

M.V.P. Samaj's.

G.M.D. ARTS, B.W. COMMERCE & SCIENCE
COLLEGE, SINNAR.

DEPARTMENT OF COMPUTER SCIENCE

A PROJECT REPORT ON

“Online Car Rental System”

Submitted by:

Derle Tejas Sudhakar

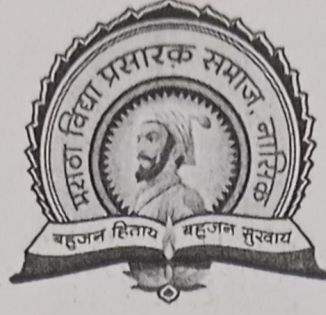
Ugale Shubham Madhukar

Sheikh Sahil Javed

Guided by:

(SMT.N.V. LAHAMAGE)

Savitribai Phule Pune University
2022-2023



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CERTIFICATE

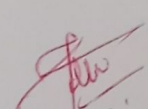
This is to certify that,

Derle Tejas Sudhakar

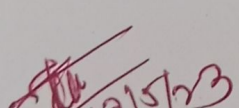
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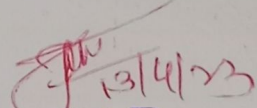
Student of B.Sc. Computer Science has satisfactory completed Project work on **“Online Car Rental System”**, towards partial fulfilment of degree course affiliated to Savitribai Phule Pune University for the Academic Year 2022-2023 at G.M.D. ARTS, B.W. COMMERCE & SCIENCE COLLEGE, SINNAR.

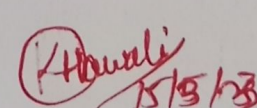

Project Guide

(Smt.N.V.Lahamage)


Internal Examiner




HEAD
DEPARTMENT OF COMPUTER SCIENCE
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External Examiner

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1. Abstract

The online car rental system is a comprehensive and user-friendly platform designed to meet the needs of individuals and businesses looking to rent cars. This system simplifies the rental process, from searching and booking a vehicle to making payments and managing reservations. Users can easily search for available cars based on their preferred location, date, and time, and choose the vehicle that best suits their needs. The system provides detailed information about each car, including its make, model, features, and rental rates, making it easier for users to compare and select the best option. The reservation process is straightforward, allowing users to make a booking in just a few clicks. Payments can be made securely online, and the system also allows users to manage their reservations and make changes if necessary. This online car rental system offers a convenient and hassle-free way to rent cars, making it a popular choice for people who need to rent vehicles for personal or business purposes. The platform is designed to be accessible, user-friendly, and secure, ensuring a smooth and efficient rental experience for all users.

2. Introduction

The emergence of the sharing economy has created a new wave of innovative business models, one of which is online car rental services. With the increasing popularity of ride-sharing and car-sharing platforms, consumers are increasingly looking for more convenient and affordable ways to access vehicles. Online car rental services offer a flexible and cost-effective way for individuals and businesses to rent cars for short or long-term periods.

2. Introduction

The emergence of the sharing economy has created a new wave of innovative business models, one of which is online car rental services. With the increasing popularity of ride-sharing and car-sharing platforms, consumers are increasingly looking for more convenient and affordable ways to access vehicles. Online car rental services offer a flexible and cost-effective way for individuals and businesses to rent cars for short or long-term periods.

1.Motivation:

The car rental industry has been growing steadily, and the COVID-19 pandemic has accelerated this trend as people opt for road trips rather than air travel. The demand for online car rental services has also increased as consumers prefer the convenience of renting cars from the comfort of their homes. However, despite the increasing demand for online car rental services, there are still challenges that need to be addressed.

1.Motivation:

An online car rental system offers a convenient and efficient way for people to rent vehicles for personal or business use. By providing a user-friendly platform with a variety of car options, customers can easily browse and select the vehicle that best fits their needs. This eliminates the need to physically visit rental locations, saving time and increasing accessibility. Additionally, online systems allow for 24/7 availability and booking, making it easier to accommodate last-minute rental needs. With the added benefits of transparent pricing and easy payment options, online car rental systems can offer a seamless and hassle-free experience for customers.

I.Motivation:

Car rental services have become increasingly popular in recent years due to changing consumer preferences and the rise of the sharing economy. The success of peer-to-peer car sharing platforms, such as Turo and Getaround, has inspired many entrepreneurs to enter the car rental industry. The purpose of this car rental project is to develop a platform that offers a convenient, reliable, and affordable car rental service to customers. Develop a user-friendly platform that enables customers to easily search and book rental cars.

Offer a wide range of vehicles at competitive prices, catering to the diverse needs and preferences of customers.

2.Problem Statement:

The traditional car rental process can be time-consuming and inconvenient, with long wait times at rental offices and complicated paperwork. Moreover, traditional car rental companies may not offer competitive prices, and the selection of vehicles may be limited. There is a need for an online car rental platform that simplifies the rental process, offers competitive pricing, and provides a wide range of vehicles to choose from.

3.Purpose/Objective and Goals:

The purpose of this project is to develop an online car rental platform that offers a user-friendly interface, competitive pricing, and a wide selection of vehicles to choose from. The goal is to make car rental more convenient and accessible to consumers while reducing the time and cost associated with the traditional rental process.

4.Literature Survey:

A literature survey will be conducted to understand the existing online car rental platforms, their features, strengths, and weaknesses. This survey will help to identify the gaps in the existing systems and inform the design of the new platform.

5. Project Scope and Limitations:

The project will focus on developing an online car rental platform with basic features such as vehicle selection, reservation, payment, and cancellation. The platform will also have a user management system, including user registration, login, and account management. The platform will be limited to rentals within a specific geographical location, and it will not include the management of vehicle maintenance or repair. The project will not cover the development of a mobile application, but the platform will be designed to be mobile-responsive.

3. System Analysis

3.1 Existing System:

An existing system can provide manually paper work. The user has to go in the office where user can get the car on rent and book their car. In the existing system you cannot provide feedback of the user to the admin online.

3.2 Scope and Limitations of Existing System:

Scope: The existing system for online car rental allows customers to search and book cars, manage bookings, and make payments online.

Limitations: The system lacks advanced features such as AI, machine learning, and personalized recommendations. It also has limited payment options, and the user interface needs improvement to enhance customer experience.

3.3 Project perspective, features :

Project perspective: The online car rental system aims to provide a convenient and efficient way for customers to rent cars.

Features: The system includes features such as car search and booking, online payments, vehicle management, customer reviews, and rental history. It also offers real-time availability updates and the ability to cancel or modify bookings. Additionally, the system has an easy-to-use interface and responsive customer support.

3.4 Stakeholders :

Customer

Employee

3.5 Requirement analysis:

Requirement analysis for the online car rental system includes identifying customer needs, defining system functionality, and determining system performance requirements. It also involves ensuring compatibility with different devices and platforms, incorporating security measures, and adhering to relevant regulations and industry standards.

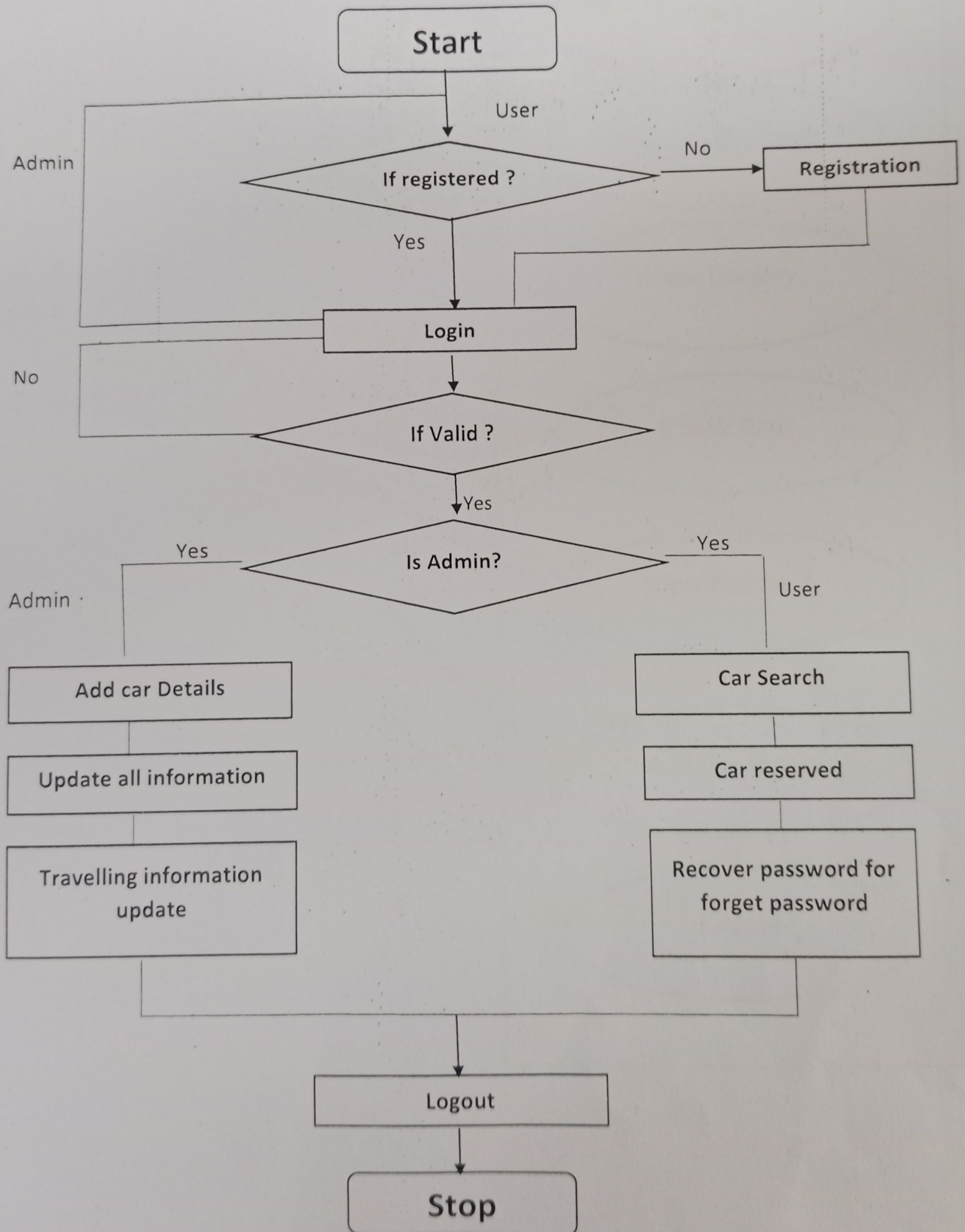
4. System Design

4.1 Design Constraints:

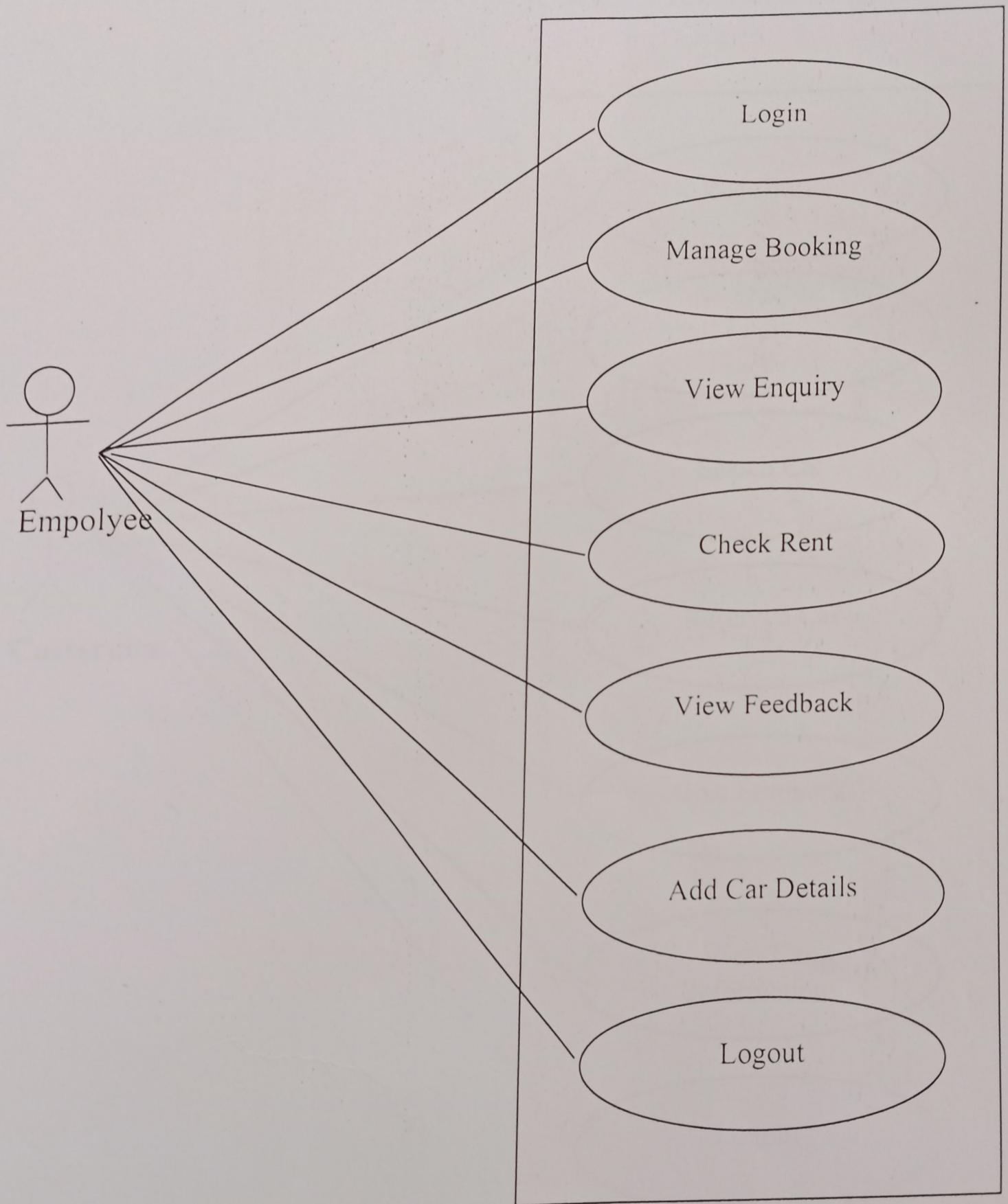
Common Diagram Containing Following- The Symbols used in ER diagram are as follow: ER Diagram describes data at rest, data being stored. Data relationship is the relation between the entities. Entity is an object that exist and its distinguishable from other objects. ER diagram shows data at rest. This means ER diagram does not show data flow.

4.2 System Model :

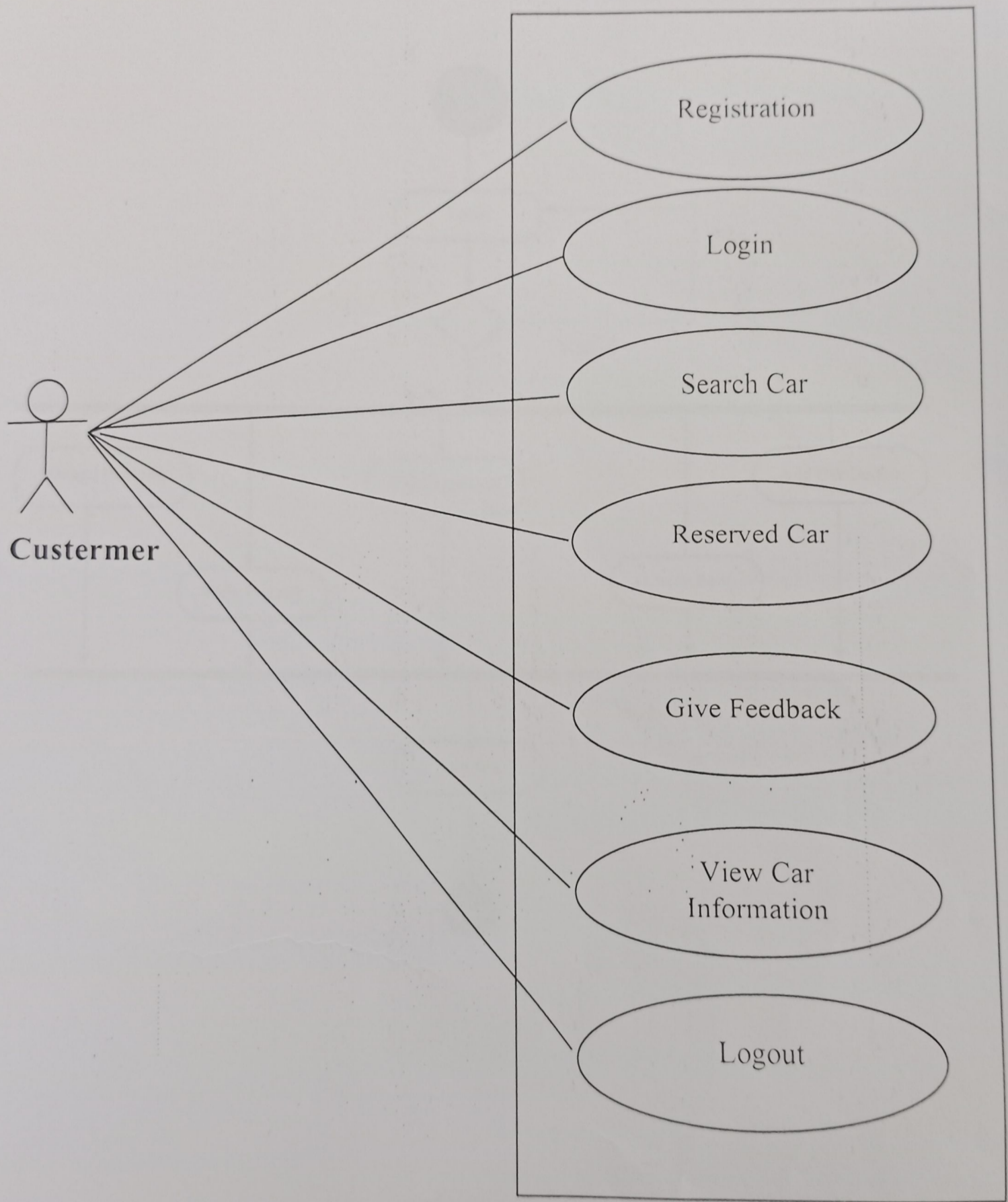
System Flow Chart:



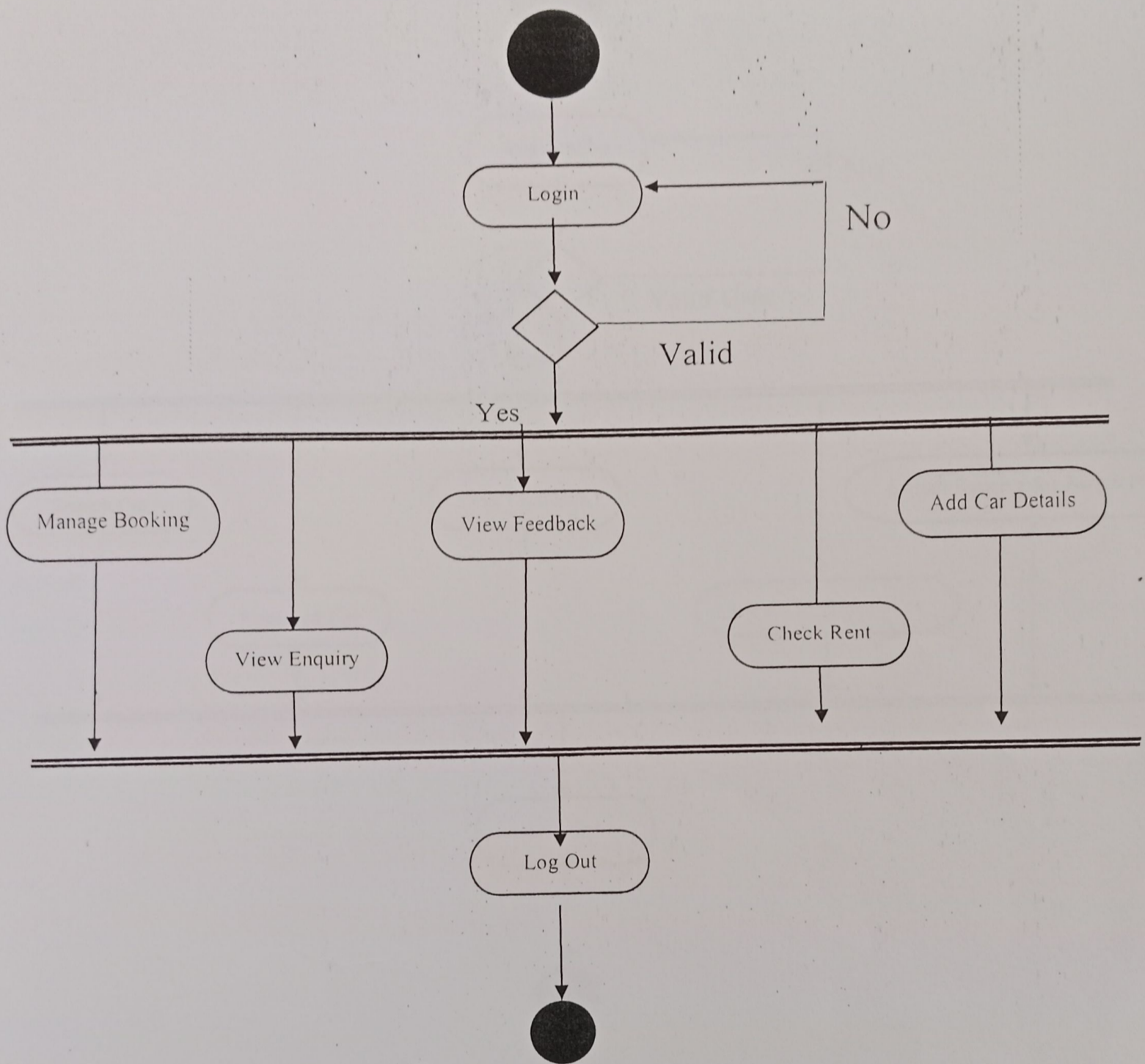
Use case diagram for Employee :



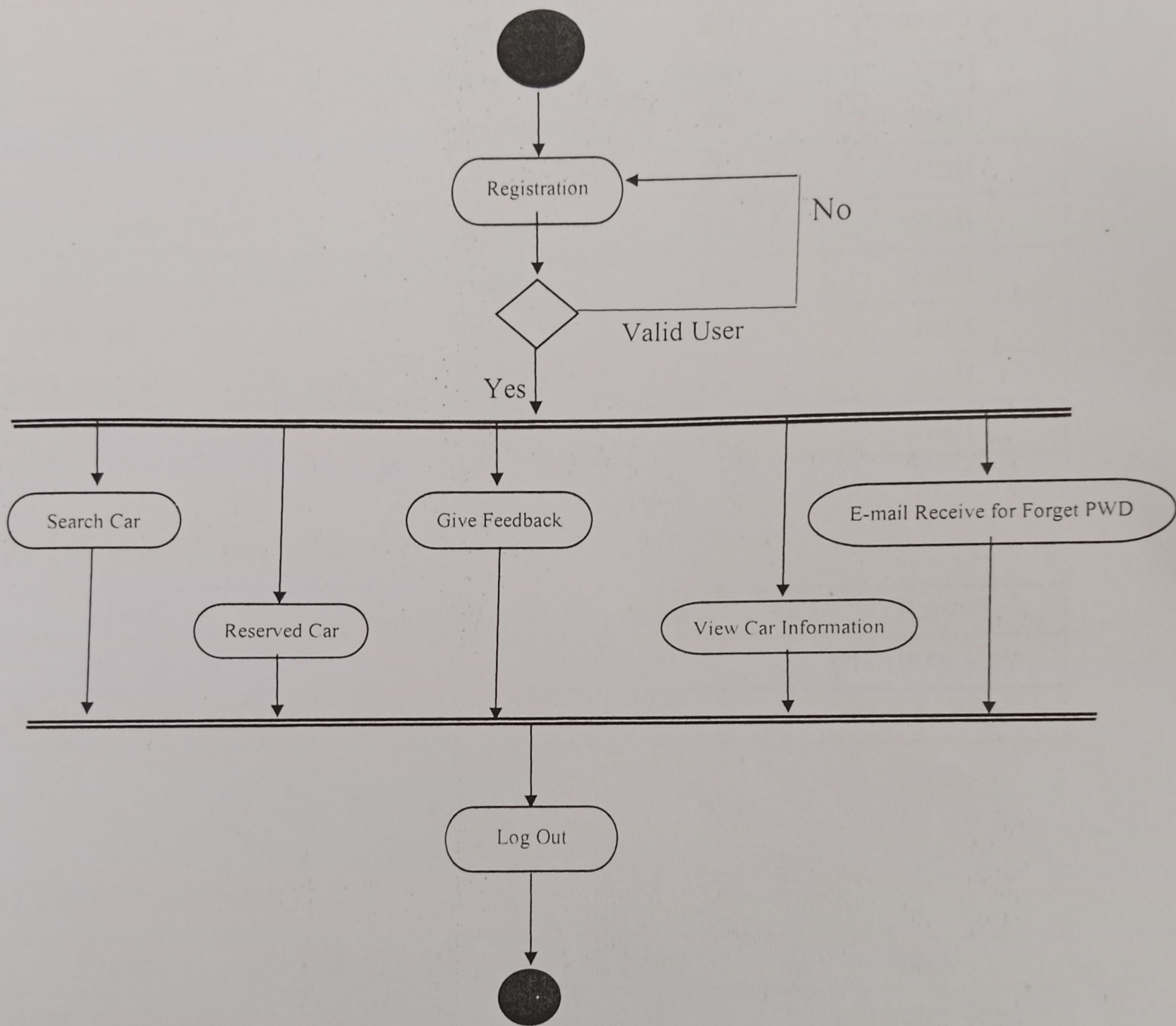
Activity Diagram for Customer:



Activity Diagram for Employee :



Activity Diagram for Customer :



4.3 Data Model

1) Table 1 – Car

Field	Data Type	Size	Key
car_id	int	20	primary key
car_name	varchar	50	null
car_name_plate	varchar	50	null
car_image	varchar	50	null
car_price	float	10	null
car_non_ac_price	float	10	null
car_price_par_day	float	10	null
non_car_price_par_day	float	10	null
car_availability	float	10	null

2) Table 2 – Client Cars

Field	Data Type	Size	Key
car_id	int	20	primary key
client_username	varchar	50	index key

3) Table 3 – Client

Field	Data Type	Size	Key
client_username	varchar	50	primary key
client_name	varchar	50	null
client_phone	varchar	15	null
client_email	varchar	25	null
client_address	varchar	50	null
client_password	varchar	20	null

4) Table 4 – Customer

Field	Data Type	Size	Key
customer_username	varchar	50	primary key
customer_name	varchar	50	null
customer_phone	varchar	15	null
customer_email	varchar	25	null
customer_address	varchar	50	null
customer_password	varchar	20	null

5) Table 5 – Driver

Field	Data Type	Size	Key
driver_id	int	20	primary key
driver_name	varchar	50	null
dl_number	varchar	50	index
driver_phone	varchar	15	null
driver_address	varchar	50	null
driver_gender	varchar	10	null
client_username	varchar	50	null
driver_availability	varchar	10	null

6) Table 6 – Rented Cars

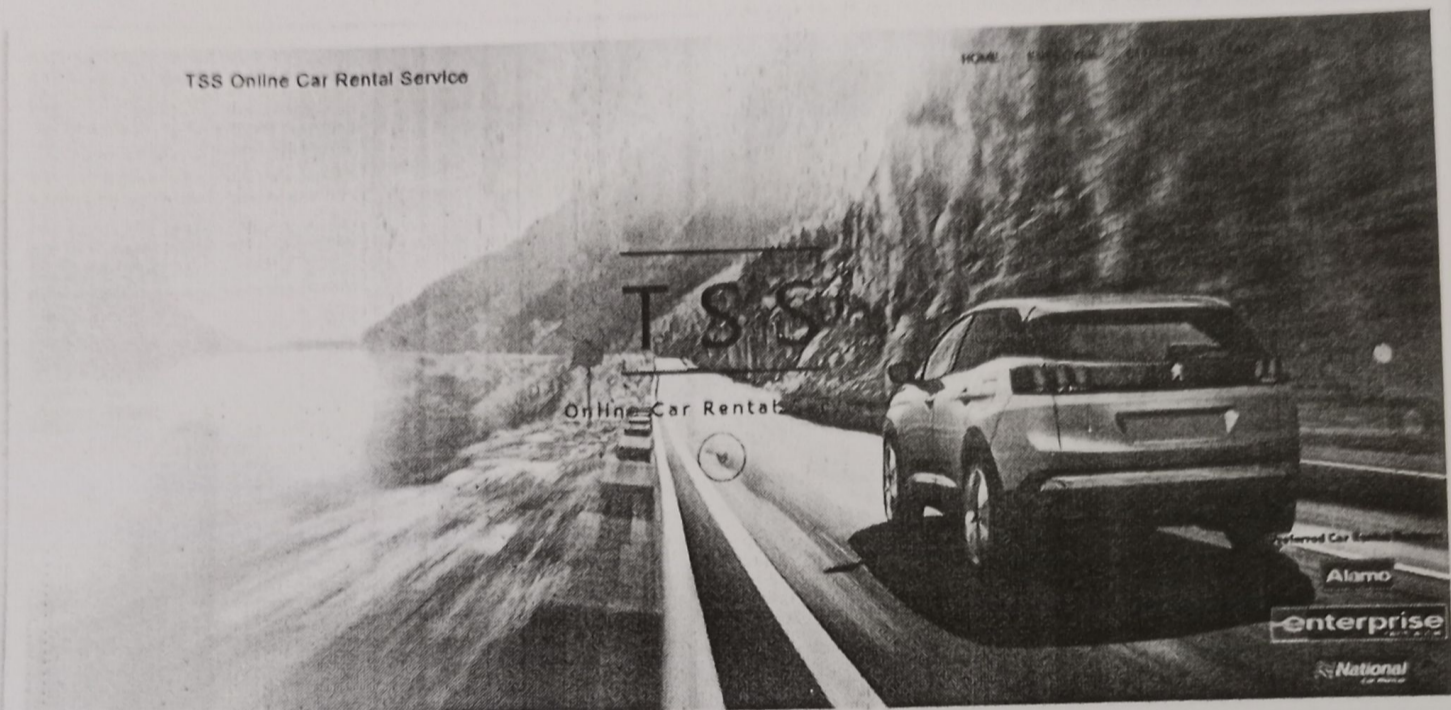
Field	Data Type	Size	Key
id	int	100	primary key
car_name	vvarchar	50	index
car_id	int	20	index
driver_id	int	20	index
booking_date	date	-	null
rent_start_date	date	-	null
rent_end_date	date	-	null
car_return_date	date		null
face	double	-	null
charge_type	vvarchar	25	null
distance	double		null
no_of_day	int	50	null
total_amount	double		null
return_status	vvarchar	10	null

7) Table 7 – Feedback








Field	Data Type	Size	Key
name	vvarchar	20	null
e-mail	vvarchar	30	null
message	vvarchar	150	null

4.4 User Interface :

➤ Home :



AVAILABLE CARS

 <p>Hyundai Creta AC Fare: Rs. 22/km & Rs.2900/day Non-AC Fare: Rs. 12/km & Rs.1400/day</p>	 <p>Mercedes-Benz E-Class AC Fare: Rs. 45/km & Rs.7200/day Non-AC Fare: Rs. 30/km & Rs.5200/day</p>	 <p>Ford EcoSport AC Fare: Rs. 21/km & Rs.3690/day Non-AC Fare: Rs. 13/km & Rs.2600/day</p>	 <p>Honda CR-V AC Fare: Rs. 22/km & Rs.2850/day Non-AC Fare: Rs. 15/km & Rs.1400/day</p>	 <p>Mahindra XUV 500 AC Fare: Rs. 15/km & Rs.3000/day Non-AC Fare: Rs. 13/km & Rs.2600/day</p>
 <p>Toyota Fortuner AC Fare: Rs. 16/km & Rs.3200/day Non-AC Fare: Rs. 14/km & Rs.2800/day</p>	 <p>Hyundai Veloster AC Fare: Rs. 23/km & Rs.4500/day Non-AC Fare: Rs. 15/km & Rs.3500/day</p>			

➤ Employee Registration Page :

Car Rentals

[Home](#) [Employee](#) [Customer](#) [FAQ](#)

Car Rentals - Registration

Get started by creating an employee account

Create Account

* Full Name:

Tejas Derle



* Username:

tejas_derle



* Email:

tejasderle@gmail.com



* Phone:

9011765581



* Address:

Karanji, Niphad, Nashik



* Password:



SUBMIT

or

Have an account? [Login](#).

➤ Employee Log In Page :

The screenshot shows a web browser window with the URL `localhost/Car_Rental/clientlogin.php`. The page title is "Car Rentals" and the navigation menu includes "Home", "Employee", "Customer", and "FAQ". The main heading is "Car Rentals - Employee Panel" with the instruction "Please LOGIN to continue." Below this is a login form with the following fields and elements:

- Login** (Section Header)
- Username:**
- Password:**
- SUBMIT** (Button)
- or
- [Create a new account.](#)

At the bottom right, there is a watermark: "Activate Windows Go to Settings to activate Windows." The Windows taskbar at the bottom shows the search bar, system tray with weather (29°C Sunny), language (ENG), and date (27-03-2023).

➤ Employee Control Panel - Add Car

The screenshot shows a web browser window with the URL `localhost/Car_Rental/entercar.php`. The page title is "Car Rentals" and the navigation menu includes "Home", "Welcome tejasderle", "Control Panel", and "Logout". The main heading is "Please Provide Your Car Details." Below this is a form with the following fields and elements:

- Audi A4** (Text input)
- MH15AK6969** (Text input)
- 36** (Text input)
- 36** (Text input)
- 5200** (Text input)
- 3600** (Text input)
- Choose File** (Button) `JS Course.PNG` (File name)
- SUBMIT FOR RENTAL** (Button)

At the bottom right, there is a watermark: "Activate Windows Go to Settings to activate Windows." The Windows taskbar at the bottom shows the search bar, system tray with weather (29°C Sunny), language (ENG), and date (27-03-2023).

➤ Employee Control Panel - Add Driver

Car Rentals

Home Welcome tejasderte Control Panel Logout

Enter Driver Details

Atish Deshmukh

266589478

7030607457

Nashik

Male

ADD DRIVER

My Drivers

Activate Windows
Go to Settings to activate Windows.

Type here to search

License

29°C Sunny 19:42
ENG 27-03-2023

➤ CustomerRegistrationPage :

Car Rentals

Home Employee Customer FAQ

Car Rentals - Registration

Get started by creating customer account

Create Account

* Full Name:
Akash arote

* Username:
akash_arote

* Email:
akasharote@gmail.com

* Phone:
9049871439

* Address:
Tamaswadi, Niphad, Nashik

* Password:

SUBMIT

or
Have an account? Login.

➤ Customer Log In Page :

Employee Login | Car Rentals

localhost/127.0.0.1/employee

Car Rentals Home Employee Customer FAQ

Car Rentals - Employee Panel

Please LOGIN to continue.

Login

* Username:
telax_derte

* Password:

SUBMIT

or
Create a new account.

Activate Windows
Go to Settings to activate Windows.

Type here to search 29°C Sunny 19:34 27-03-2023

➤ Customer Car Booking:

Book Car

localhost/127.0.0.1/carrental

Car Rentals Home Welcome akash_brote Garage Logout

Selected Car: **Hyundai Creta**
Number Plate: **MH15CH2020**
Start Date: 27-03-2023 End Date: 31-03-2023

Choose your car type: With AC With-Out AC
Fare: Rs. 22/km and Rs. 2900/day
Charge type: per KM per day

Select a driver: Sunil Gaikwad
Driver Name: Sunil Gaikwad
Gender: Male
Contact: 7507691812

PRINT NOW

Note: You will be charged with extra Rs. 500 for each day after the due date ends.

© 2023 Car Rentals

Activate Windows
Go to Settings to activate Windows.

Type here to search 29°C Sunny 19:33 27-03-2023

➤ CustomerCar Booking Sucessfully :

Car Rentals

Home | Welcome akash_arote | Garage | Logout

✔ Booking Confirmed.

Thank you for using Car Rental System! We wish you have a safe ride.

Your Order Number: 574681265

Please read the following information about your order.

Your booking has been received and placed into our order processing system.

Please make a note of your **order number** now and keep in the event you need to communicate with us about your order.

Invoice

Vehicle Name: Hyundai Creta

Vehicle Number: MH15CH2020

Fare: Rs. 22/km

Booking Date: 2023-03-27

Start Date: 2023-03-27

Return Date: 2023-03-31

Driver Name: Sunil Gaikawad

Driver Gender: Male

Driver License number: 211356911

Driver Contact: 7507691812

Employee Name: Tejas Derle

Employee Contact: 9011765581

Warning! Do not reload this page or the above display will be lost. If you want a hardcopy of this page, please print it now.

➤ CustomerGaragge – Return Now Page :

Car Rentals

Home Welcome akash_arote Garage Logout

Return your cars here

Hope you enjoyed our service

Car	Rent Start Date	Rent End Date	Fare	Action
Land Rover Range Rover Sport	2023-03-08	2023-03-09	Rs. 6000/day	Return
Hyundai Creta	2023-03-27	2023-03-31	Rs. 22/km	Return

© 2023 Car Rentals

Activate Windows
Go to Settings to activate Windows.

➤ Customer Garagge –My Booking Page :

Car Rentals

Home Welcome akash_arote Garage Logout

You have not rented any cars till now!

Please rent cars in order to view your data here.

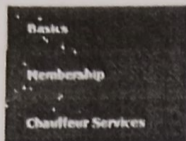
© 2023 Car Rentals

Activate Windows
Go to Settings to activate Windows.

➤ FAQ Page :

Car Rentals

HOME EMPLOYEE CUSTOMER FAQ



BASICS

- How do I pay for my Rental?
- What if i find a better rate for a rental car?
- Will I need a driving license to rent a car?
- Is there a fee if I return the car after the due date?

MEMBERSHIP

- Why should i sign up?
- How do I become a member?
- How do I login?
- What about my privacy?
- What if i share my computer?
- Is my credit card information stored in my account?

CHAUFFEUR SERVICES

- Do you have meet and greet services?
- How can i pay for my chauffeur services?
- Is there a fee if i change my Chauffeur services?

5. Implementation Details

5.1 Software and hardware specification: -

Software: -

- (1) Google chrome (using runtime the project).
- (2) Notepad (used as editor).
- (3) Internet explorer (using runtime).
- (4) 64-bit Windows Operating System.

Hardware: -

- (1) HP Pavilion laptop (used as server).
- (2) DESKTOP-8M8NEI
- (3) Ram.
- (4) mouse.
- (5) keyboard

6. Output and Reports Testing

Output testing for the online car rental system involves verifying that the system is performing the required functions correctly, such as booking a car, making payments, and sending confirmation emails. Report testing involves verifying that reports generated by the system, such as financial reports, rental history, and customer feedback reports, are accurate and complete. Both types of testing ensure that the system is functioning as intended and meeting customer needs. Testing results are documented in a test report, which summarizes the testing process and findings.

7. Conclusion and Recommendations

In conclusion, the development of an online car rental system has provided customers with a convenient and efficient way of renting a car. The system has proven to be effective in improving customer experience, reducing wait times and streamlining rental processes. The project has also contributed to the growth of the car rental industry by increasing accessibility to car rental services.

8. Future Scope

Add new car is representing the car list.

The User payment for the current receipt of the payment.

Add the current project for booking easy.

9. Bibliography and References

www.google.com

www.w3schools.com

www.php.net

www.wikipedia.com