DEPARTMENT OF COMPUTER ENGINEERING

FACULTY OF TECHNOLOGY

DHARMSINH DESAI UNIVERSITY

COLLEGE ROAD, NADIA,

GUJARAT- 387001

A

PROJECT REPORT

ON

CAR RENTAL SYSTEM

In fulfillment of all requirements for

Bachelor of Technology

In

Computer Engineering

SEM VI

In the subject of

System Design Practices

Dhruvin Radadiya (CE-94)

Sachin Rana (CE-101)

Abhi Vachhani (CE-129)

Under the guidance of

Prof. Malay S. Bhatt(MSB)

Dharmsinh Desai University

College Road, Nadiad – 387001. (GUJARAT)

CERTIFICATE

This is to certify that the term work carried out in the subject of SYSTEM DESIGN PRACTICE and recorded in this report is the bonafide work of Mr. Dhruvinkumar Radadiya (Roll no:CE -94 Id:15ICUOG037), Mr. Sachin Rana(Roll no:CE -101 Id:15CEUBG113), Mr. Abhi Vachhani (Roll no:CE -129 Id:15) of B.Tech Semester 6th in the branch of Computer Enginnering during the academic year 2017-18.

Prof. M. S. Bhatt	Dr. C. K. Bhensdadia
(Project Guide)	(Head of CE Department)
Dharmsinh Desai University,NADIAD	Dharmsinh Desai University,NADIAD
Date:	Date:

Index

ABSTRACT

Our Aim is to design and create a data management System for a car rental company. This enables admin can rent a vehicle that can be used by a customer. By paying the money during a Specified Period of time.

This software car Rental System has a very user friendly interface. Thus the users will feel very easy to work on it. By using this system admin can manage their rental, payment etc. The car information can be added to the system. Or existed car information can be edited or deleted too by Administrator. The transaction reports of the car rental system can be retrieved by the admin, when its required. Thus, there is no delay in the availability of any car information, whenever needed, car information can be Captured very quickly and easily.

The customers can also use the system to get car rent. The customer should create a new account before logging in or he / she can log into the System with his/her created account. Then he/she can view the available cars in a branch and make a reservation for a Car. This system will helpful to the admin as well as to the customer also.

1.Introduction

Transport facility is a matter of headache for those people who do not have any personal vehicle. On occasions like Wedding, Vacation, house shifting, and tour outside city and on many other situations they feel the necessity of a vehicle to sort out the problems. So if it is possible to design or develop a web based application for availing transport whenever and wherever possible, then it will be beneficial for both renter and transport provider. Now a days, by some clicks only, we can get whatever you want at home. We already know about the online shopping, e-banking etc. Similarly, The Car Rental System is the online facility to book cars online within few clicks only. Some people can not afford to have a car, for those people this system becomes very helpful. This system includes various cars, as per the customer order and comfort, it place the order and deliver the car as per the location within the area. For travelling a long distance, booking can be done via internet service only.

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

EXISTING SYSTEM:

In this system user (or) client will directly interact with the car owner and owner will decide whether the car is available or not. Then if it is available he will give rent a car to the customer. The main drawback of this system is customer need to meet the car owner .this is time waste process**.**

Disadvantages of existing System:

1) User should manually go and book the car.
2) It’s time taking process and cost also.
3) Doesn’t fulfill the client requirements fully.

2.Software Requirement Specification (SRS)

2.1 Purpose

This is SRS document refers to Car Rental System release version 2018 version 1. It describes the functionality and specification of how the system will help in serving the customers in an efficient way. It also specifies how it will interact with the end users.

2.2 Product Scope

System allows administration to maintain customer details, vehicle details and booking details. System allows paid services to the customer for renting cars. It involves simple registration process. It provides car catalogue for users as an alternative for them to select car. System work as bridge between owner of car and customer who wants car.

2.3 Aim & Objective

Specific goals are –

- To produce a web-based system that allow customer to register and reserve 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.

2.4 Reference

- IEEE SRS Format
- docs.microsoft.com for C# and asp.net knowledge
- The C# Tutorial by Microsoft

2.5 Overall Description

2.5.1 Product Functionality

Car Rental System provides the features for booking a car online. It includes several functionalities as below:

1. car rental management
2. checking car availability(search)
3. book user choice car

4. easy payment
5. different offers availability
6. print payment slip
7. feedback system

2.5.2 Benefits of System

- This online car rental solution is fully functional and flexible.
- It is very easy to use.
- It saves a lot of time, money and labor.
- The monitoring of the vehicle activity and the overall business becomes easy and includes the least of paper work.
- It increases the efficiency of the management at offering quality services to the customers.

2.5.3 User Classes and Characteristics

2.5.3.1 Admin

- admin can login the system
- can manage the booking info., customer and seller information.
- Adds different offers.
- Accepts car request send by sellers.
- Generate car details.

2.5.3.2 Owner

- Owner can register and login into system.
- Can rent car for some time period.

2.5.3.3 Customer

- Login and visits the system.
- Can select own choice car based on different category.
- Place the order.
- Cancel booking.

2.5.3.4 Driver

- Update the status of the car.
- Delivers car.

2.6 Design and Implementation Constraints

- System uses asp.net technology.
- HTTP and SMTP protocols are used for communication.
- Several types of validations make this web application a secured one.
- Since Car Rental system is a web-based application, internet connection must be established.
- It can only be access via computers having windows OS.

2.7 User Documentation

Link: localhost://FAQ.aspx

2.8 Specific Requirements

2.8.1 User Interface

Application can be accessed through any browser interface. The software will be fairly compatible with all modern browser.

2.8.2 Software Interface

OS: windows 7 or newer version.

Programming language: C#

Technology used: ASP.NET (visual studio)

Database: MySQL

User Interface: HTML, CSS

2.8.3 Hardware Interface

RAM: minimum 512MB

Memory: minimum 512MB

Processor: Intel dual core

2.8.4 Communication Interface

The car rental system shall use HTTP protocol for communication over the internet and TCP/IP for intranet.

2.9 System Requirements

R1: System provides facility for user registration.

Input: user details.

Output: registration status.

Description: the system takes user input credentials like name, email, mobile no, password etc. It provides an output message in form of registration status checking against certain criterions.

R1.1: The System checks details given by users

Input: user details

Output: status

Description: The System verifies general personal & residential information with constraints. If details are verified then status is true else status is false.

R2.2: System provide update profile facility.

Input: user details

Output: update status

Description: system allows user to update details.

R2: System provides facility for user login

Input: User credentials.

Output: welcome page.

Description: The system checks the username and password credentials against registered users and if they match returns the appropriate welcome page.

R3: System provides facility for customers to check the availability of the car.

R3.1: System shows the car on base of user choice.

Input: user choice.

Output: car list.

Description: on the basis of choice enter by user system will show all the related matching car.

R3.2 System check availability of car.

Input: start time and end time.

Output: available car list.

Description: system will show all the car which are available between given time slot.

R4: System provide facilities to rent car.

Input: user choice's car id.

Output: booking status.

Description: status "car is booked" will be given when customer successfully pay.

R4.1: System provides offer facilities.

Input: offer promo-code.

Output: offer status.

Description: System will check for promo code availability. If available then check for is it one time. If it is one time then check whether given user already used this offer or not. If offer is not used then appropriate discount will be provided and "promo code applied" status is given.

R4.2 System provide payment facilities.

Input: payment details.

Output: payment status.

Description: On the basis of amount to be deduct system will deduct amount from user account and status successfully paid will be given.

R5: System provide facility to cancel booking.

Input: booking id

Output: booking status.

Description: System will check that if booking can be canceled (if canceled before one day). According to that status will be provided.

R6: System provides platform to owner to rent cars.

R6.1: System provide owner to request to sell car.

Input: car details

Output: status and payment.

Description: System takes car details from owner and send request to the admin. If admin accept the request then status car is bought will be send with payment.

R6.2: System provide admin to manage details.

Input: car details.

Output: updated car details.

R7: System provide feedback facility.

Input: car number, feedback.

Output: feedback status.

Description: System add feedback to the feedback table and reply status "feedback is given."

2.10 Non-Functional Requirements

2.10.1 Security

The system handles sensitive data during payment. Being able to prove to customers that the system is very secure will be essential for the future success. So, user will have to login to the system. Logging in will determine what level of access the user has with the system and according views will be provided. Security is also means that user's personal information shall be guarded very closely.

2.10.2 Availability

The system has to be available at all times.

2.10.3 Reliability

The system shall be designed so that it can be completely reliable. Reliability comes in two forms: reliability in terms of the system always being up and reliability in perfect atomic transaction.

2.10.4 Maintainability

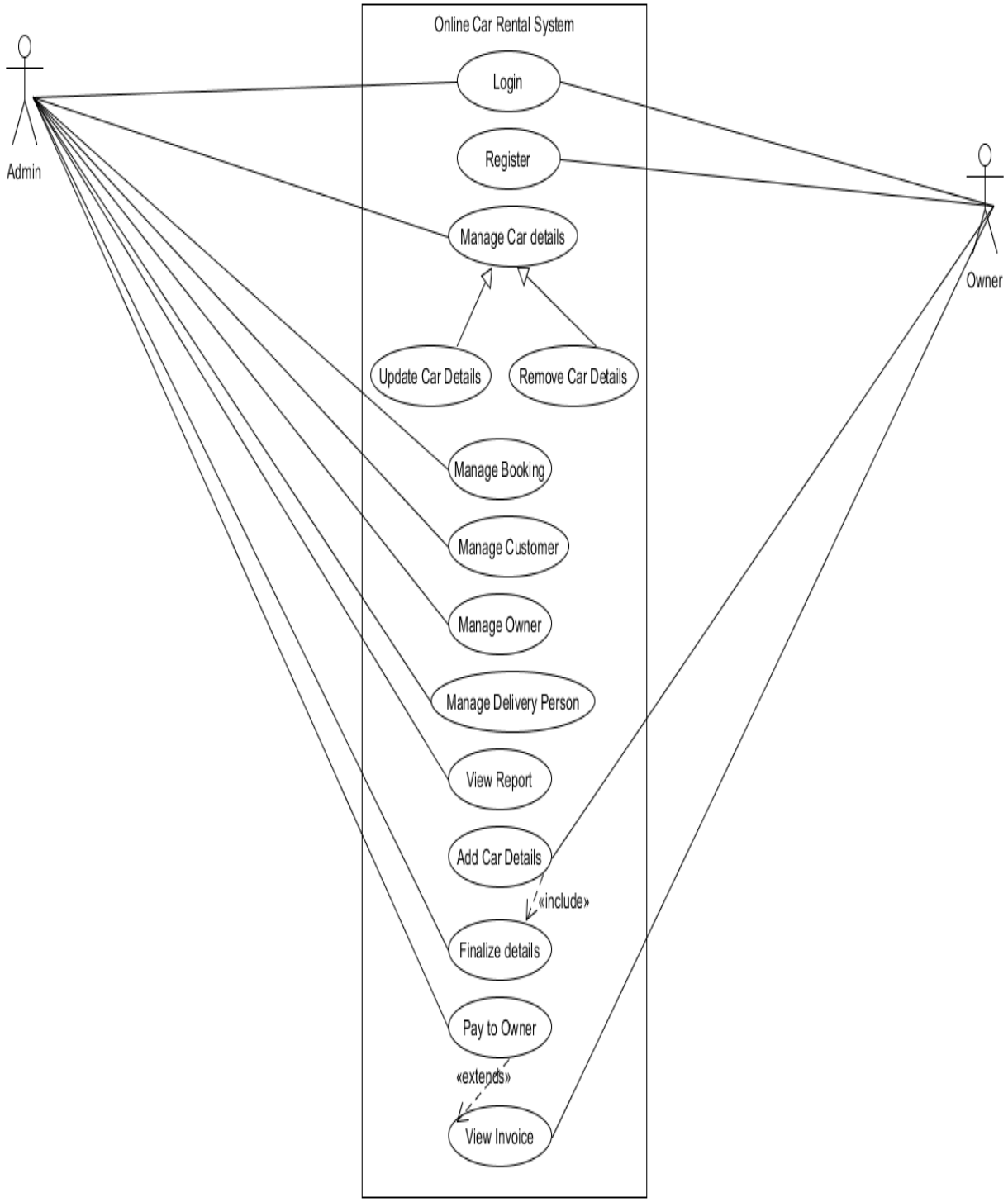
The system should be completely remote administrable. This means that system statistics (current active sessions, no. of session processed) and system functions (start/stop system, reboot system, restart services etc..).

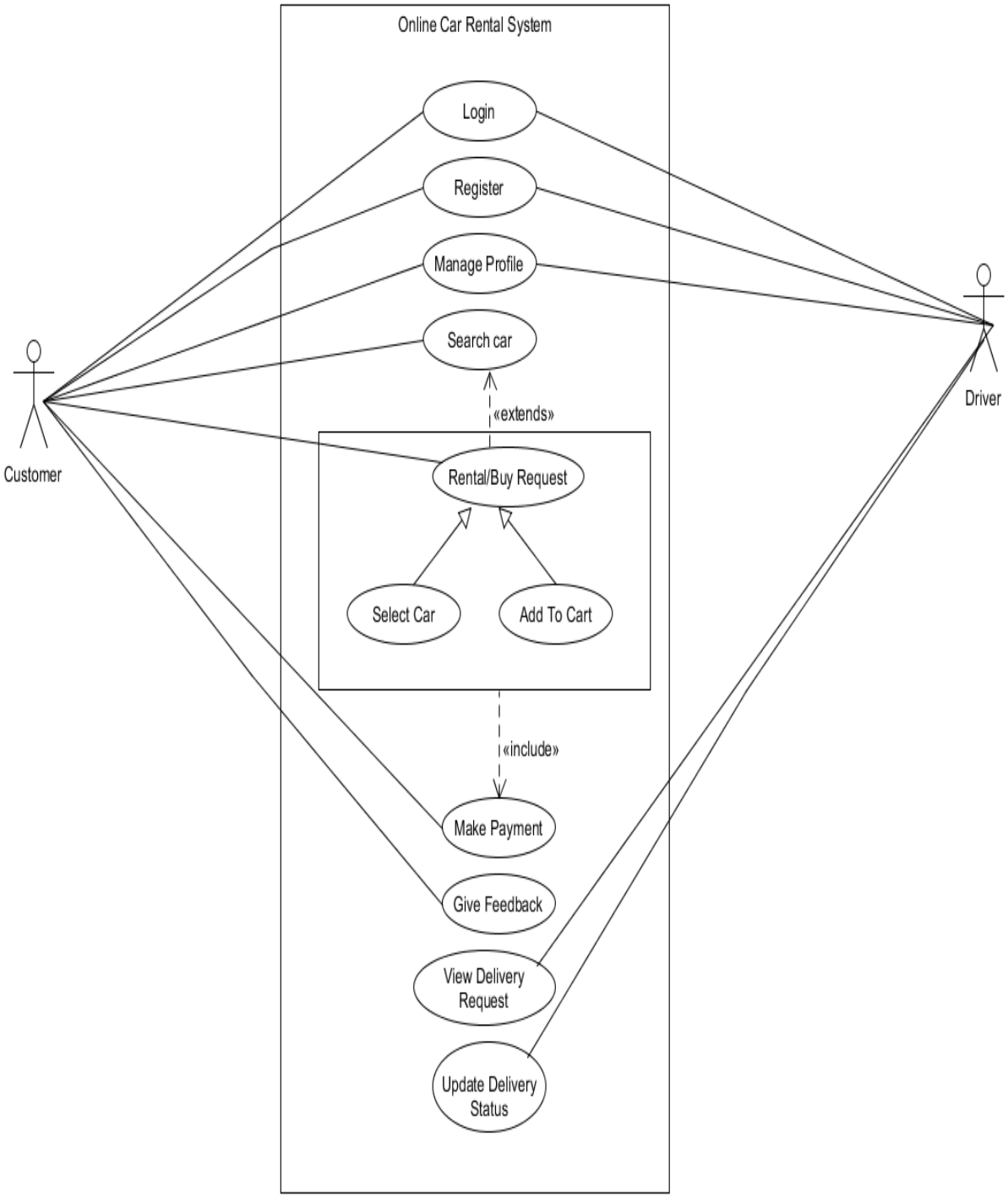
2.10.5 Scalability

The system shall be designed so that is can easily be scaled to increase performance (Response time). This means that the many instances of components can be running concurrently.

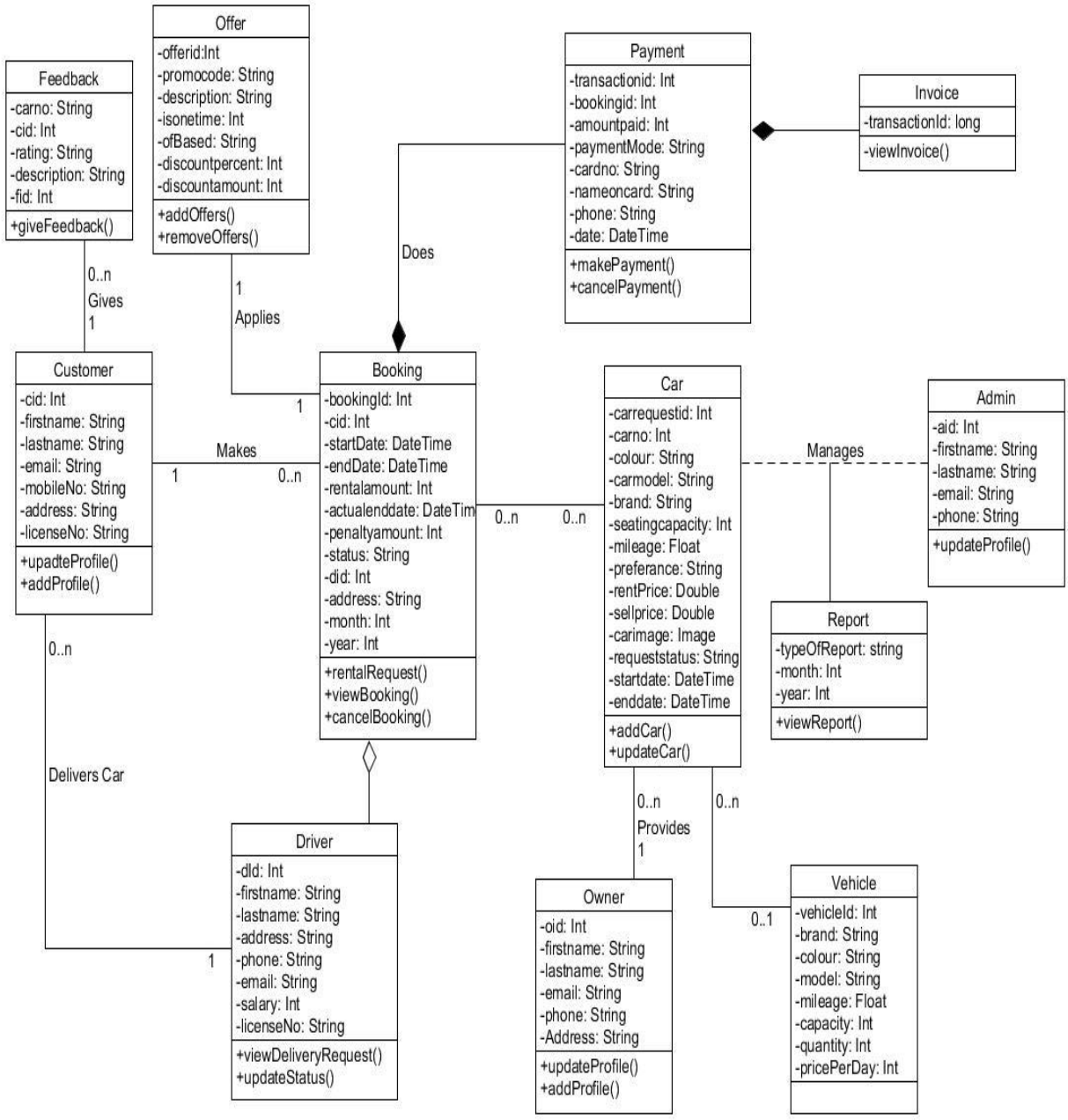
3.Design

3.1 Use case Diagram



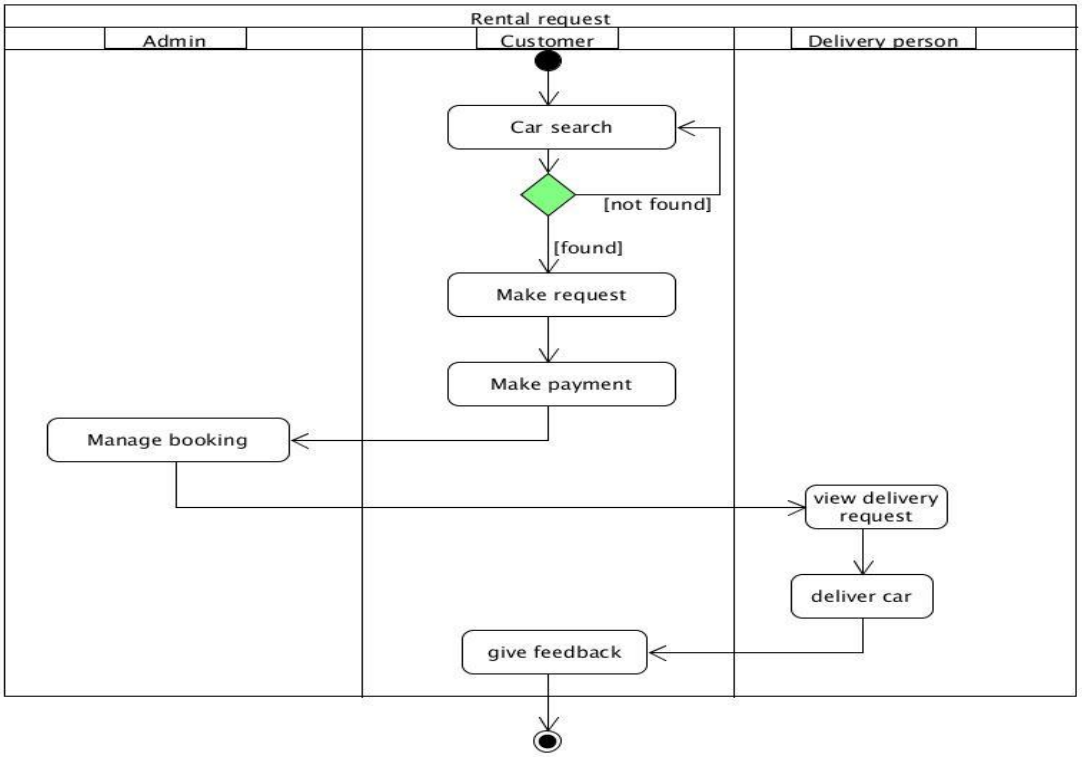

Online Car Rental System
Login
Register
Manage Profile
Search car
«extends»
Rental/Buy Request
Select Car
Add To Cart
«include»
Make Payment
Give Feedback
View Delivery Request
Update Delivery Status
Customer
Driver

3.2 Class Diagram

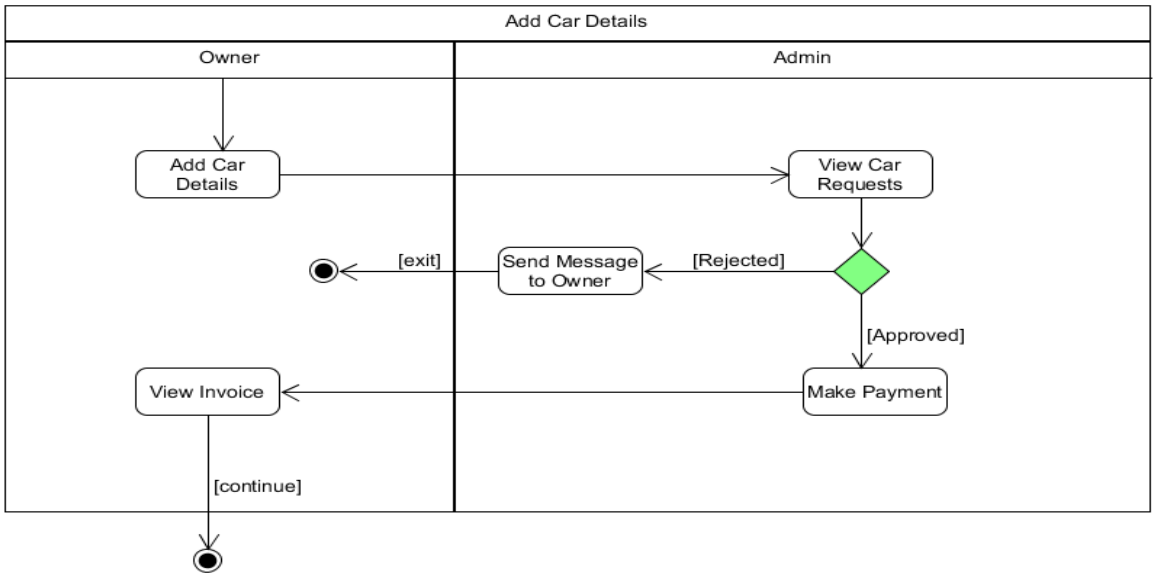


3.3 Activity Diagram

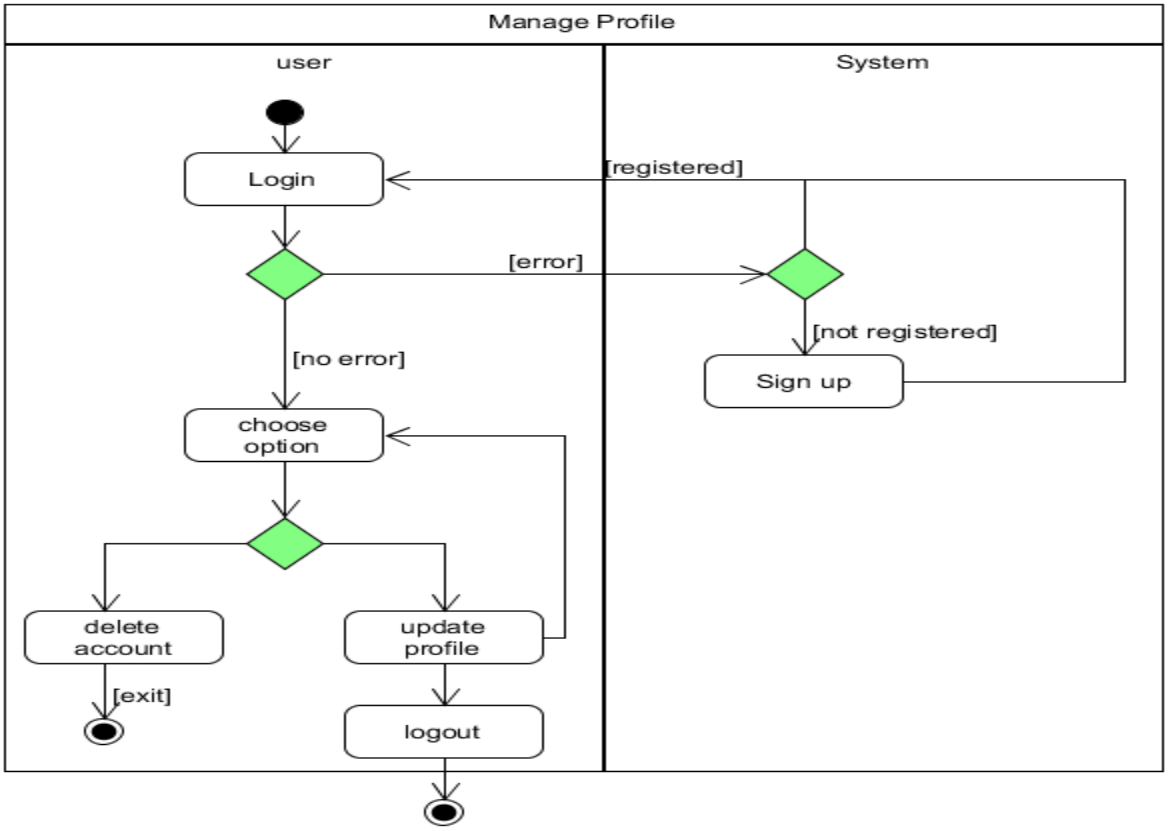
3.3.1 rental request



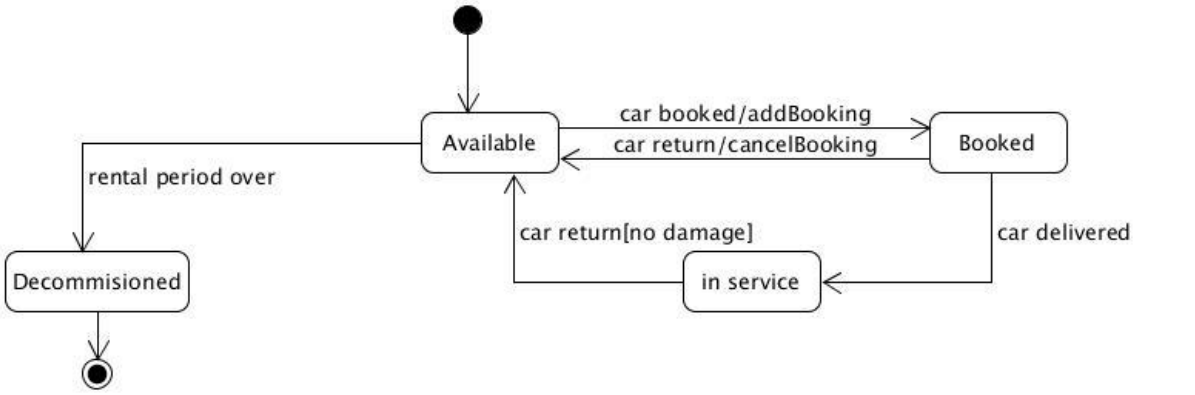
3.3.2 add car details



3.3.3 Manage profile details



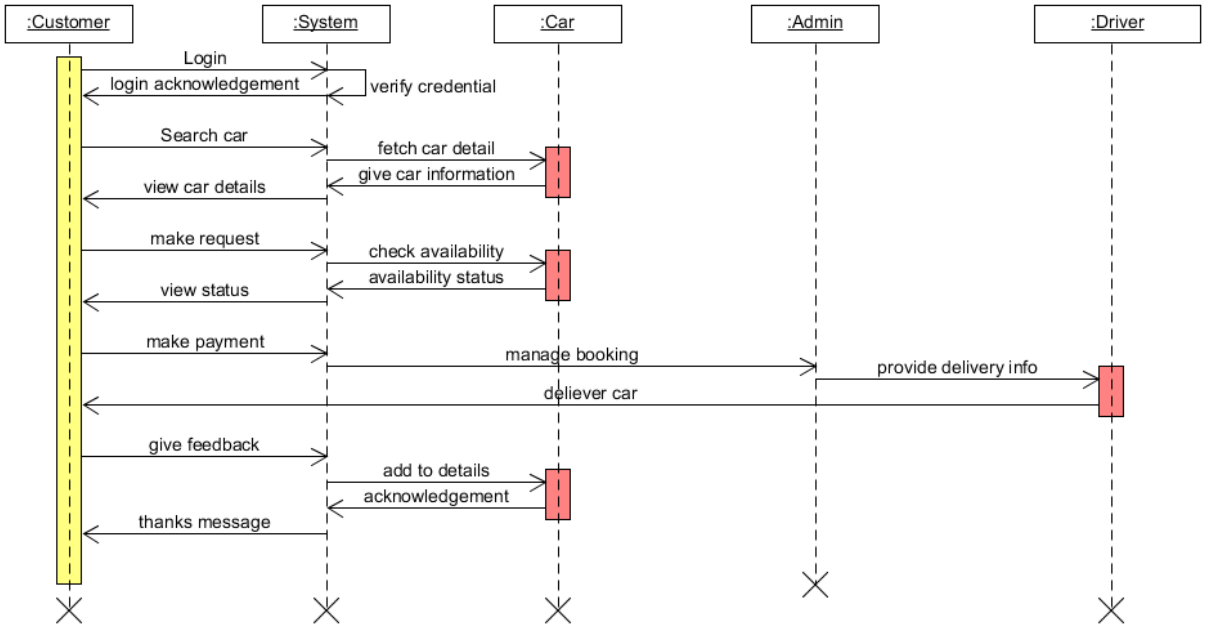
3.4 State Diagram



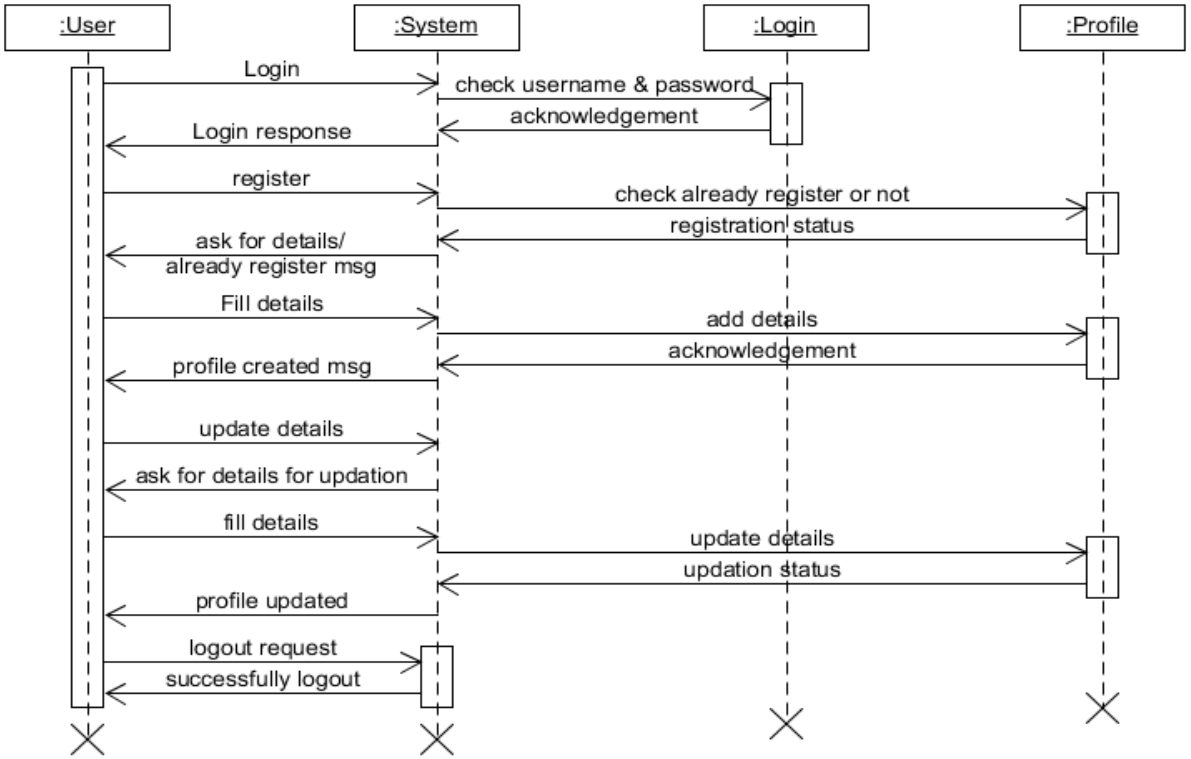
state diagram for car (car rental system)

3.5 Sequence Diagrams

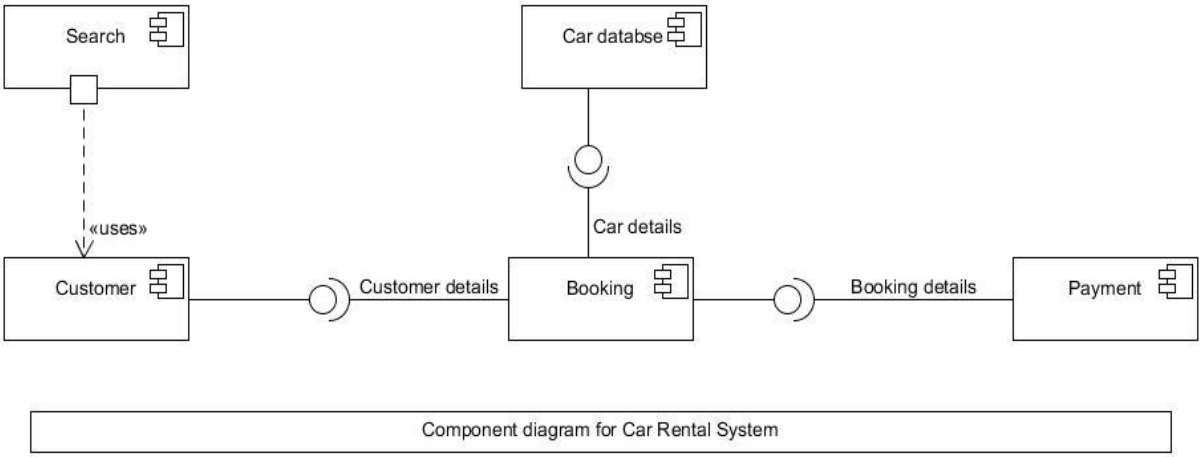
3.5.1 For rental request



3.5.2 For manage profile

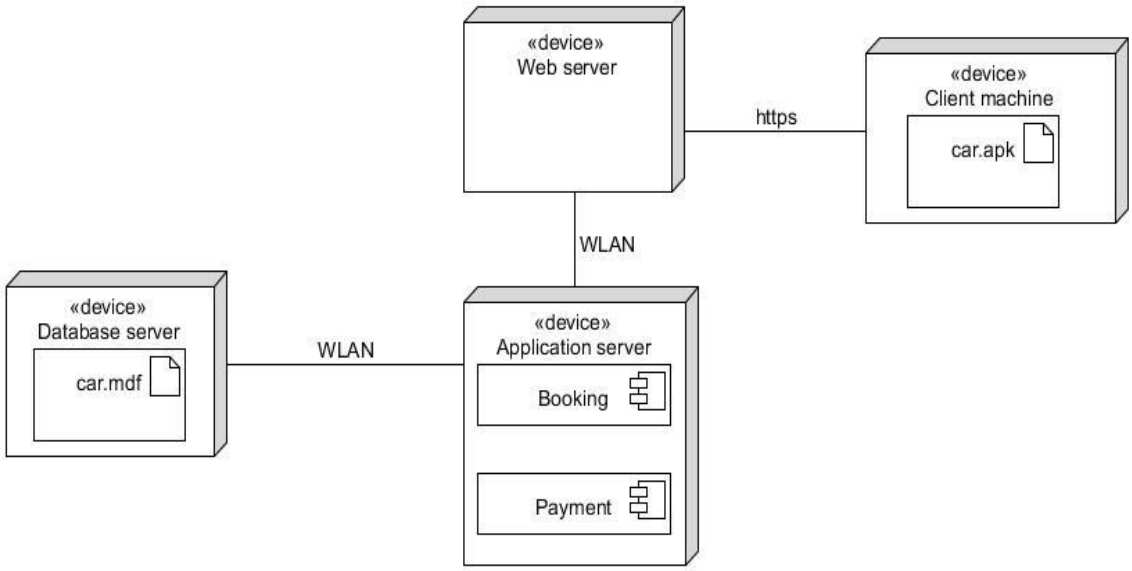


3.6 component diagram



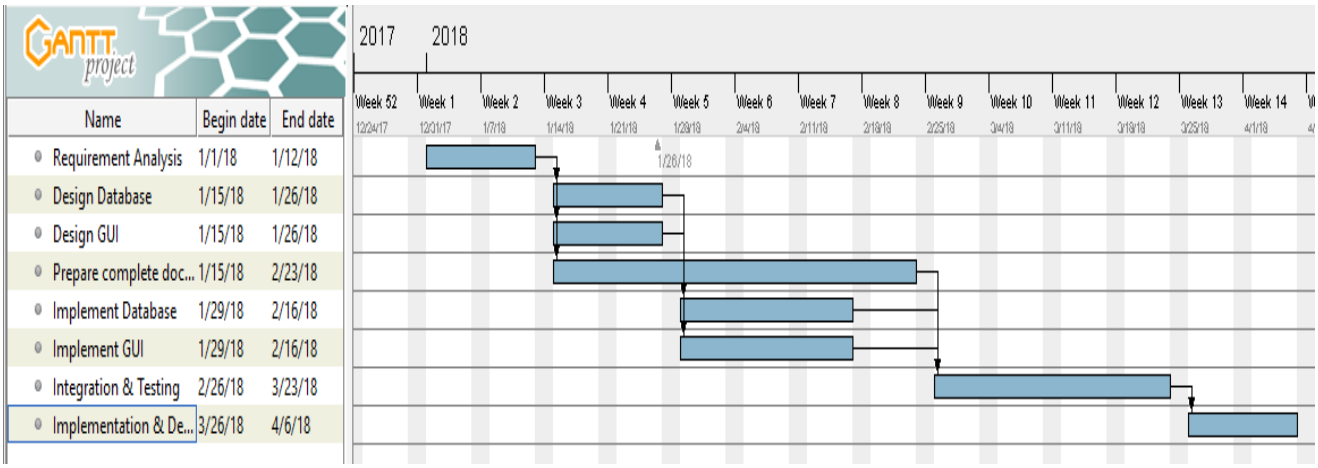
Component diagram for Car Rental System

3.7 Deployment Diagram

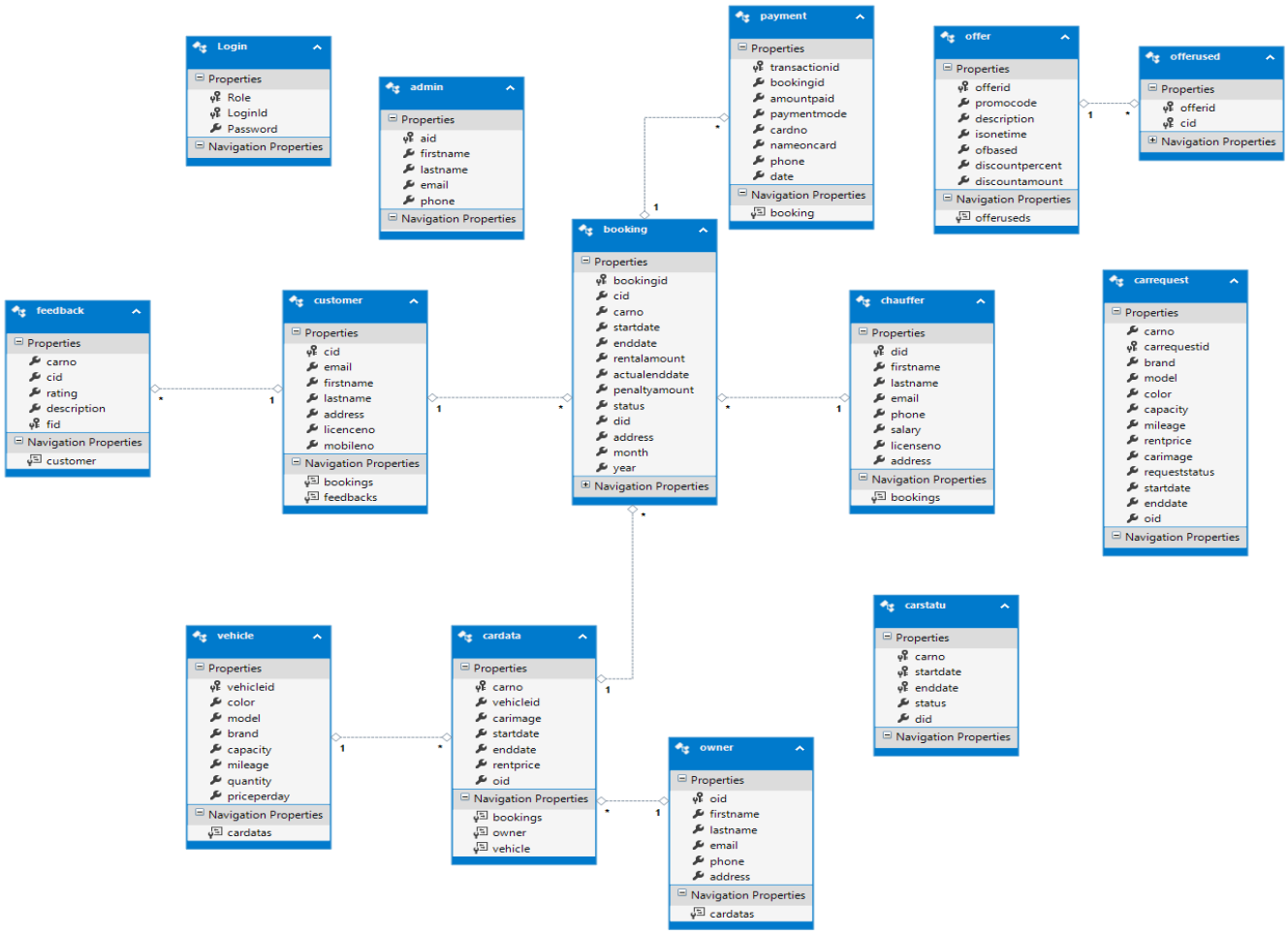


Deployment diagram for Car Rental System

3.7 Time line(activity) Diagram



3.8 ER Diagram



4.Testing

NO.	Description	Input	Expected Output	Actual Output	Remark	Status
1.	Login	Role=Customer Username=”sachinrana.14101997@gmail.com” Password=”sachin141097” Correct Captcha code	Login successful Redirects to Customer page			Positive
2.	Login	Role=Customer Username=”sachinrana.14101997@gmail.com” Password=”sachin141097” Incorrect Captcha Code	Incorrect Captcha code			Negative
3.	Login	Role=Admin Username=”sachinrana.14101997@gmail.com” Password=”sachin141097” Correct Captcha Code	Incorrect Credentials			Negative
4.	Register	Role=Customer Firstname=”sachin” Lastname=”rana”, Licenceno=99876 Mail=”sachinrana.14101997@gmail.com”, Phone=9723302142	Successfully Registered Sends mail to user after registration.			Positive
5.	Register	Role=Customer Firstname=”abhi” Lastname=”vachani”, Licenceno=12789 Mail=”vachani00@gmail.com” Phone=882983	Enter valid Mobile no			Negative
6.	Register	Role=Customer Firstname=”dhruvin” Lastname=”Radadiya”, Licenceno=32456 Mail=”d@yy.com” Phone=8401758108	Enter valid Email address			Negative
7.	Register	Role=Customer Firstname=”sachin” Lastname=”rana”, Licenceno=99876 Mail=”sachinrana.14101997@gmail.com”, Phone=9723302142	You have already registered, Please Login!!			Negative

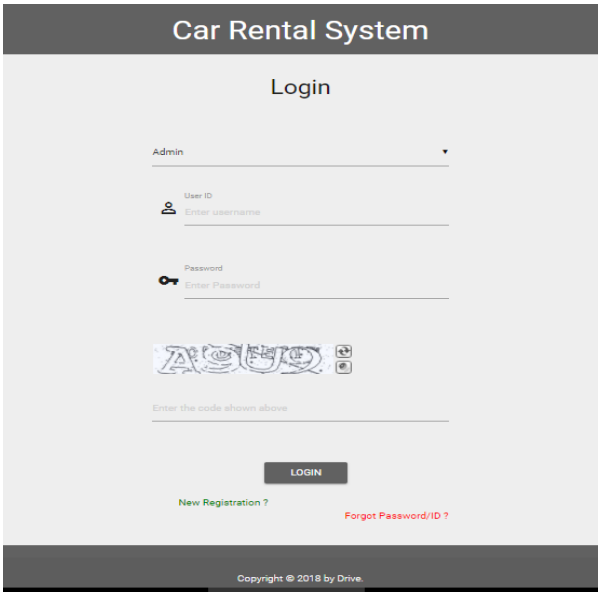
8.	Car availability	StartDate:10/3/2018, StartTime2:00:00PM EndDate:11/3/2018, EndTime10:00:00AM Duration:20 Hours	Show List of cars available in This duration			Positive
9.	Car availability	StartDate:10/3/2015, StartTime2:00:00PM EndDate:11/3/2015, EndTime10:00:00AM	Enter a Valid Date			Negative
9.	Forgot Password	Role=Customer Email=”sachinrana.14101997@ gmail.com”	Mail Sent successfully with user’s password			Positive
10.	Forgot Password	Role=Customer Email=”palash12@gmail.com”	User does not exist			Negative
11.	Forgot Password	Role=Customer Email=”vachanni00@gmail.com”	Mail not sent Try again(If internet connection is lost)			Negative
12.	Add car	Carno=”GJ-01-FA-9042”,Color=”black”, Brand=”Maserati”,Model=”q9” Capacity=5,Mileage=20, RentPrice=20000, carimage=”D:/images”	Car request sent successfully			Positive
13.	Add Car	Carno=”GJ-01-QA-9042”,Color=”blue”, Brand=”Maserati”,Model=”q9” Capacity=5,Mileage=20, RentPrice=20000,carimage=”” StartDate=21/04/2018 StartTime=10:00:00 AM EndDate=21/04/2018 EndTime=10:00:00 PM Duration(hours)=12	Please add the car image			Negative
14.	Add Car	Carno=”GJ-01-QB-9047”,Color=”blue”, Brand=”Maserati”,Model=”q9” Capacity=5,Mileage=20, RentPrice=200000, carimage=”D:/image” StartDate=21/04/2018 StartTime=10:00:00 AM	Some error occured			Negative

		EndDate=22/04/2018 EndTime=10:00:00 AM Duration(hour)=24				
15.	Add Chauffer	Firstname=”shrey”, Lastname=”soni”, Address=”Baroda”, salary=10000 Email=”shrey23@gmail.com” Phone=9824920157	Successfully added			Positive
16.	Add Chauffer	Firstname=”mayur”, Lastname=”soni”, Address=”Baroda”,salary=10000 Email=”shrey23@.com” Phone=9825920197	Invalid Email			Negative
17.	Add Chauffer	Firstname=”jay”,Lastname=”shah”, Address=”Baroda”,salary=10000 Email=”jayshah23@yahoo.com” Phone=98989767	Invalid mobileno			Negative
18.	Apply offer	Promocode=”ticket100” Payment Mode=”paytm” Phone no=9723302142 OTP=042969	Promocode applied,Payment done successfully			Positive
19	Apply offer	Promocode=”ticket100” Payment Mode=”paytm” Phone no=9723302142	You already used it(if offer is one time only)			Negative
20.	Apply Offer	Promocode=”ticket10” Payment Mode=”paytm” Phone no=9723302142	No service available(if promocode doesn’t exist)			Negative
21.	Apply Offer	Promocode=”ticket100” Payment Mode=”paytm” Phone no=9723302142 OTP=1235	OTP doesn’t matched(if entered OTP doesn’t match to the one sent in email)			Negative
22.	Change Password	New Password=”abcd123” Confirm Password=”abcd123”	Password changed successfully			Positive
23.	Change Password	New Password=”abcd123” Confirm Password=”abcd”	Password not matched			Negative

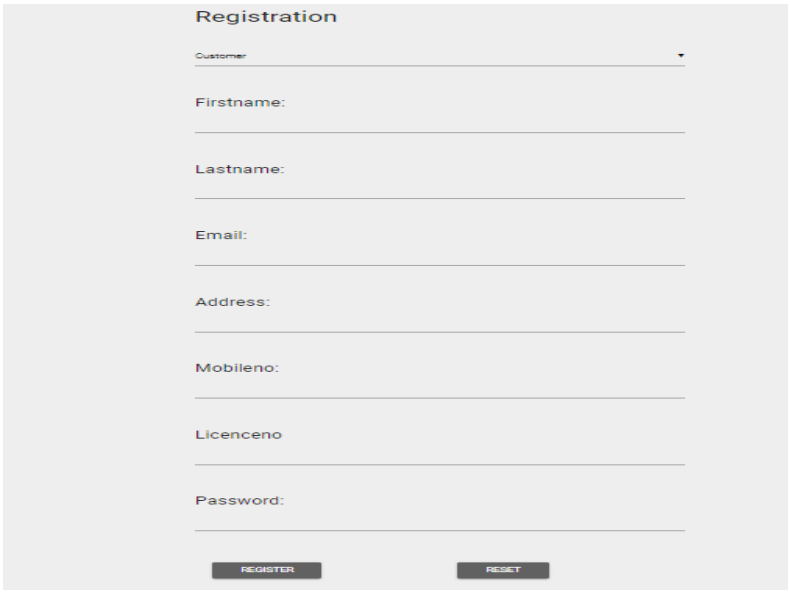
5.Screenshot

1.first.aspx

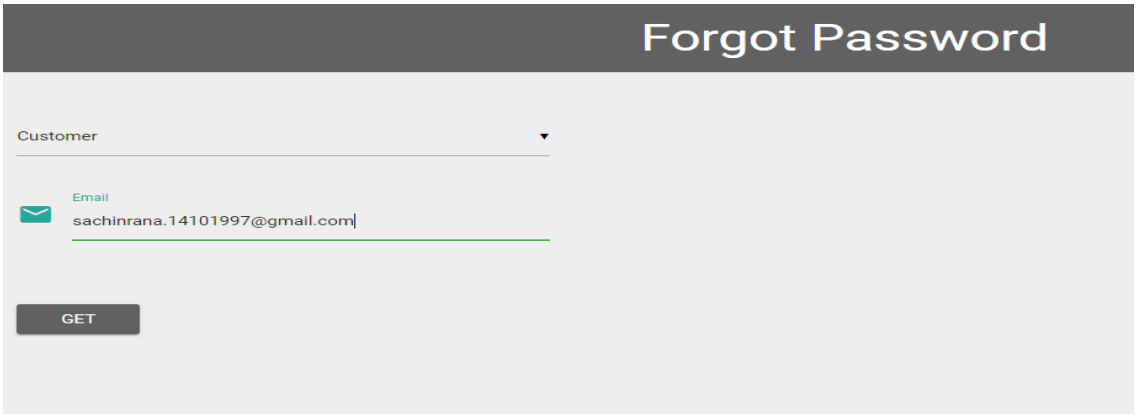
2.login.aspx



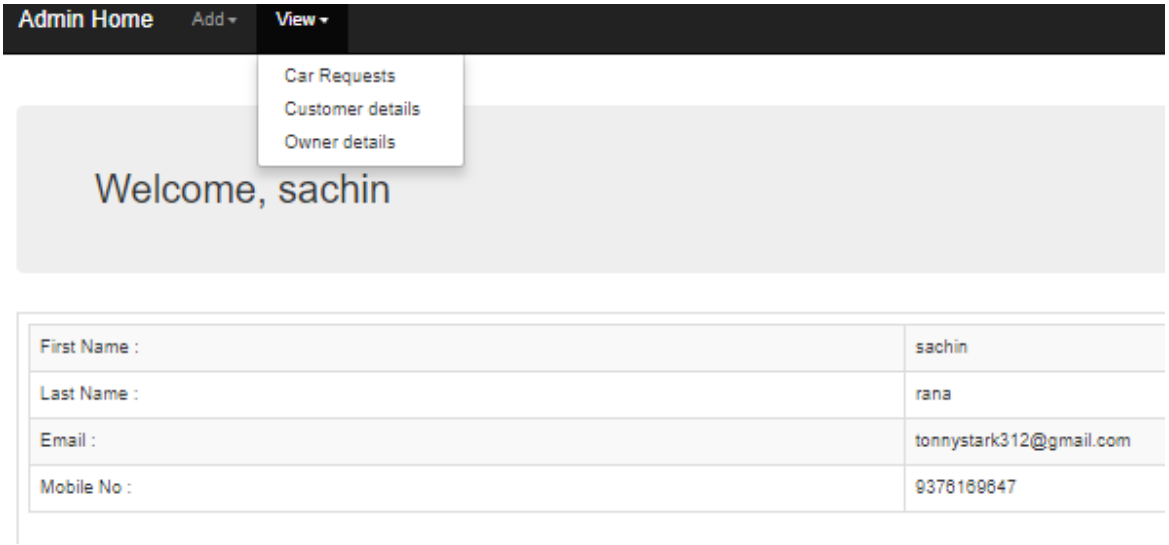
3.register.aspx



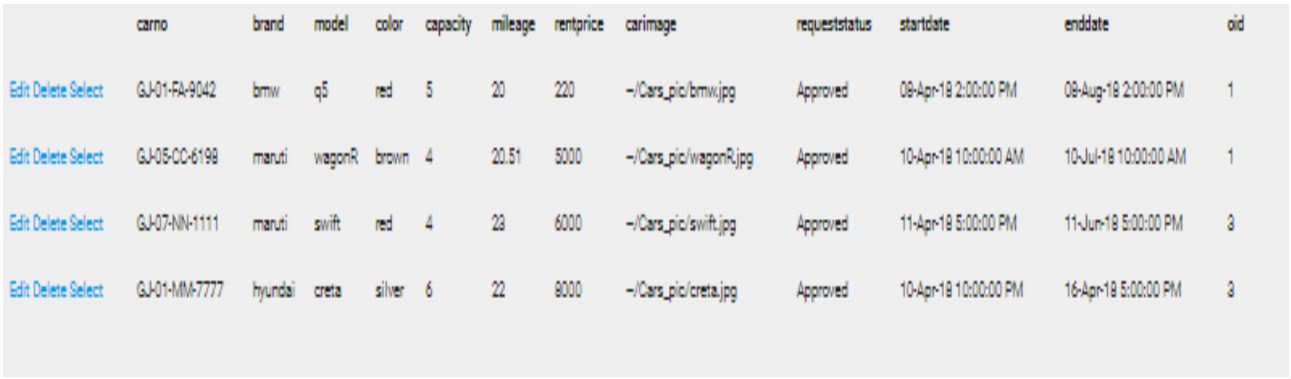
4.forgot.aspx



5.adminprofile.aspx

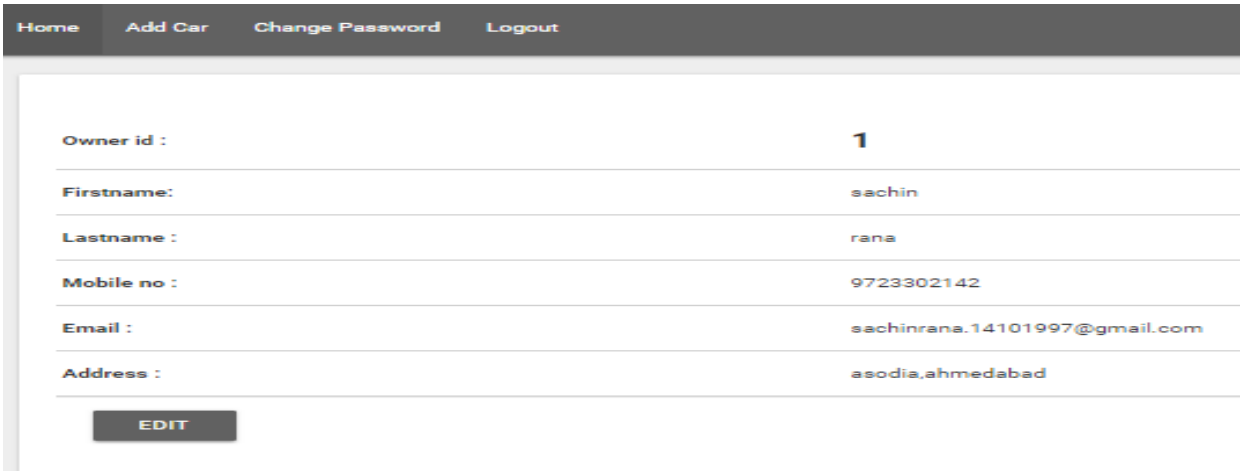


6.carrequest.aspx

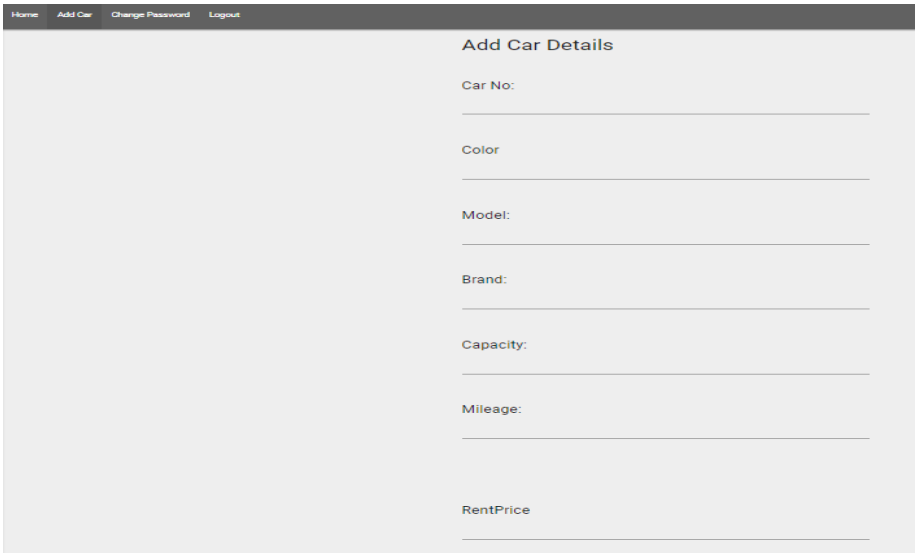


	carno	brand	model	color	capacity	mileage	rentprice	carimage	requeststatus	startdate	enddate	oid
Edit Delete Select	GJ-01-FA-9042	bmw	q5	red	5	20	220	~/Cars_pic/bmw.jpg	Approved	09-Apr-18 2:00:00 PM	09-Aug-18 2:00:00 PM	1
Edit Delete Select	GJ-05-CC-6198	maruti	wagonR	brown	4	20.51	5000	~/Cars_pic/wagonR.jpg	Approved	10-Apr-18 10:00:00 AM	10-Jul-18 10:00:00 AM	1
Edit Delete Select	GJ-07-NN-1111	maruti	swift	red	4	23	6000	~/Cars_pic/swift.jpg	Approved	11-Apr-18 5:00:00 PM	11-Jun-18 5:00:00 PM	3
Edit Delete Select	GJ-01-MM-7777	hyundai	creta	silver	6	22	8000	~/Cars_pic/creta.jpg	Approved	10-Apr-18 10:00:00 PM	16-Apr-18 5:00:00 PM	3

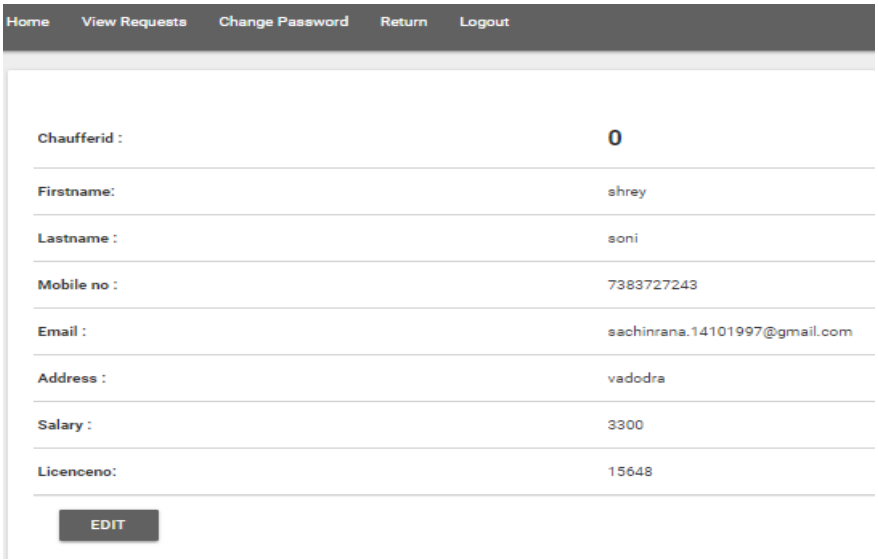
7.ownerprofile.aspx



8.addcar.aspx



9.driverprofile.aspx



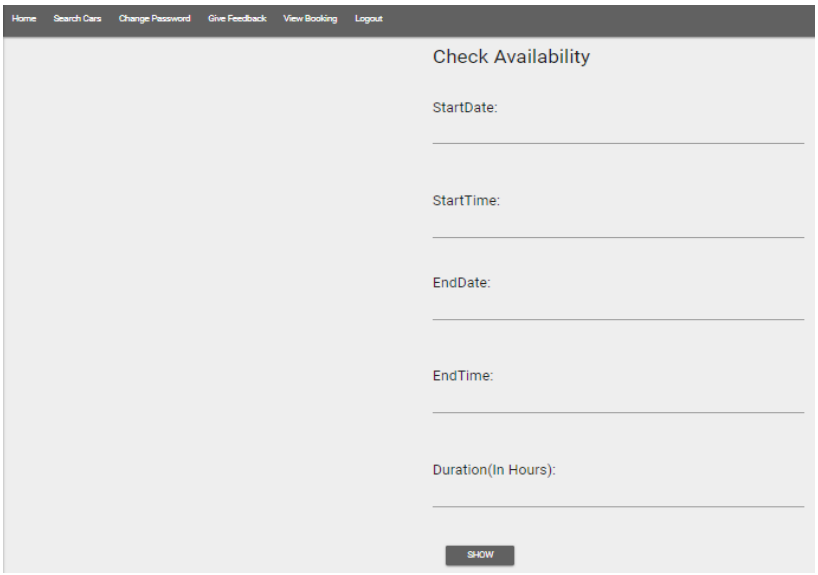
10.viewcarrequest.aspx

11.customerprofile.aspx

Customerid :	7
Firstname:	abhi
Lastname :	vachhani
Mobile no :	9898976798
Email :	vachhaniabhi00@gmail.com
Address :	surat
Licenceno:	12345

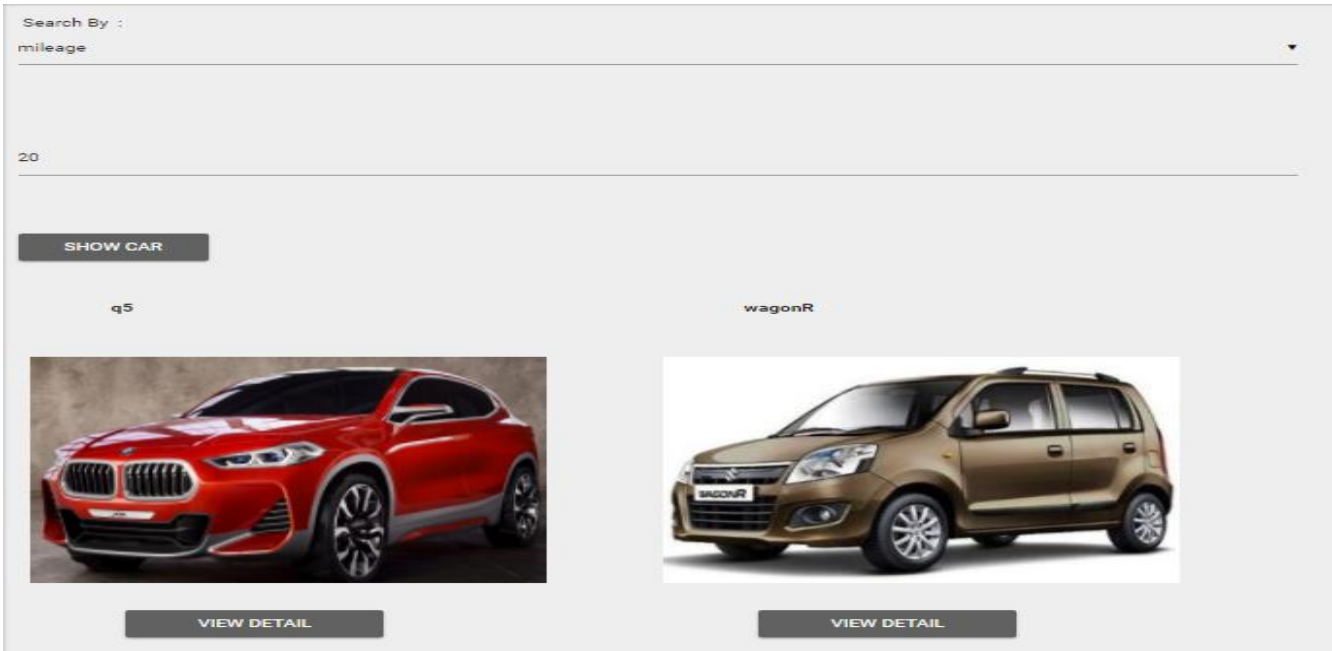
EDIT

12.check.aspx



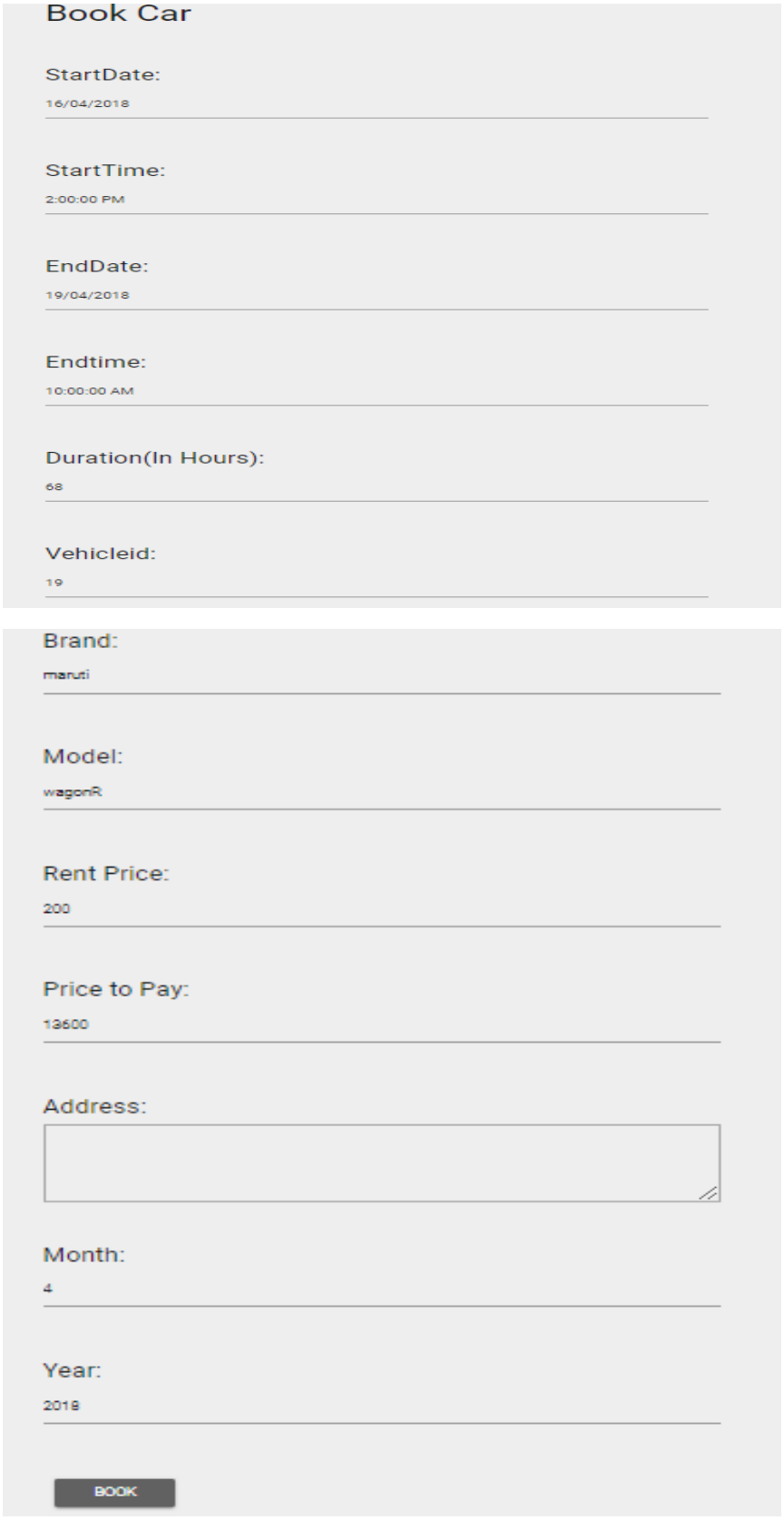
13.displaycars.aspx

14.search.aspx

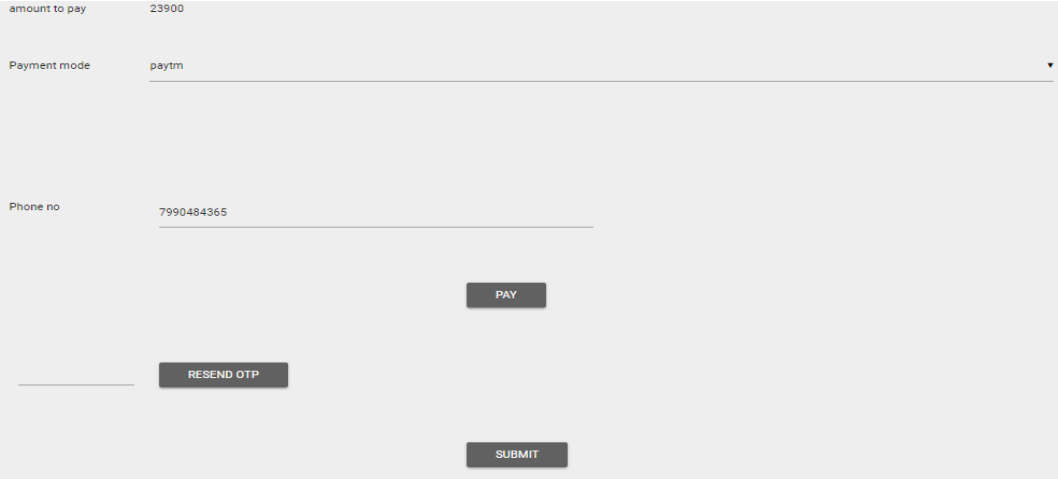


15.viewcardetails.aspx

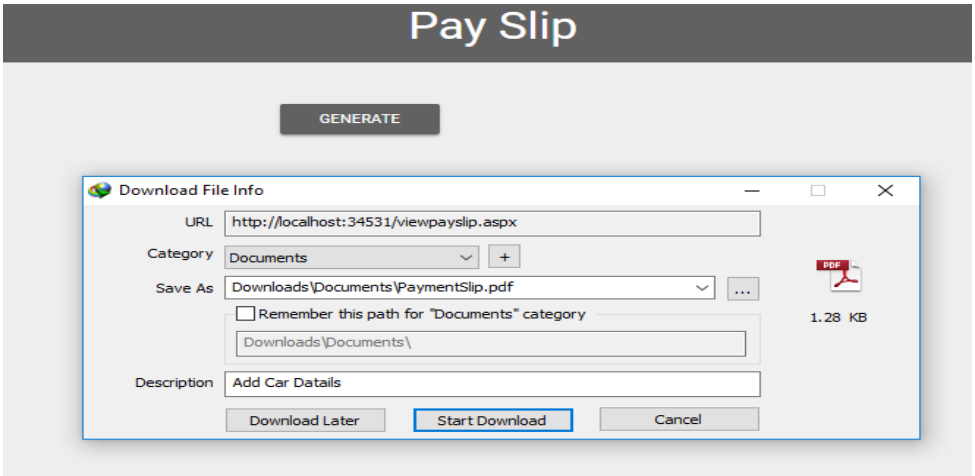
16.book.aspx


Book Car
StartDate:
16/04/2018
StartTime:
2:00:00 PM
EndDate:
19/04/2018
Endtime:
10:00:00 AM
Duration(In Hours):
68
Vehicleid:
19
Brand:
maruti
Model:
wagonR
Rent Price:
200
Price to Pay:
13600
Address:
Month:
4
Year:
2018
BOOK

18.payment.aspx

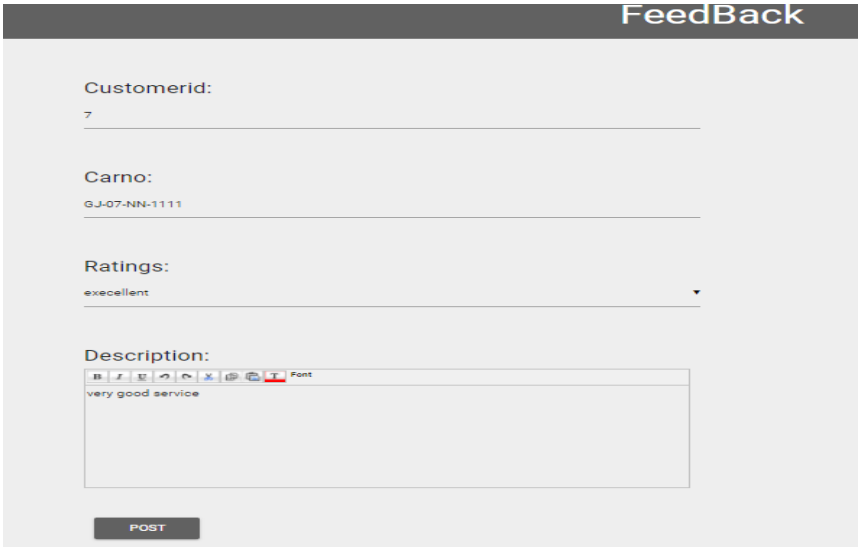


19.viewpayslip.aspx

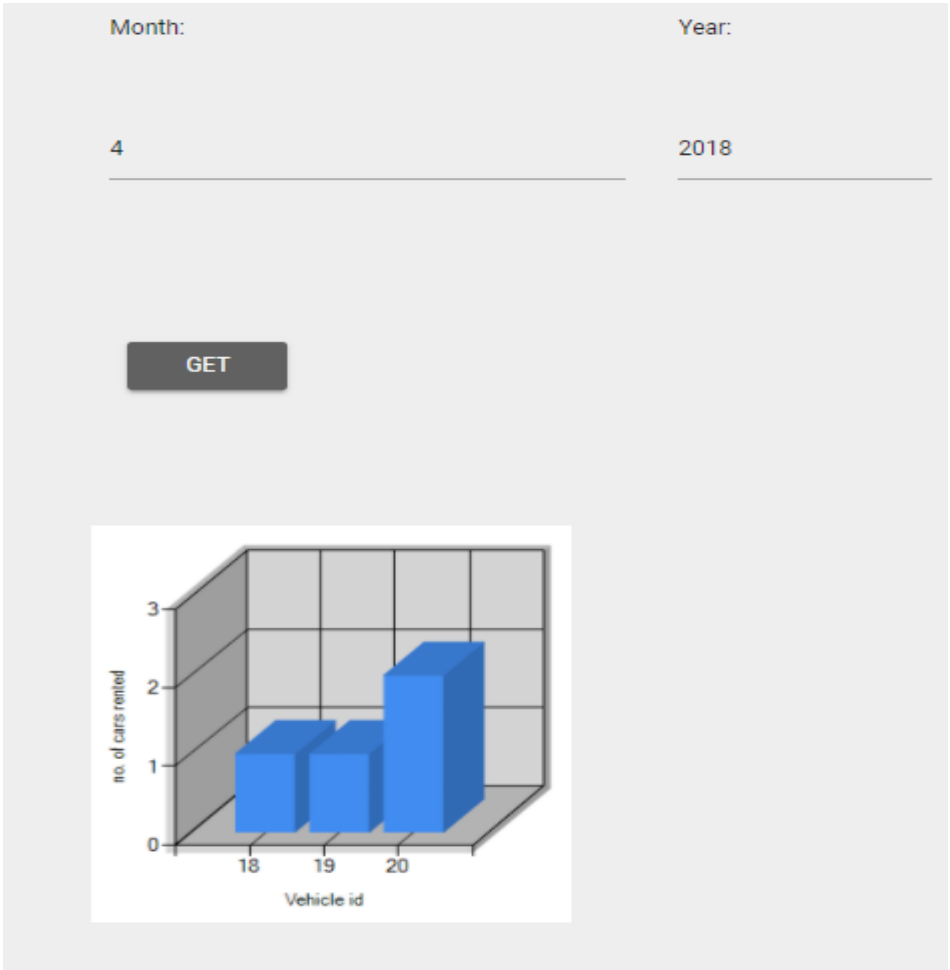


20.cancel.aspx

21.feedback.aspx



22.report.aspx



6.Conclusion

Hereby, we declare that the functionality implemented in this system performed by understanding all the modules. Unit testing of all modules were done and later Integration testing was also performed.

The web based car rental system has offered an advantage to both customers as well as Car Rental Company to efficiently and effectively manage the business and satisfies customers need at the click of a button. Nowadays, customers can reserve cars online, rent car online, and have the car brought to their door step once the customer is a registered member or go to the office to pick the car.

7.Future Extension

- This system is only for one city, so in future it can be extended further for more than one city.
- This system does not really do payments, so by putting payment API we can make this system realistic.
- System is only for renting cars not buying.