Software Requirement Specification (SRS) for

Online Car Rental Portal

Team: Omkar Kolge
Manish Jaiswal

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1. Introduction

1.1 Purpose:

CAR RENTAL SYSTEM (CRS) is a web-based system for a company that rents out cars. This system enables the company to make their services available to the public through the internet and also keep records about their services.

One of which is the main target of this project which is about Car Rental System. The system of renting cars exist back in the previous years, were people rent cars for their personal reasons. Car renting is essential to many peoples' plan to travel or move from one place to another for business purposes, tour, and visit or holidays, for these reasons Car renting is very helpful.

1.2 Scope:

This system allows the Customer can easily get the car whenever they need to on the rent with use of this system.

1.3 Definitions:

CRS- Car Rental System

SRS- Software Requirement Specification

GUI- Graphical User Interface

1.4 Overview:

It is a system design especially for large, premium and small car rental business. The car rental system provides complete functionality of listing and booking car. In this system, Tourism and Travelling facilities also provide.

This proposed system can be used by any naïve users and it does not require any educational level, experience or technical expertise in computer field but it will be of good use if user has the good knowledge of how to operate a computer.

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.

NEED FOR NEW SYSTEM

- ✓ The new system is totally computerized system.
- ✓ A new system provides features like time efficiency to show car details, user profiles and whatever the customer will give the feedback to the admin.
- ✓ This system provides tourism and travelling facilities.
- ✓ An inquiry is easily done by user in the system.
- ✓ It is the most software application for managing online car rental business.

2.Overall Description:

The Car Rental System application enables admin to add a car, manage booking car and rent and also view feedback and enquiry, User to view information of available car, booking car, easily get the car on rent and also give feedback and can enquiry. Also, the developer is designing an online car rental site to manage the cars in the portal and also help customers to book them online without visiting the center physically. The online car rental system will use the internet as the solemethod for booking cars on rent for customer.

2.1 Product Perspective:

This product aimed toward a person who don't want to visit the center as he might don't get time for that or might not interested in visiting there and dealing with lot of formalities

2.2 Product Functions:

In car Rental System THREE ROLE :

1. Admin

   . Login

   . Edit Profile

   . Car Availability

   . Payment History

   . Feedback and Rating List

2. Employee

   .Sign Up

   . Login

. Edit Profile

. Add Car

. Car Availability

. Remove Car

. Payment History

. User Booking List

3. User

. Sign Up

. Login

. Edit Profile

. Car Availability

. Book Car

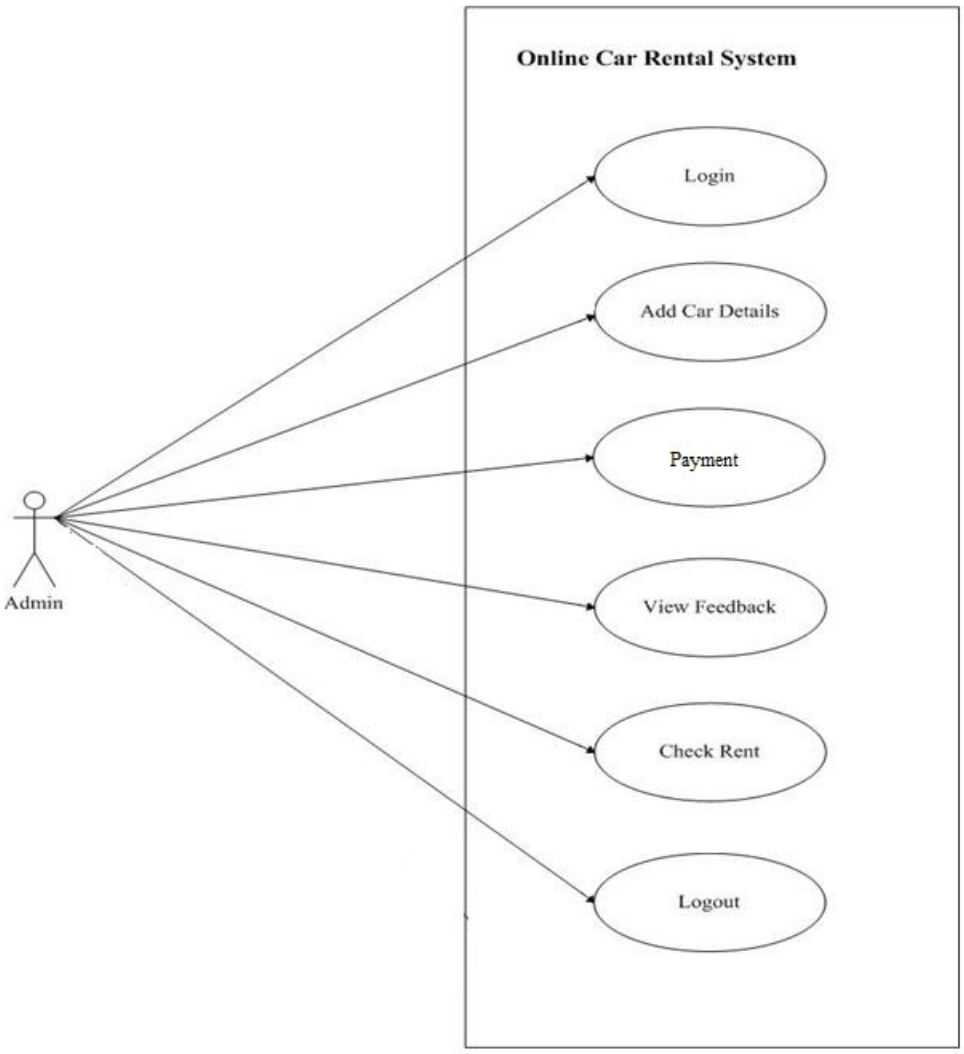
. Manage Booking

. Feedback and Rating

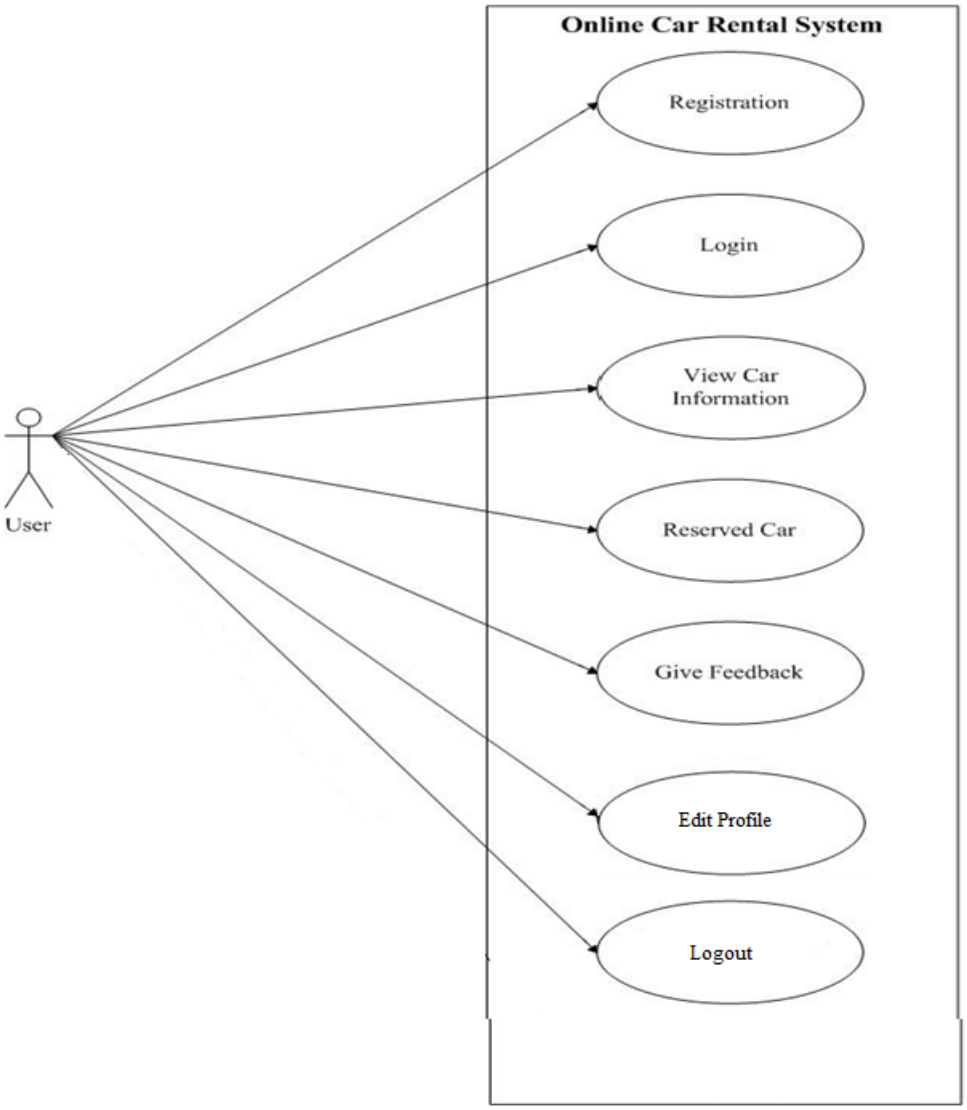
Car Rental System should support this use case:

Use Case Diagrams: A Use case is a description of set of sequence of actions. Graphically it is rendered as an ellipse with solid line including only its name. Use case diagram is a behavioral diagram that shows a set of use cases and actors and their relationship. It is an association between the use cases and actors. An actor represents a real-world object. Primary Actor - Sender, Secondary- Actor Receiver.

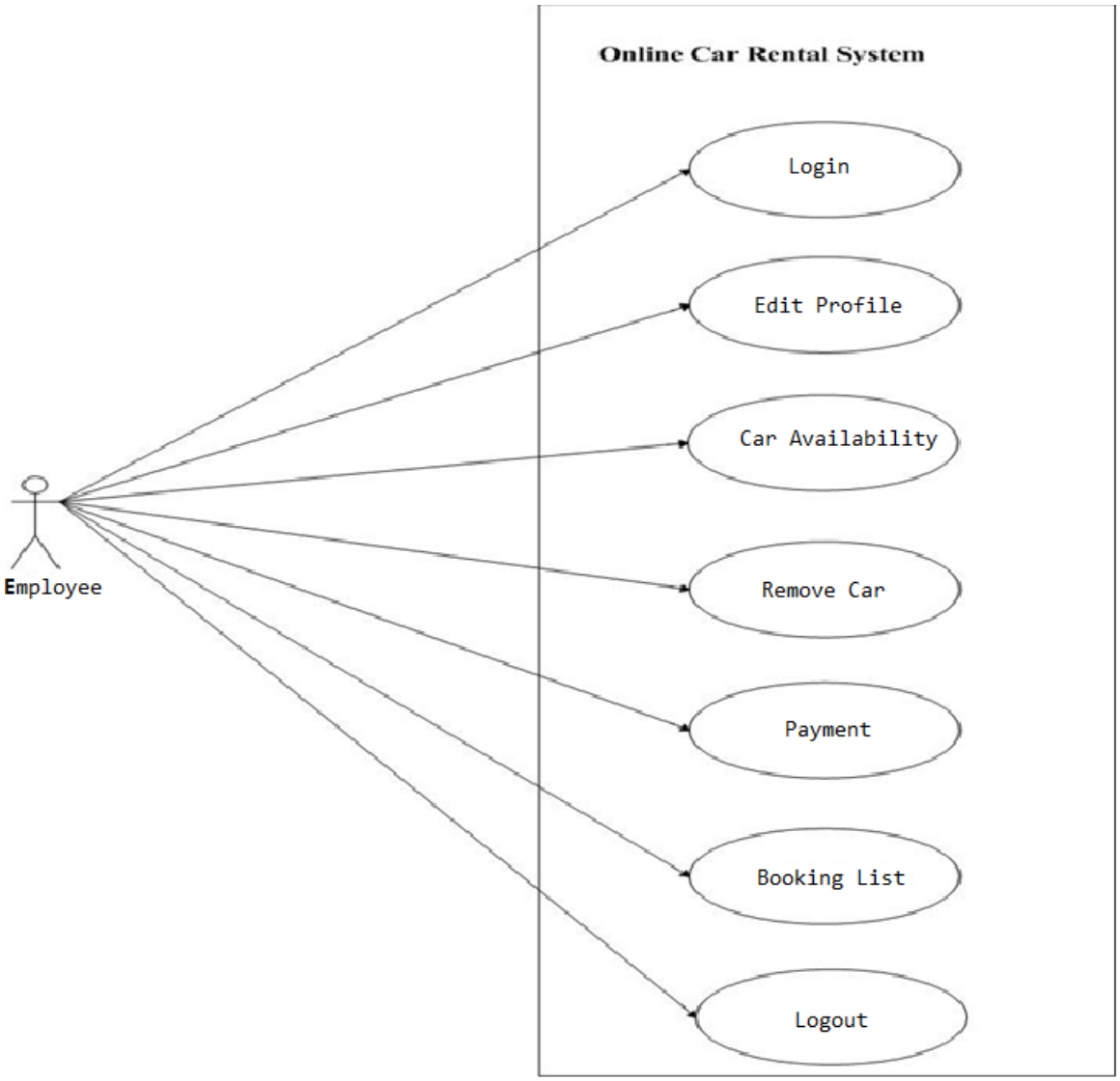
Use case diagram for admin



Use Case diagram for User



Use Case diagram for Employee



2.3 User Characteristics:

User should be familiar with the terms like login, register etc.

2.4 Principal Actors:

2 Principal Actors are Customer and Administrator.

3. Specific Requirements:

3.1 FUNCTIONAL SPECIFICATION

User Specification

Admin:

Admin can add a car, manage booking car and rent and also view feedback and enquiry.

User:

User can view information of available car, booking car, easily get the car on rent and also give feedback and can enquiry.

MODULE SPECIFICATION

User

•View Available Cars:

The user can view Available cars and user can book for that car.

•Booking Car:

The user can view Available cars and user can book for that car.

•Easily Get the Car on rent:

The Customer can easily get the car whenever they need to on the rent with use of this system.

•Give Feedback:

The customer will give the feedback to the admin.

•Enquiry:

The inquiry can easily do by user.

Admin

Dashboard:

In this section admin can view the overview of the car rental (Like total vehicles, total booking, brands enquiry)

Vehicle Brand:

Admin can create/edit/delete vehicle brands

Vehicles:

The Admin can add the car so that The user can see the available cars and book the car.

Admin can also edit and delete the cars.

Bookings:

Admin can manage the bookings (confirm and cancel the booking)

Manage testimonials:

Admin can manage the testimonials (Active and Inactive the testimonials).

Manage Contact us query:

Admin can manage Contact us query.

View Feedback:

The admin easily view the feedbacks and solve the query.

Registered users:

Admin can view the registered users.

Manage pages:

Admin can update the pages data information.

Contact info:

Admin can update the contact info.

3.2 Non-Functional Requirements:

Following Non-Functional Requirements will be there in the insurance to the internet:

Various other Non-Functional Requirements are:

- Security

  Secure access to consumer's confidential data

  Registered Customer will allowed to book car.

  Admin will be to access system through authentication process.

  System will automatically log of user after some time due to inactiveness.

  Sensitive data will be always encrypted across communication.

  User proper firewall to protect servers from out sided cyber or velnerable attacks.

- Reliability

  The system will backup business data on regular basis and recover in short time duration to keep system operational

- Availability

  24X7 availability

  Better component design to get better performance at peak time.

- Maintainability

  A Commercial database software will be used to maintain System data Persistence.

A readymade Web Server will be installed to host online CRS(Web Site) to management server capabilities.

- Portability

  PDA: Portable Device Application

  System will provide portable User Interface (HTML, CSS, JS) through users will be able to access CRS portal.

  System can be deployed to single server, multi server, to any OS, Cloud

- Extensibility
- Reusability
- Compatibility
- Resource Utilization

3.3 Performance Requirements:

In order to maintain an acceptable speed at maximum number of uploads allowed from a particular customer as any number of users can access to the system at any time. Also the connections to the servers will be based on the attributes of the user like his location and server will be working 24X7 times.

3.4 Technical Issues:

This system will work on client-server architecture. It will require an internet server and which will be able to run PHP application. The system should support some commonly used browser such as IE,mozzila firefox, chrome etc.

HARDWARE REQUIREMENT

Hardware requirements for insurance on internet

will be same for both parties which are as follows:

RAM	2 GB
Hard disk	320 GB
Processor	Dual Core

Software Requirements

Client side:

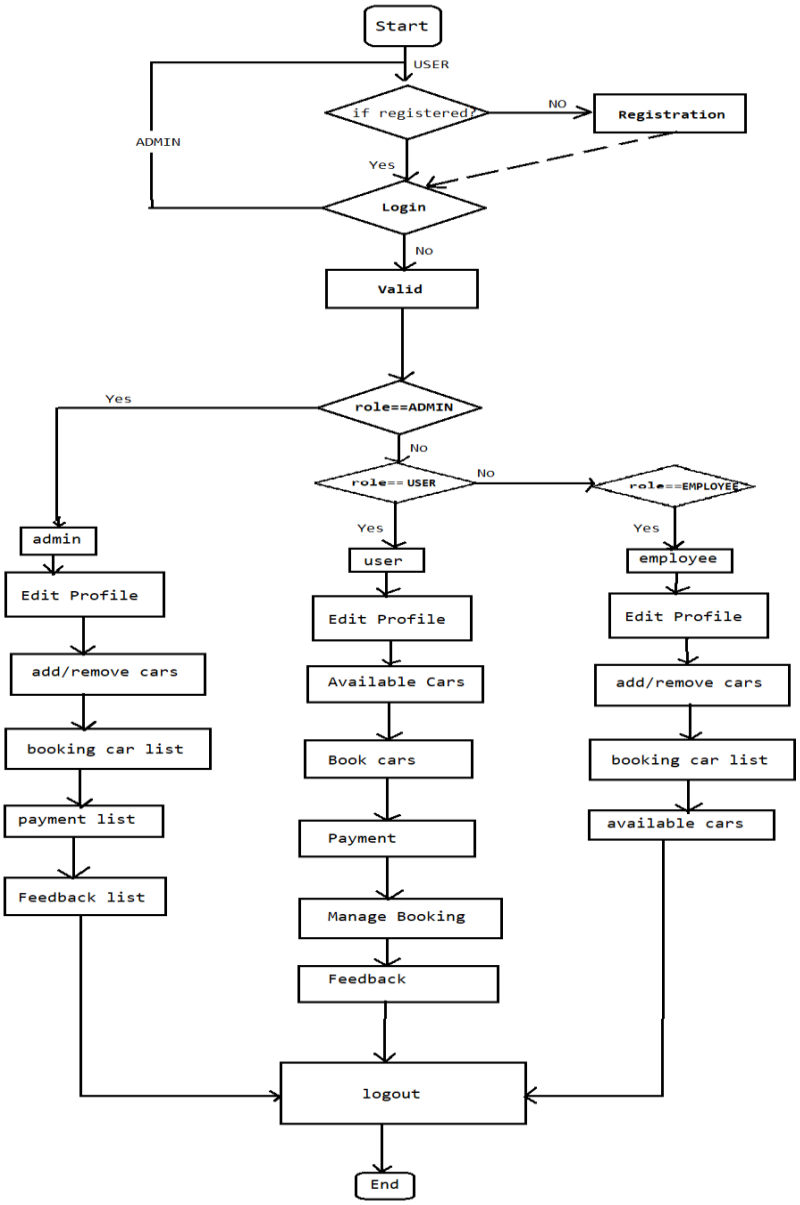
Web Browser	Google Chrome or any compatible browser
Operating System	Windows or any equivalent OS

Server side:

Web Server	SPRING BOOT
Server side Language	REACTJS
Database Server	MYSQL
Web Browser	Google Chrome or any compatible browser
Operating System	Windows or any equivalent OS

4.System Design Specification:

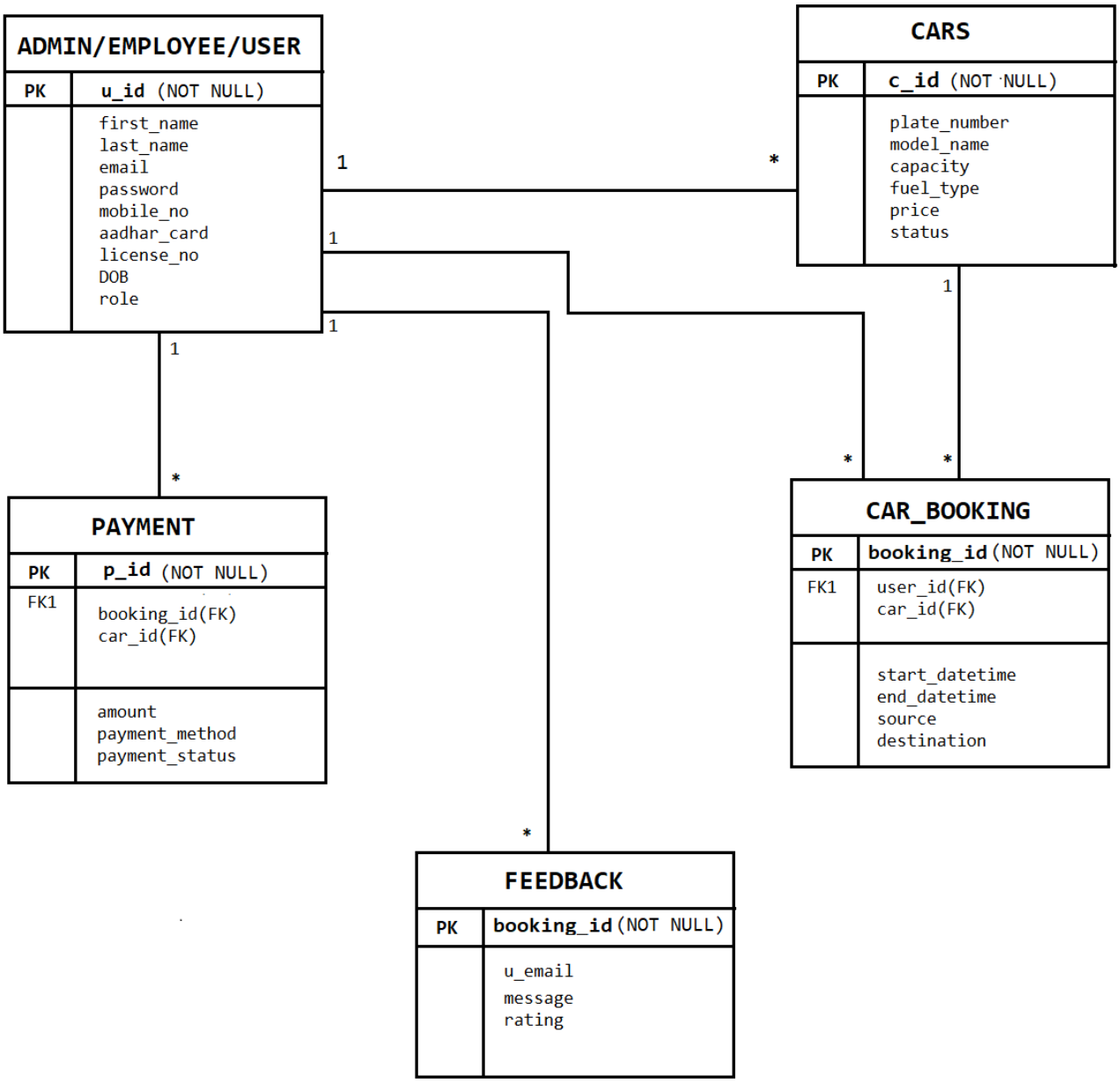
Data Flow Diagram



ER DIAGRAM

The Entity-Relationship (ER) model was originally proposed by Peter in 1976 [Chen76] as a way to unify the network and relational database views. Simply stated the ER model is a conceptual data model that views the real world as entities and relationships. A basic component of the model is the Entity-Relationship diagram which is used to visually represent data objects. Since Chen wrote his paper the model has been extended and today it is commonly used for database design for the database designer, the utility of the ER model is:

- It maps well to the relational model. The constructs used in the ER model can easily be transformed into relational tables.
- It is simple and easy to understand with a minimum of training. Therefore, the model can be used by the database designer to communicate the design to the end user.
- In addition, the model can be used as a design plan by the database developer to implement a data model in specific database management software.


ADMIN/EMPLOYEE/USER
PK
u_id (NOT NULL)
first_name
last_name
email
password
mobile_no
aadhar_card
license_no
DOB
role
CARS
PK
c_id (NOT NULL)
plate_number
model_name
capacity
fuel_type
price
status
PAYMENT
PK
p_id (NOT NULL)
FK1
booking_id(FK)
car_id(FK)
amount
payment_method
payment_status
CAR_BOOKING
PK
booking_id (NOT NULL)
FK1
user_id(FK)
car_id(FK)
start_datetime
end_datetime
source
destination
FEEDBACK
PK
booking_id (NOT NULL)
u_email
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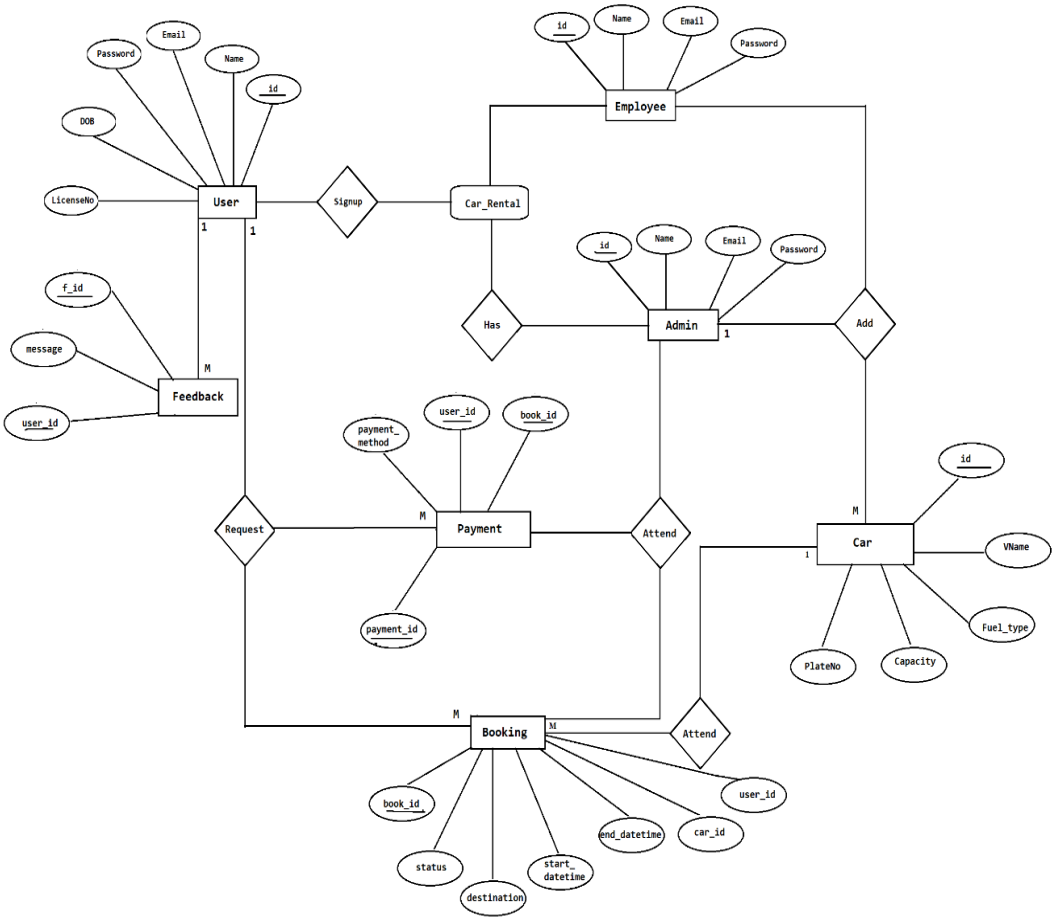
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Request
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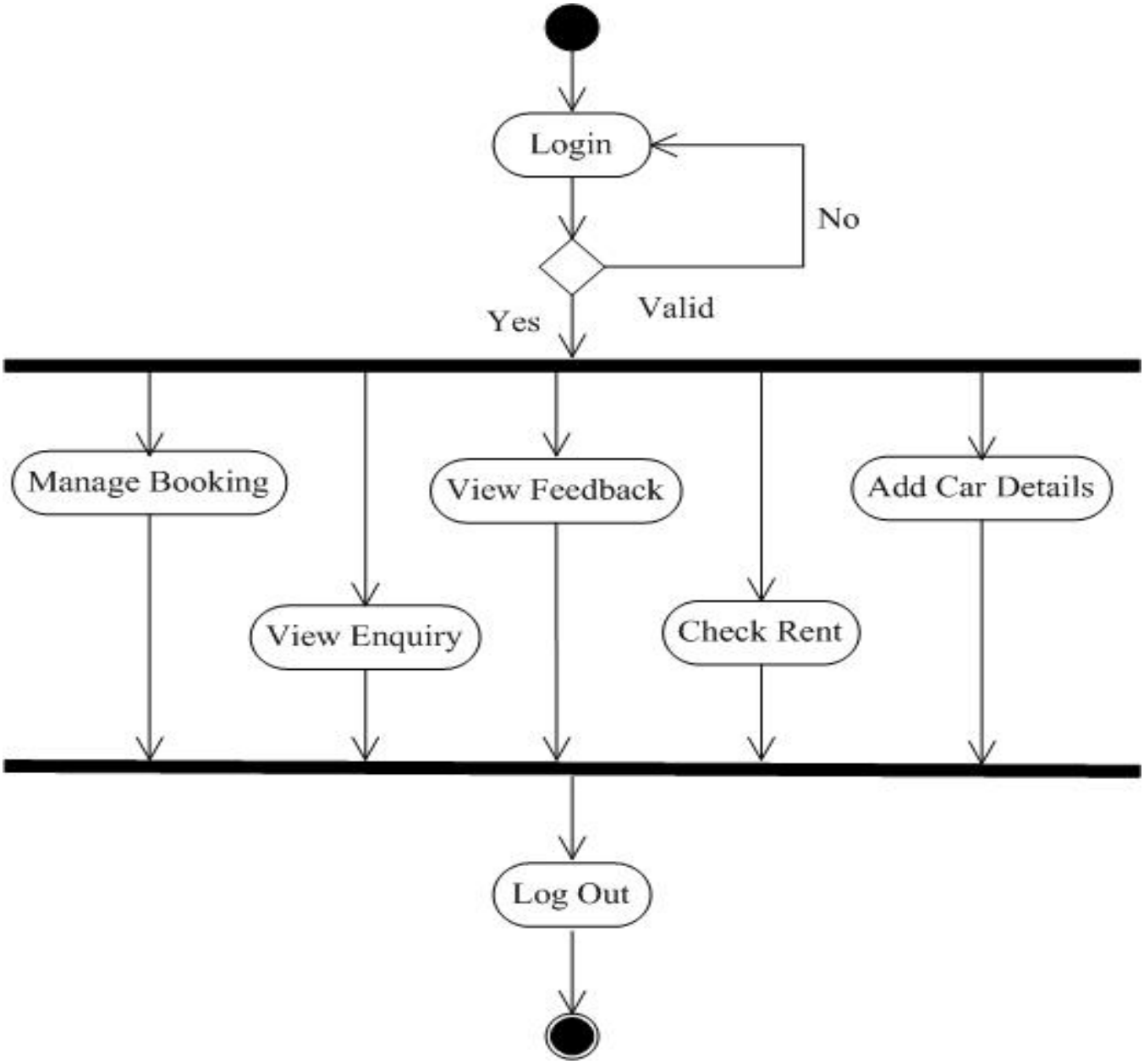
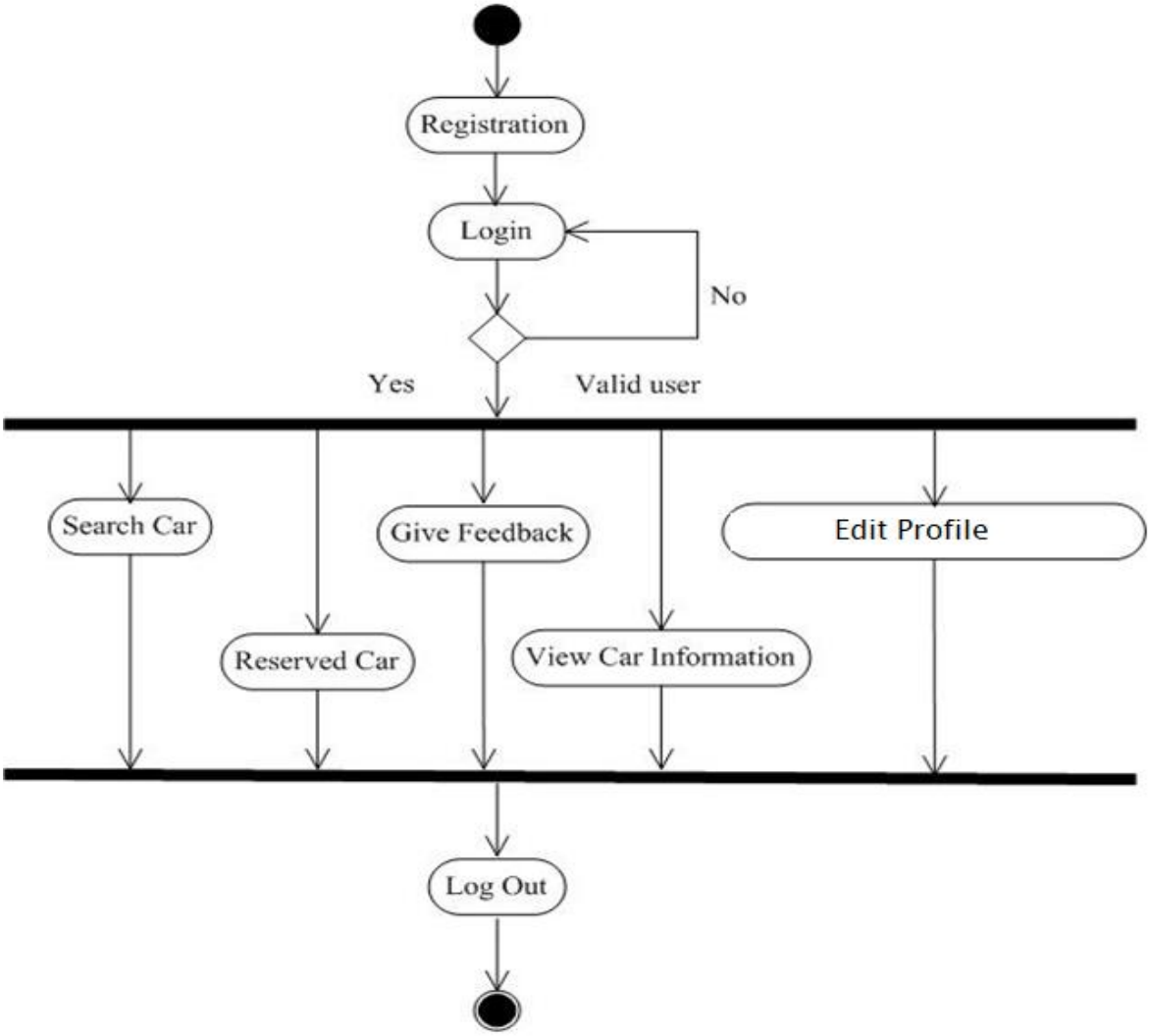
status
destination
start_
datetime
end_datetime
car_id
user_id

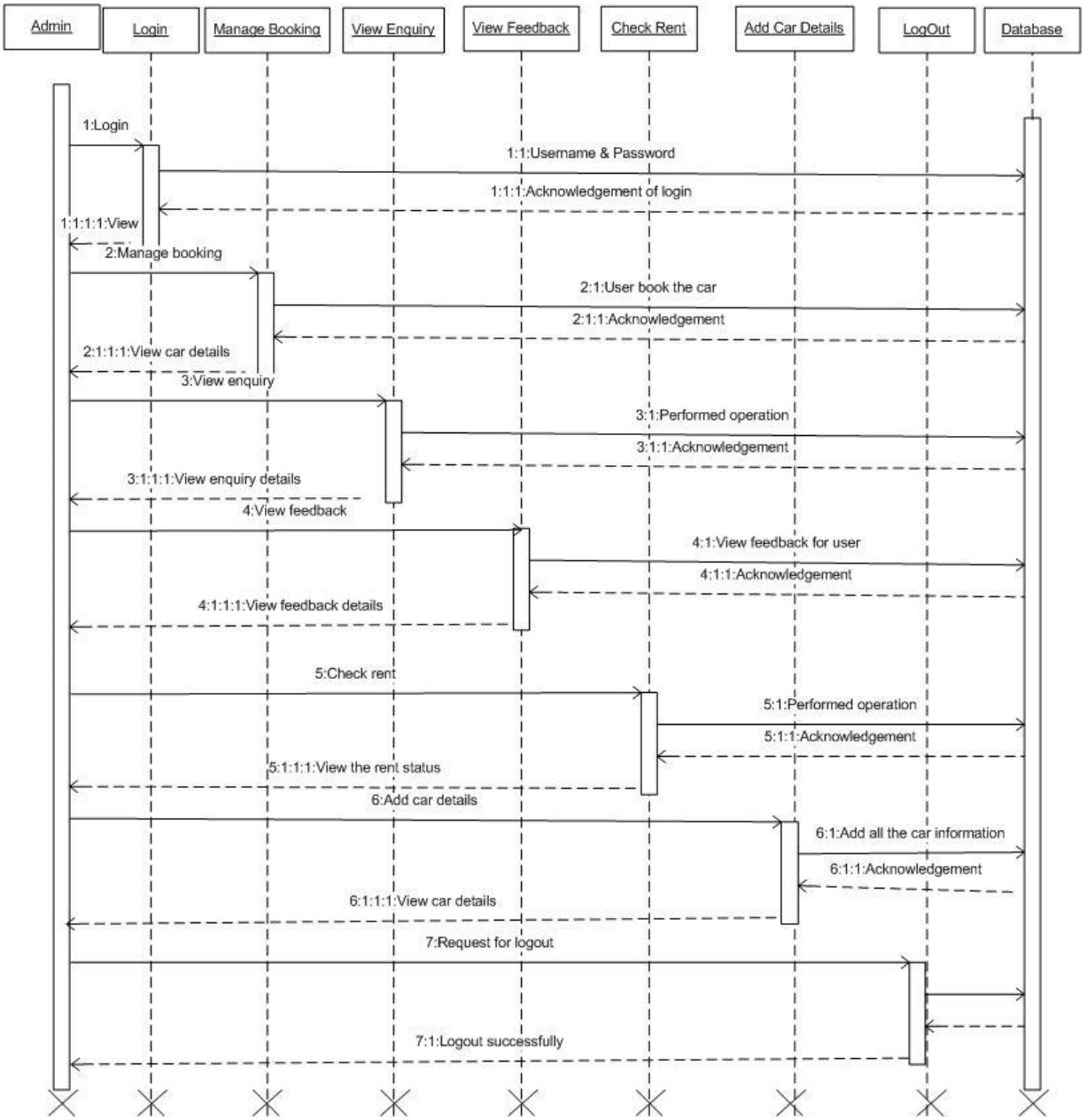
Activity Diagram for admin



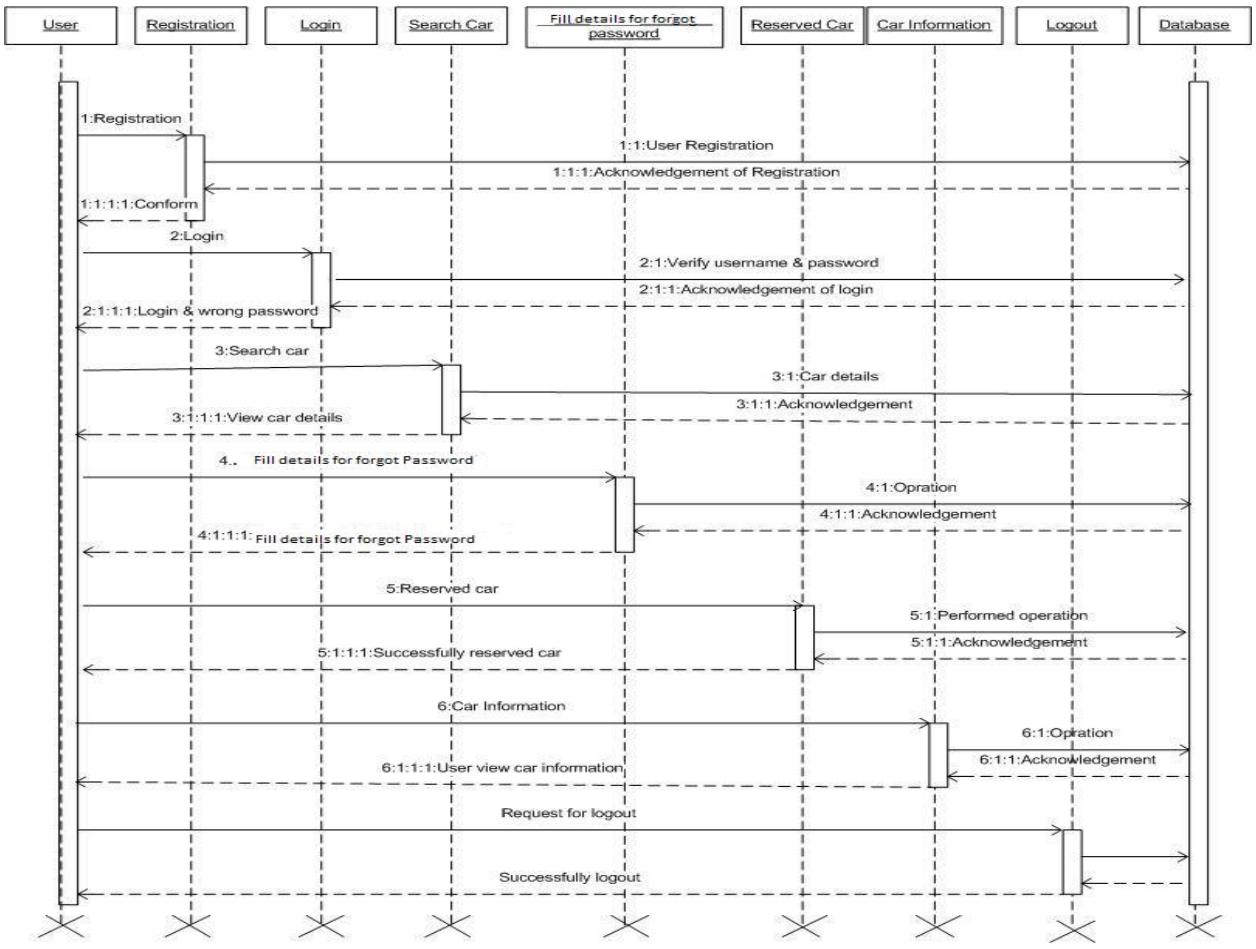
Activity Diagram for user



Sequence Diagram for admin



Sequence Diagram for User



DATABASE DESIGN

The following table structures depict the database design.

Table 1: Users

Key Type/ Constraint	Column Name	Data Type	Length	Allow Null (1=Yes;0=No)
PRI	u_id	int	-	0
0	aadhar_card	varchar	15	0
0	dob	date	-	1
UNI	email	varchar	25	1
0	licence_no	varchar	15	0
0	mobile_no	varchar	13	1
0	name	varchar	30	1
0	password	varchar	20	0
0	role	varchar	255	1

Table 2: Cars

Key Type/ Constraint	Column Name	Data Type	Length	Allow Null (1=Yes;0=No)
PRI	c_id	int	-	0
0	capacity	int	-	1
0	fuel_type	varchar	30	1
0	model_name	varchar	15	1
UNI	plate_number	varchar	20	0
0	price	double	-	1
0	status	varchar	255	1
0	is_deleted	Bit	1	1

Table 3: Car_Booking

Key Type/ Constraint	Column Name	Data Type	Length	Allow Null (1=Yes;0=No)
PRI	booking_id	int	-	0
0	destination	varchar	30	1
0	end_datetime	date	-	1
0	source	varchar	30	1
0	start_datetime	date	-	1
MUL	car_id	int	-	1
MUL	user_id	int	-	1
0	booking_status	varchar	30	1

Table 4: Payment

Key Type/ Constraint	Column Name	Data Type	Length	Allow Null (1=Yes;0=No)
PRI	payment_id	int	-	0
0	amount	decimal	19,2	1
0	payment_method	Varchar	255	1
0	payment_status	Varchar	255	1
MUL	book_id	int	-	1
MUL	car_id	int	-	1

Table 5: Feedback

Key Type/ Constraint	Column Name	Data Type	Length	Allow Null (1=Yes;0=No)
PRI	f_id	int	-	0
0	message	varchar	255	1
0	rating	int	-	1
0	u_email	Varchar	25	1