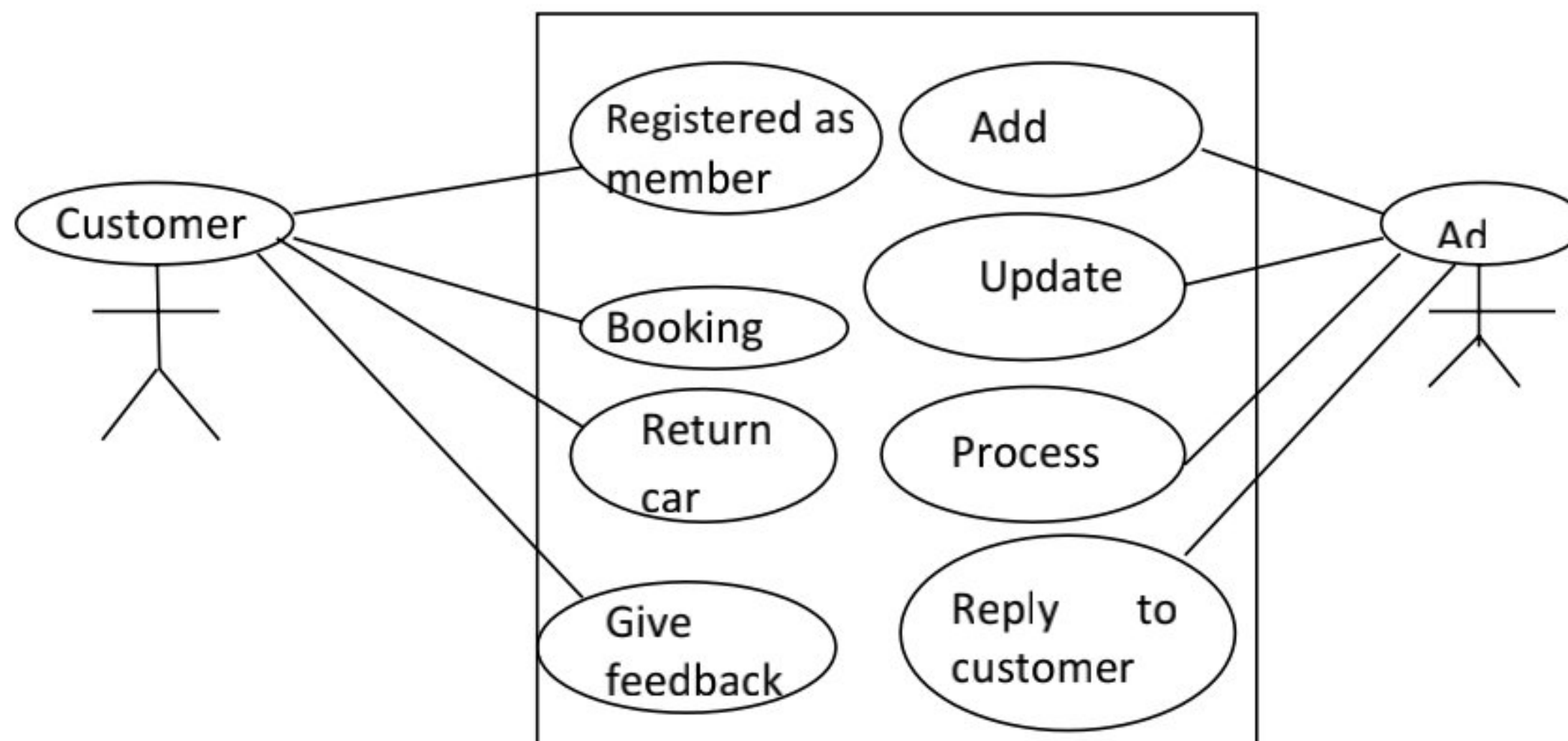
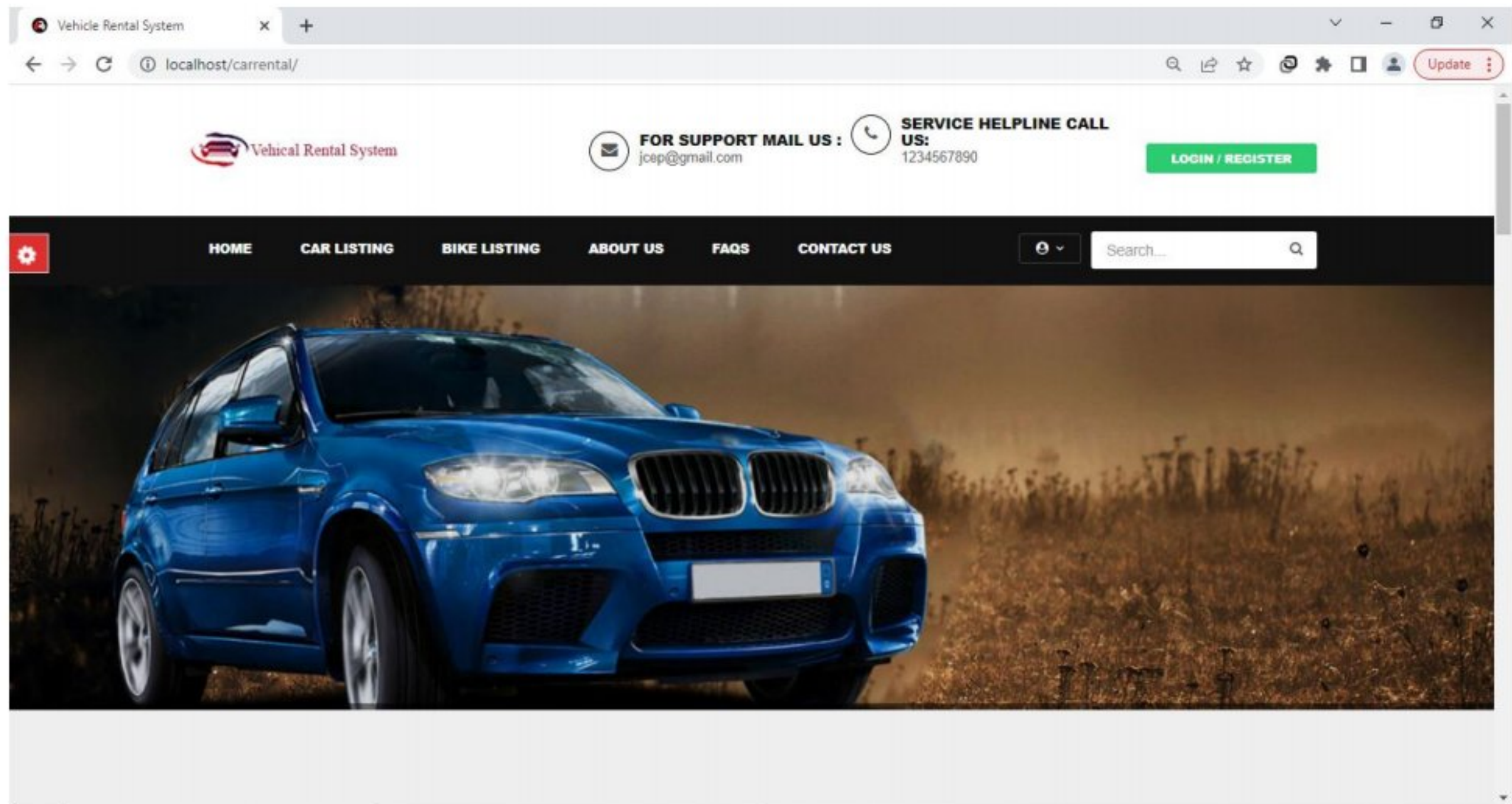


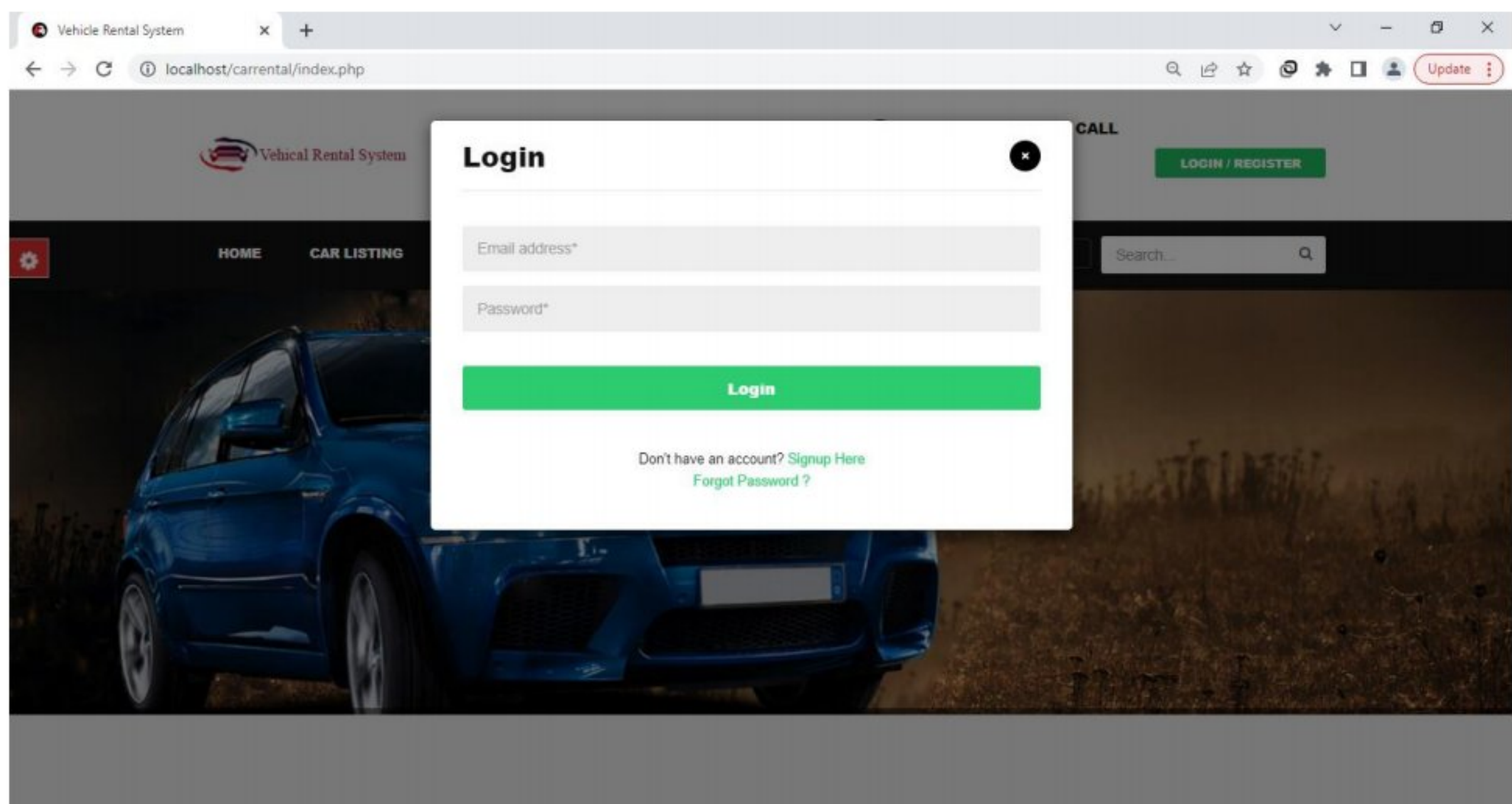
Figure 5: Online Car Rental System [use case]

CHAPTER XI

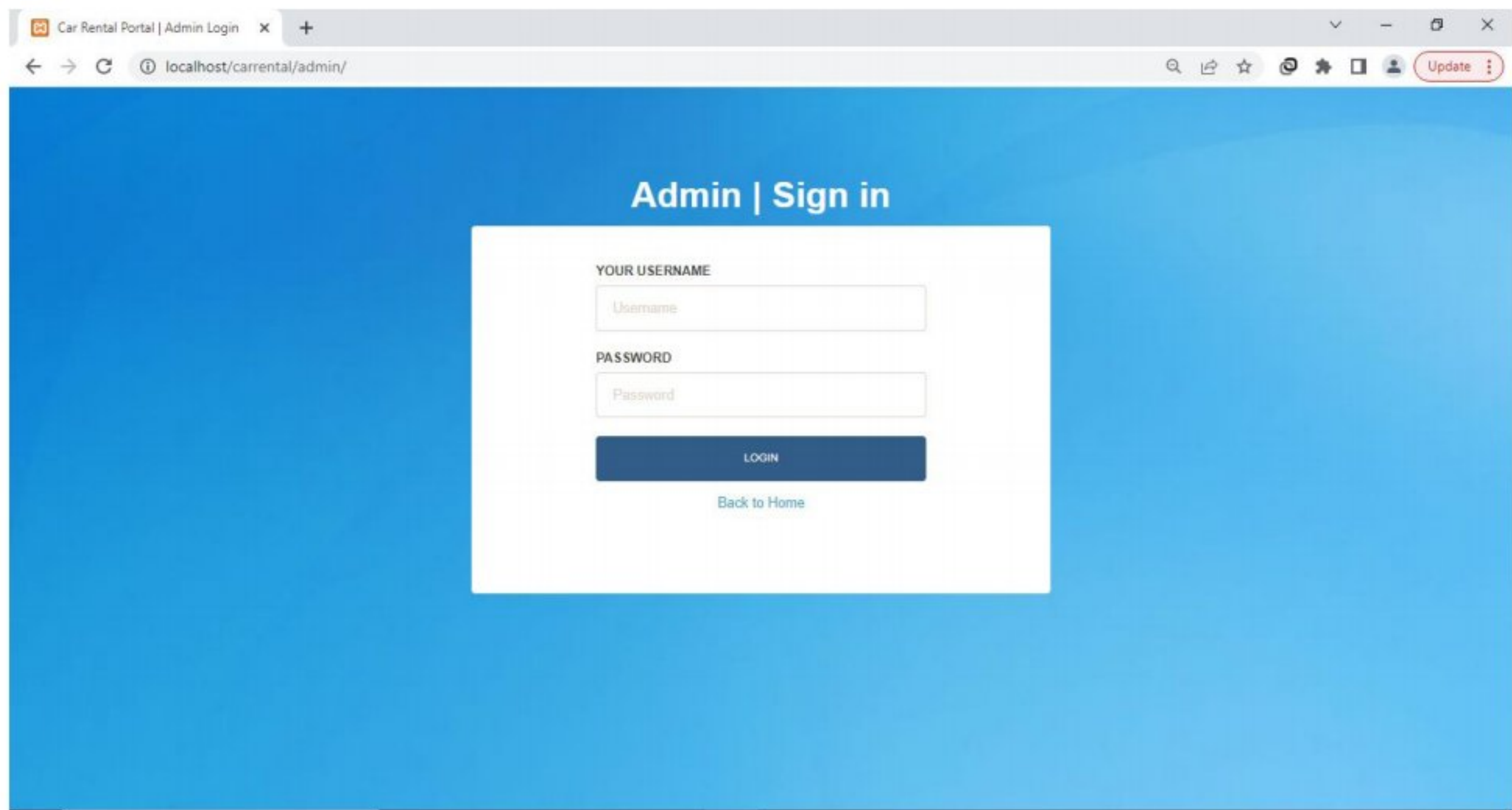
OUTPUTS



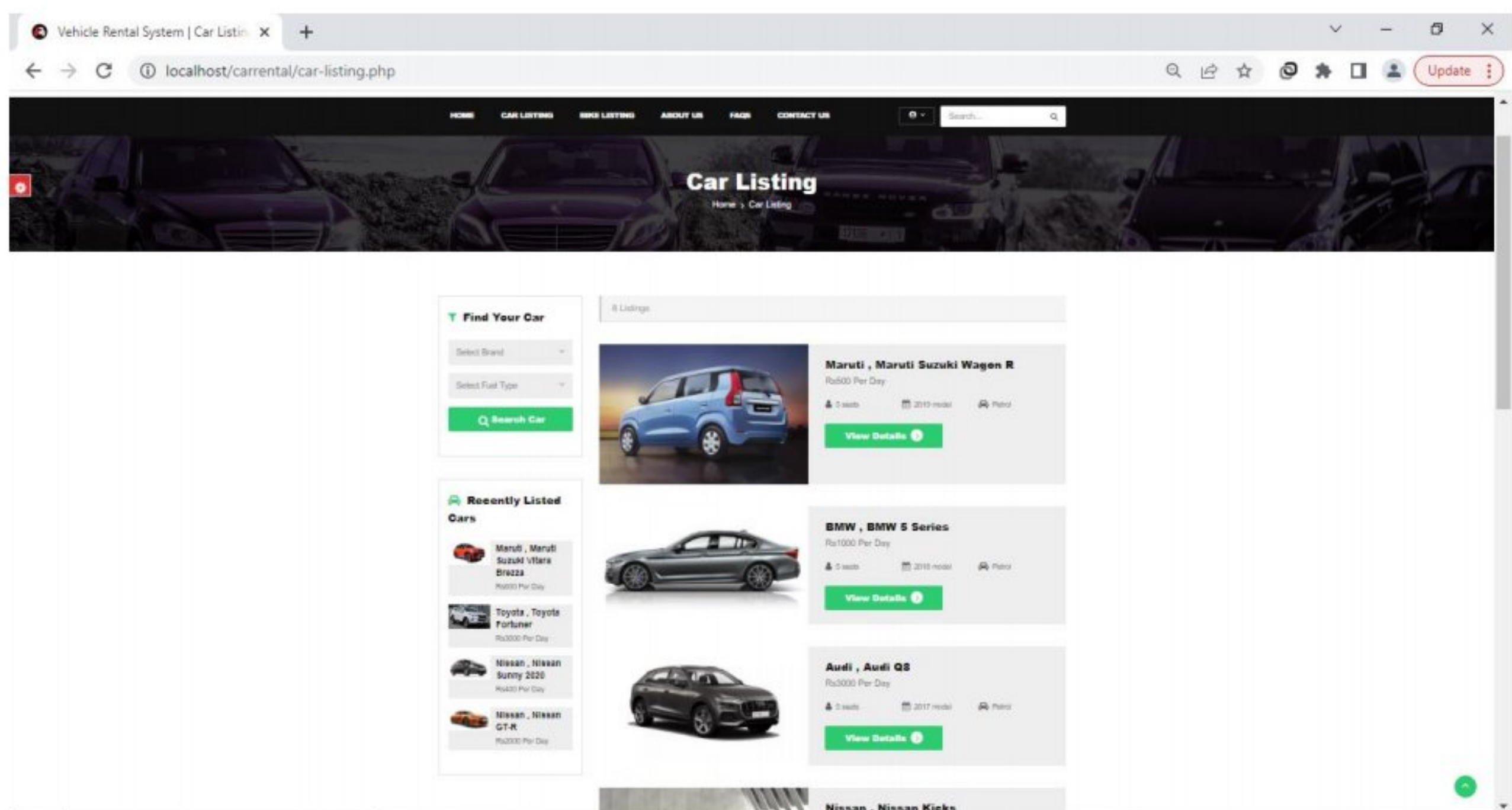
Screenshot 1: Home Page



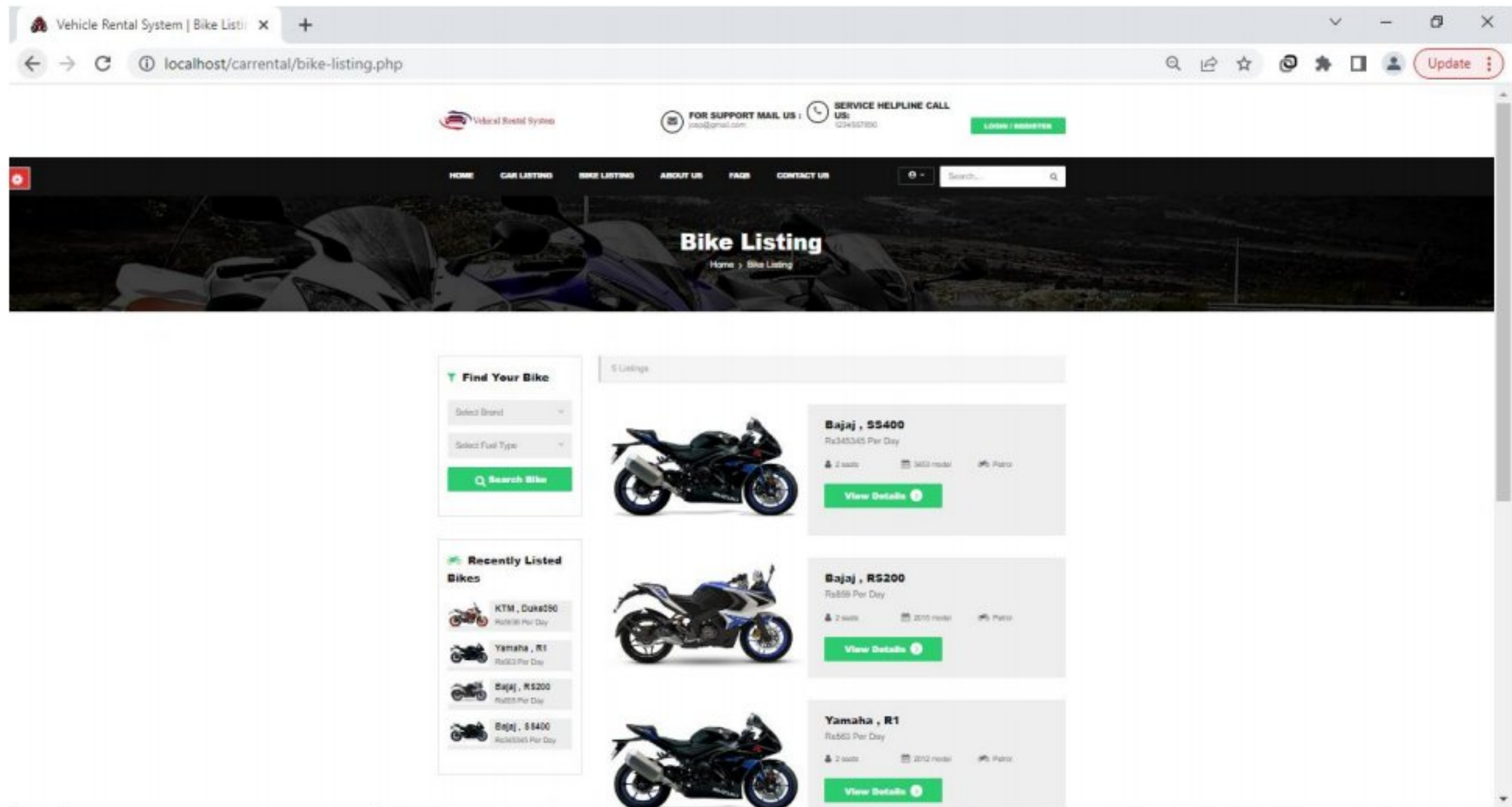
Screenshot 2: User Login



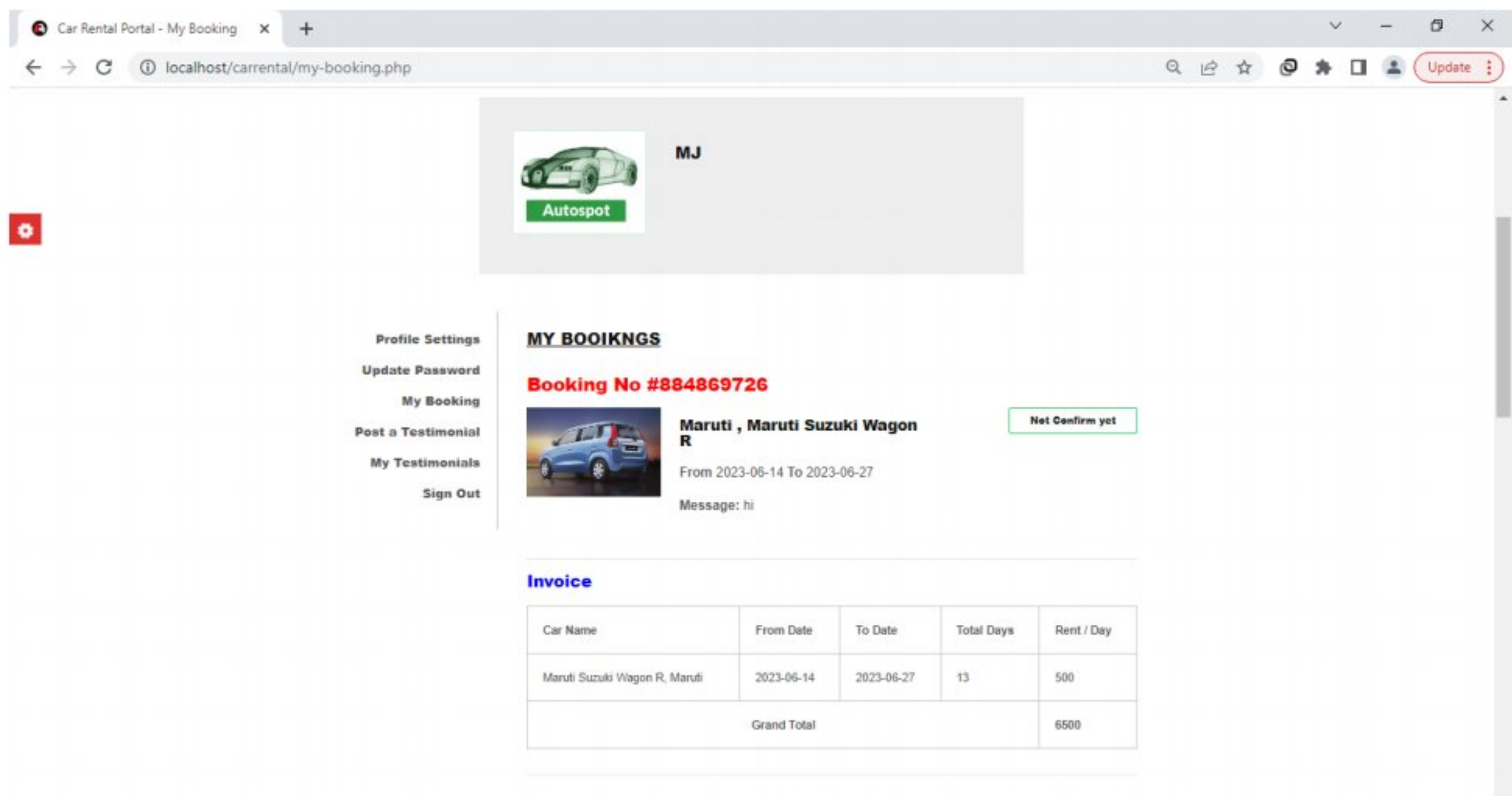
Screenshot 3: Admin Login



Screenshot 4: Car Listening



Screenshot 4: Bike Listening



Screenshot 5: My Booking details

Car Rental Portal | My Profile

localhost/carrental/profile.php

Profile Settings
Update Password
My Booking
Post a Testimonial
My Testimonials
Sign Out

GENERAL SETTINGS

Reg Date - 2023-05-19 08:41:31

Full Name
MJ

Email Address
mj@gmail.com

Phone Number
1234567890

Date of Birth (dd/mm/yyyy)
dd/mm/yyyy

Your Address

Country

City

Save Changes

Screenshot 6: User Profile Setting

Car Rental Portal | Admin Dashboard

localhost/carrental/admin/dashboard.php

Dashboard

2 REG USERS
FULL DETAIL

8 LISTED VEHICLES
FULL DETAIL

5 TOTAL BOOKINGS
FULL DETAIL

6 LISTED BRANDS
FULL DETAIL

2 SUBSCRIBERS
FULL DETAIL

1 QUERIES
FULL DETAIL

1 TESTIMONIALS
FULL DETAIL

Screenshot 7: Admin Dashboard Panel

CHAPTER XII

CONCLUSION

CONCLUSION

Vehicle rental business has emerged with a new goodies compared to the past experience where every activity concerning car rental business is limited to a physical location only. Even though the physical location has not been totally eradicated; the nature of functions and how these functions are achieved has been reshaped by the power of internet. Nowadays, customers can Booking cars online,rent car online, and have the car brought to their door step once the customer is aregistered member or go to the office to pick the car.

The web based car rental system has offered an advantage to both customers as well as Vehicle Rental Company to efficiently and effectively manage the business and satisfies customers' need at the click of a button.

CHAPTER XIII

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