

Car Rental System



L.J. Institute of Computer Application

GROUP NO:

MCA_2_13

Internal Guide:

Het Rachh

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0. Plagiarism Declaration

To Whom so ever it may concern

I/ We, the project team, confirm that this assignment is my own work, is not copied from any other person's work (published or unpublished), and has not previously submitted for assessment either at University or elsewhere. I/We confirm that I/we have read and understood the rules regulations on plagiarism in GTU.

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Introduction

1. Introduction

Car rental system allows individuals to book a self-drive rental car by the hour, day, week, or month. It seamlessly integrates into any platform as it is a web app. Our service enables users to rent self drive cars for traveling in the city or outstation.

1.1. Existing System

Currently users book car using the traditional manual system of vehicle reservation through calling or visiting at store.

1.2. Need For the New System

To eliminates the risk of erroneous booking and reduce overall lead time online booking system needed.

1.3. Objectives of the New System

The objective of the project is to automate vehicle rental reservation so that the customers do not need to call and spend unnecessary time to reserve a vehicle. And for the company process become easier to manage bookings and cars on system rather than manual.

- Customer is only needed to provide aadhar number instead of submitting Identity document.

1.4. Problem Statement

Customer inquire the company to rent a car. Admin validates the request and ask for security proof. Company asks customer to pay security deposit. After validating the request company can approve or reject car rental request with valid reasons. Then customer is asked to pay booking amount in advance or after the completion of booking. Security proof is returned to the customer after booking period.

1.5. Core Components

Core components of this projects are

- **User module**
 - Login/Logout.
 - View fleet.
 - View their transaction history.
 - View & manage their account details.
 - View & give testimonial.
 - Request inquiry.

- **Admin module**
 - Login/Logout.
 - Admin can manage fleet.
 - Manage bookings.
 - Manage users.
 - View testimonials.
 - Manage inquires.

- **Visitor module**
 - Register.
 - View fleet.
 - View Testimonials.
 - Request inquiry.

Customers can submit the request, see the status of their request anytime as this system works online.

As the data is saved in database it is easy for admin to generate reports. As it can be done easily in this system.

1.5. Project Profile

- **Name:** Car Rental System

- **Technologies:**
 - Front End: HTML, CSS, JavaScript
 - Back End: Django (Python)
 - Database: MySQL

1.7. Advantages and Limitations of Proposed System

➤ **Advantages**

- Automated System
- Saves time and cost
- The car rental system present instant support to the clients.
- The car rental system gives an easy booking facility for the clients.
- The receipts can be easily generated from the rental system.
- The clients can make advance payment online and bookings for the cars.

➤ **Limitations**

- Internet Connectivity
- Limited Pickup & Drop Points
- GPS tracking

Requirement Determination & Analysis

2.1. Requirement Determination

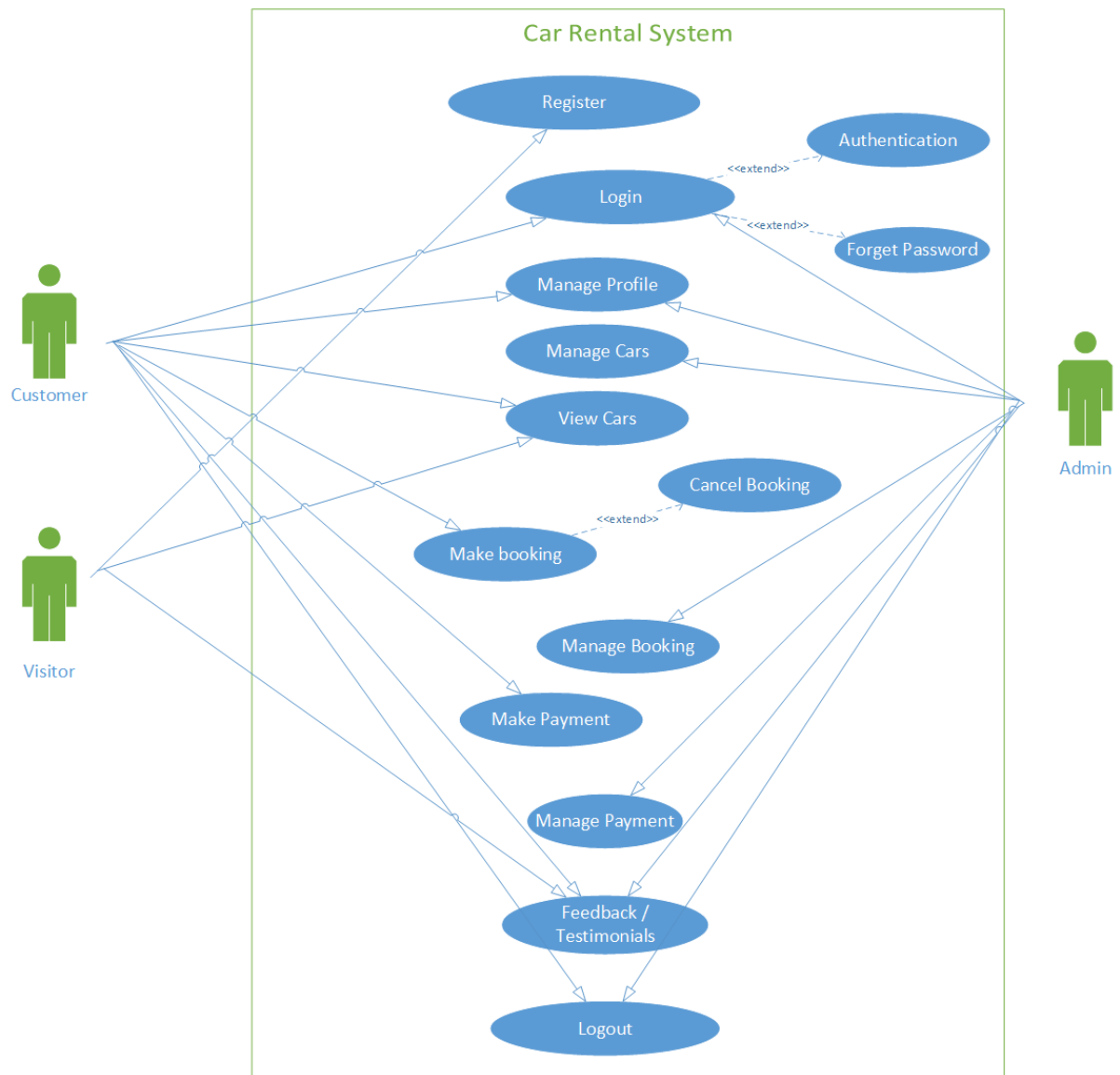
The existing system that is manual, customers contact the company for booking. Customers submit identity document and pay security deposit and receipt is given to them for their booking. Then our project team determined the system can be built with fulfilled requirements using Django framework.

2.2. Targeted Users

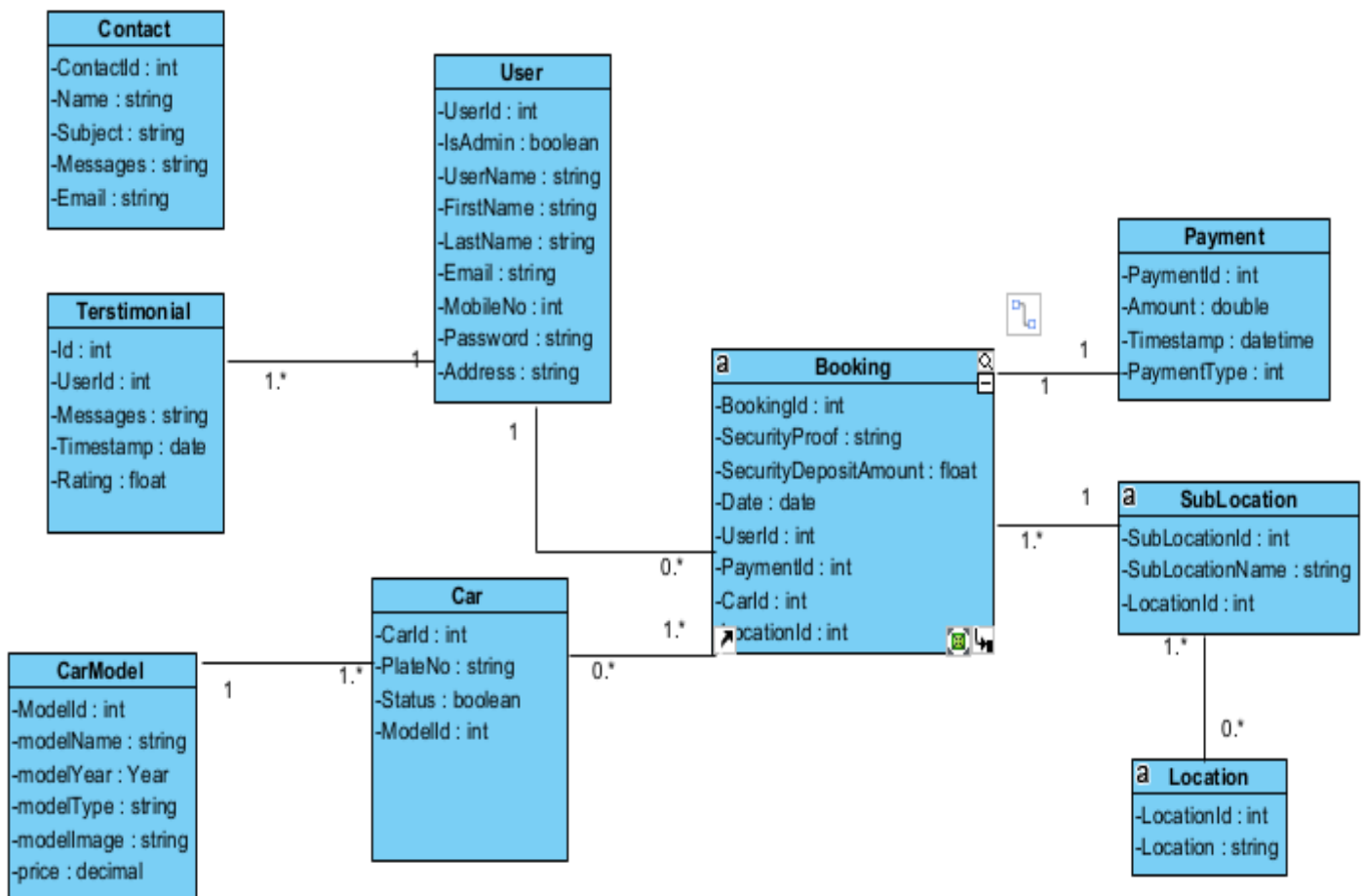
- User
- Visitor
- Admin

System Design

3.1. Use Case Diagram

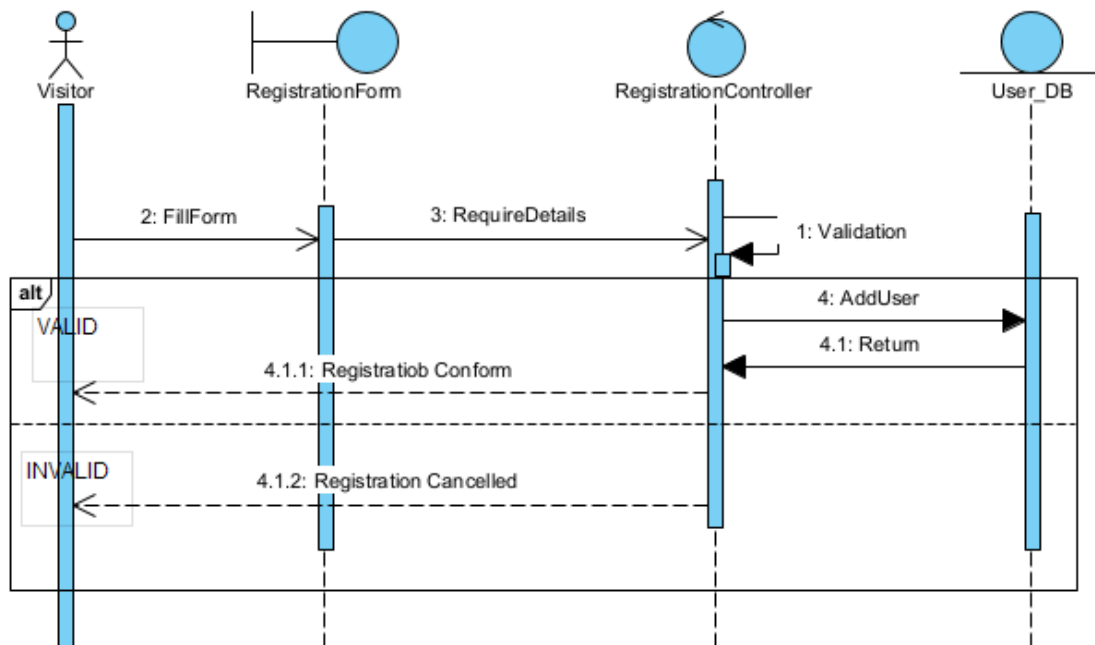


3.2. Class Diagram

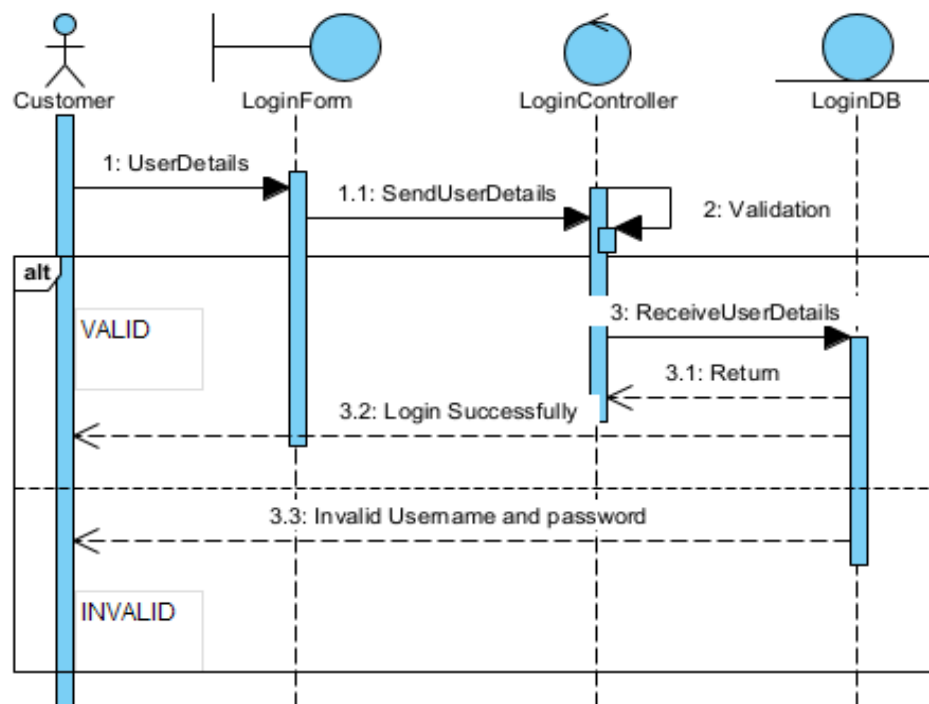


3.3. Interaction Diagram

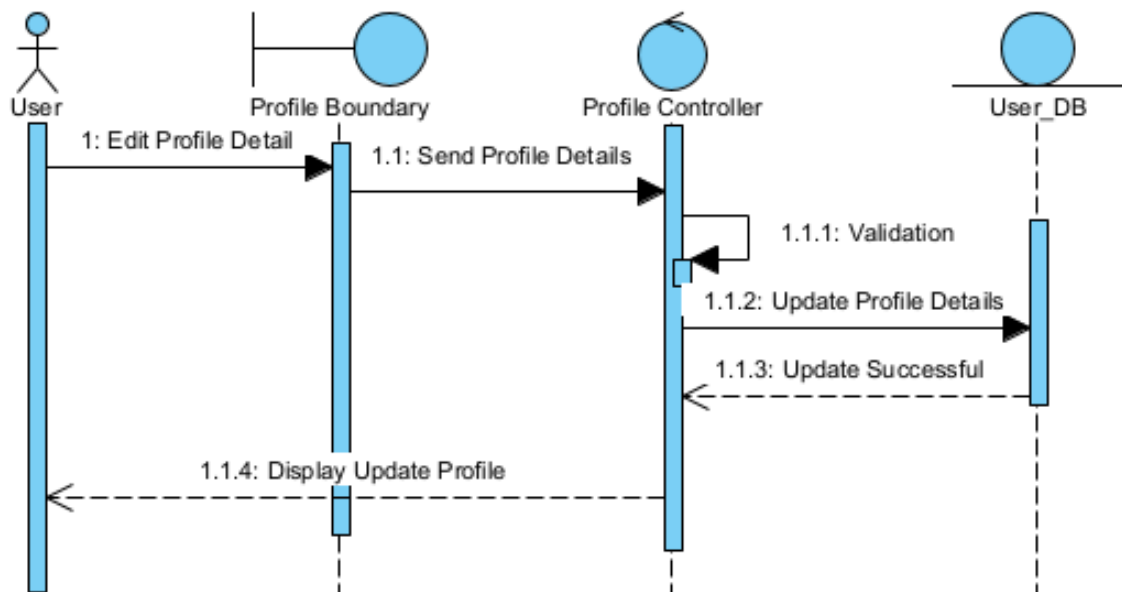
REGISTRATION



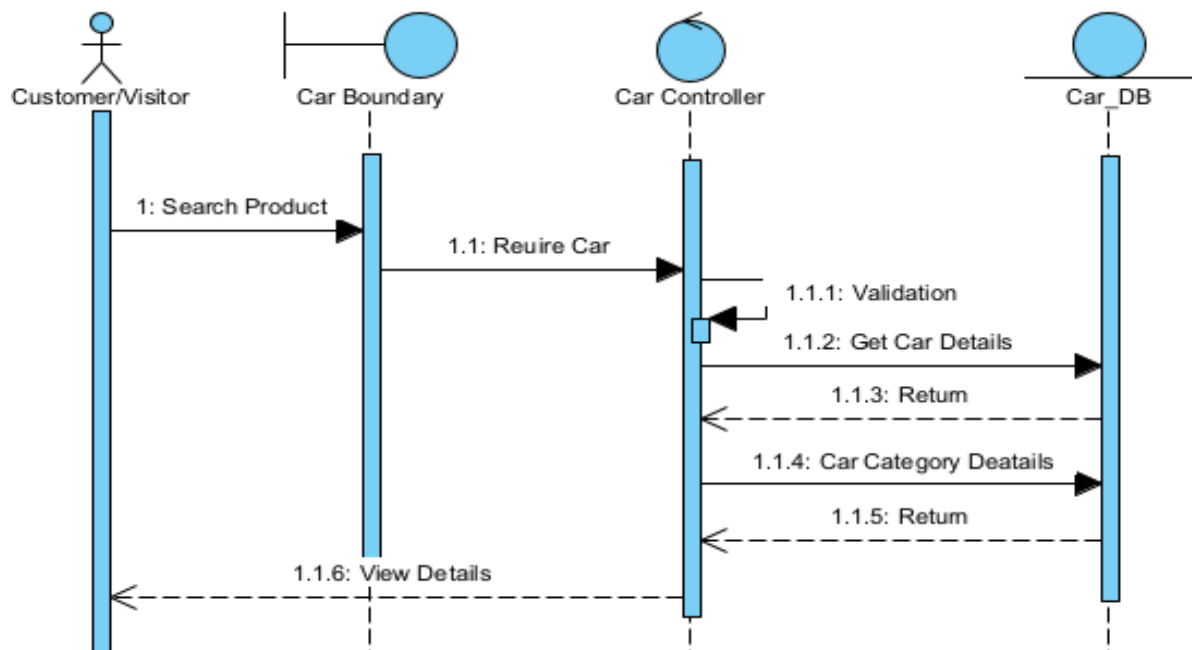
LOGIN



MANAGE PROFILE

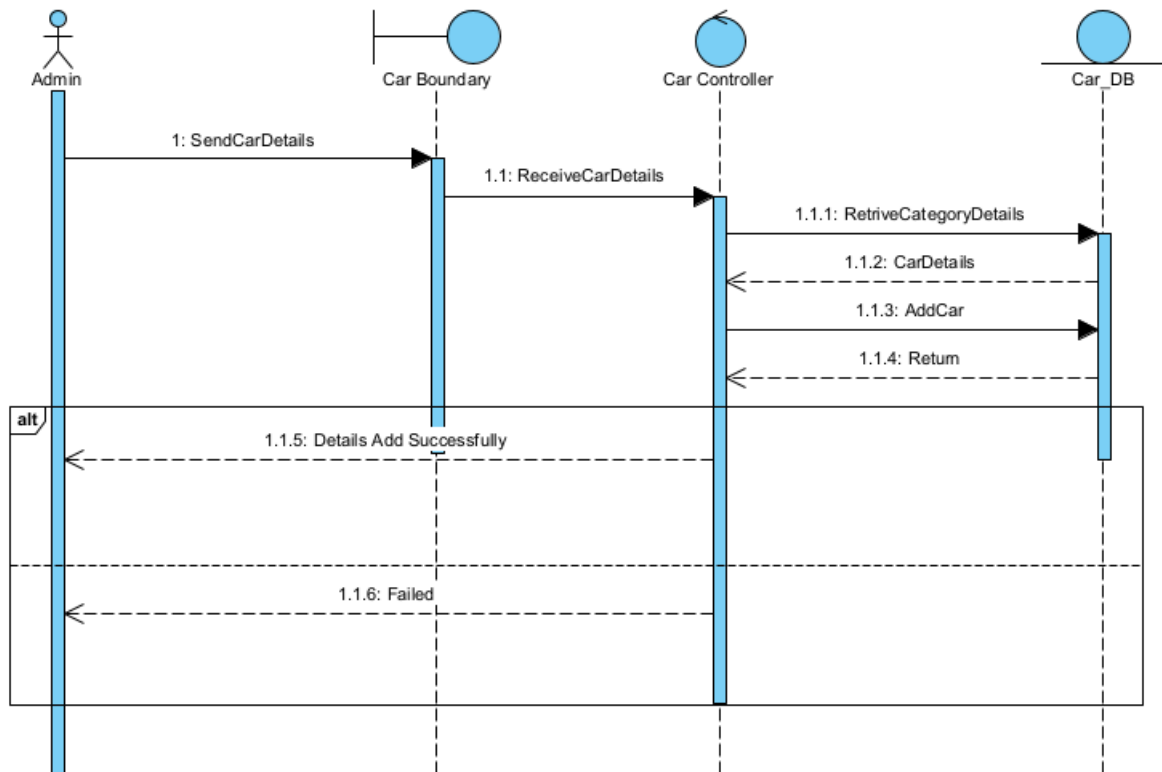


VIEW CAR



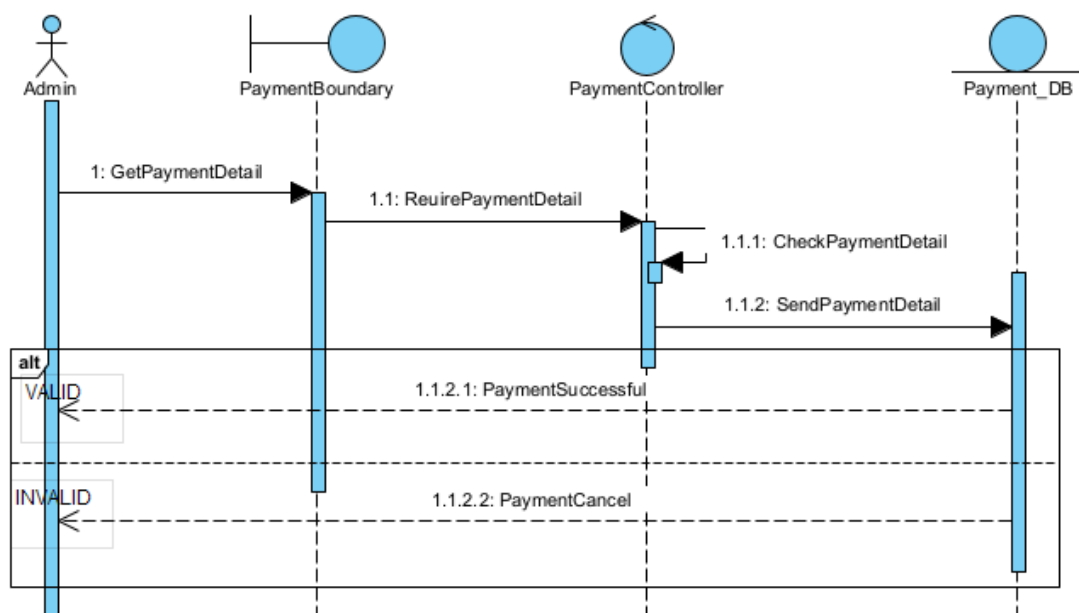
MANAGE CAR

UML

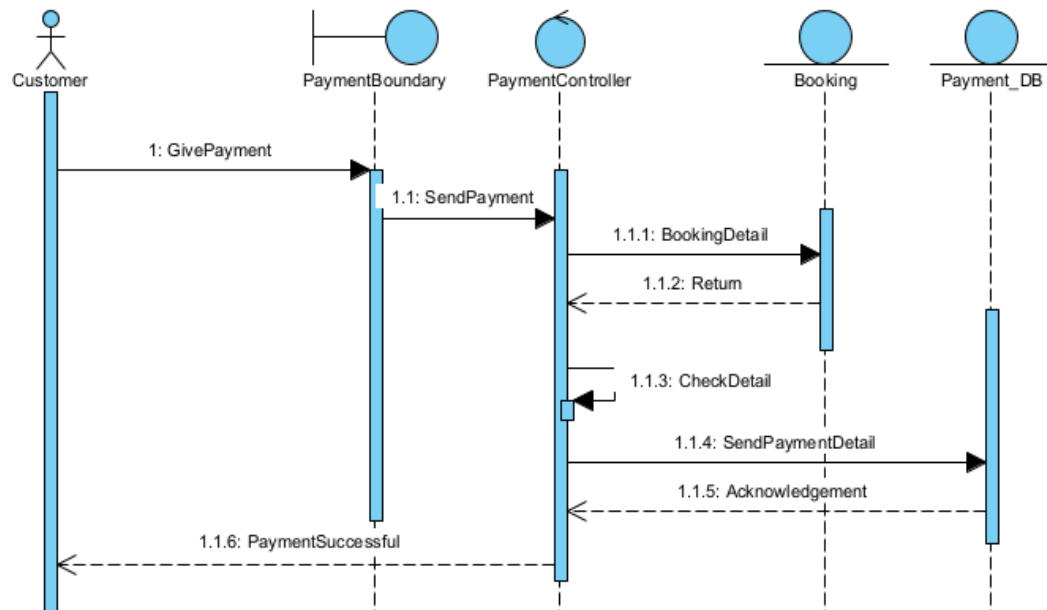


MANAGE PAYMENT

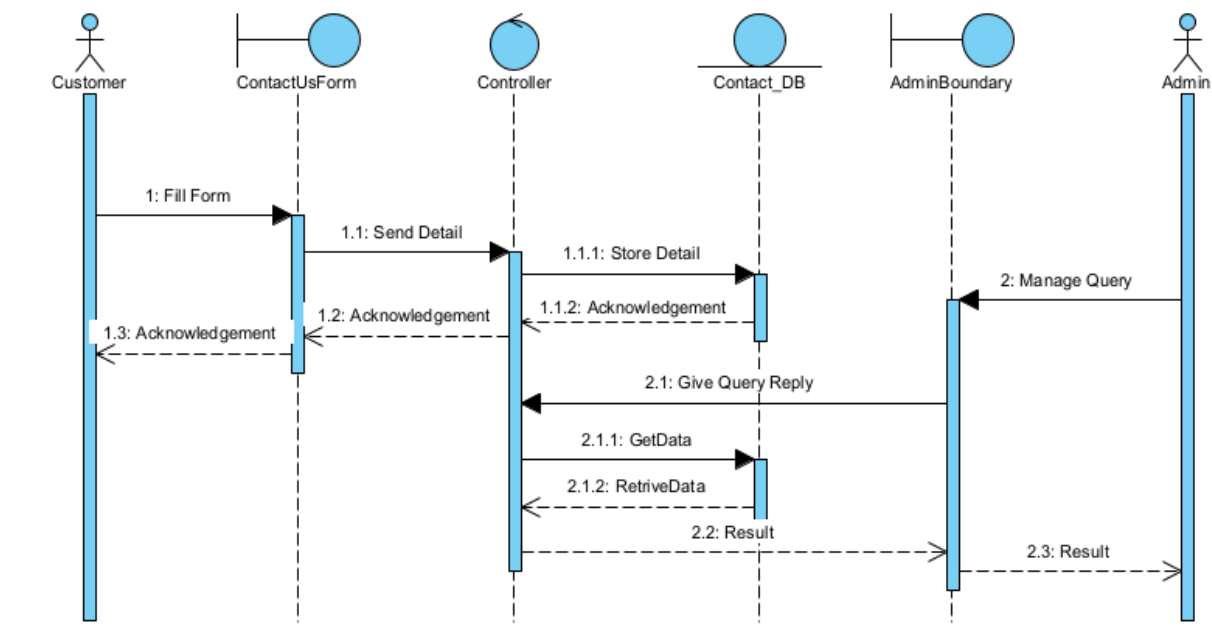
UML



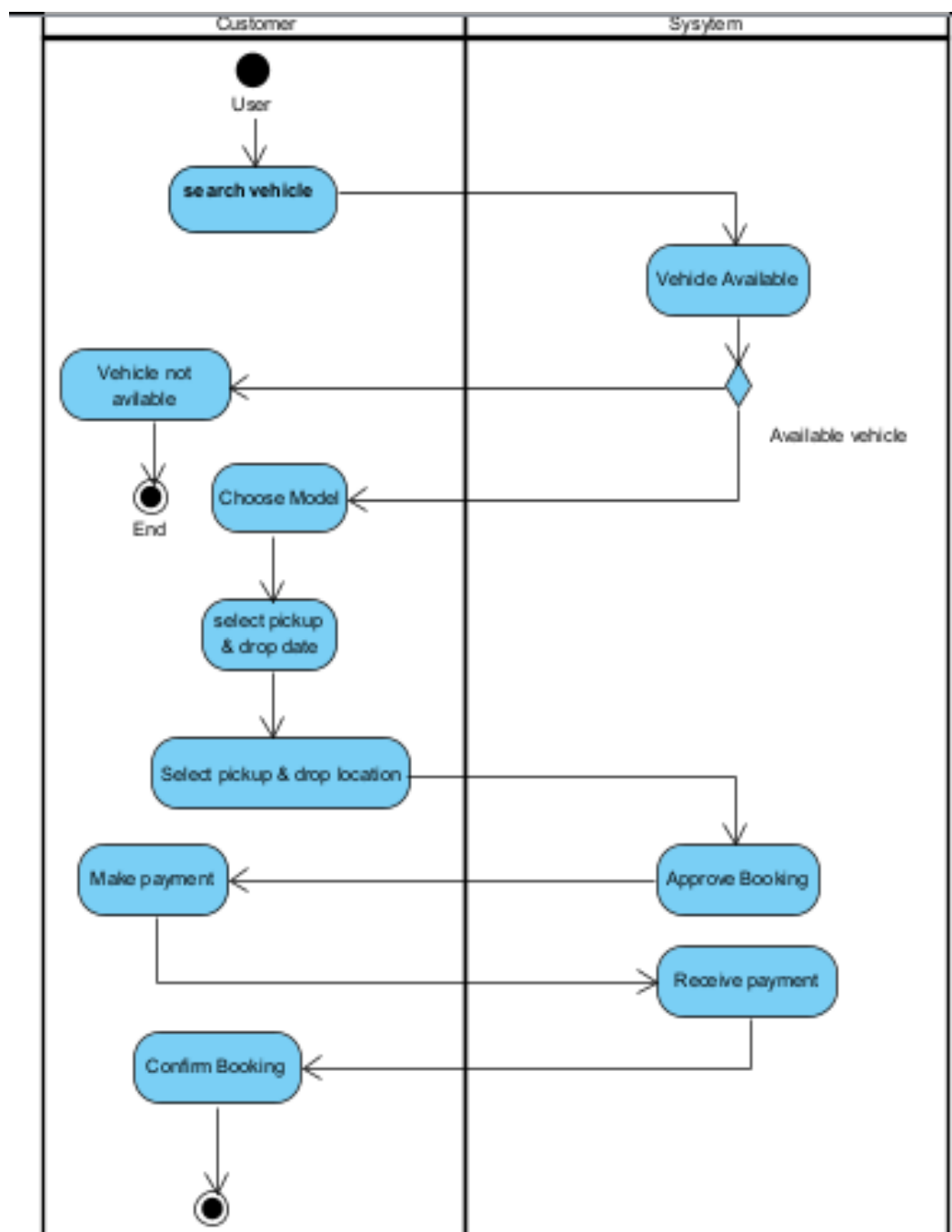
MAKE PAYMENT



TESTIMONIAL



3.4. Activity Diagram



3.5. Data Dictionary

Table Name: User

Column	Type	Constraints	Description
UserId	BIGINT	PRIMARY KEY	Id of user
IsAdmin	TINYINT	NOT NULL	Role of user
UserName	VARCHAR(45)	NOT NULL	Website Name of user
FirstName	VARCHAR(45)	NOT NULL	Name of user
LastName	VARCHAR(45)	NOT NULL	Last name of user
Email	VARCHAR(50)	NOT NULL	Email of user
MobileNo	INT(10)	NOT NULL	Mobile no of user
Password	VARCHAR(150)	NOT NULL	Password of user account
Address	LONGTEXT	NOT NULL	Address of user

Table Name: Booking

Column	Type	Constraints	Description
BookingId	BIGINT	PRIMARY KEY	Id of Booking
SecurityProof	VARCHAR(45)	NOT NULL	Id proof of user
SecurityDepositAmount	DECIMAL	NOT NULL	Deposit amount
Date	DATETIME	NOT NULL	Booking date
UserId	INT	FOREIGN KEY	Reference of user table
PaymentId	INT	FOREIGN KEY	Reference of user payment
CarId	INT	FOREIGN KEY	Id of car
subLocationId	INT	FOREIGN KEY	Id of locations

Table Name: Location

Column	Type	Constraints	Description
LocationId	INT	PRIMARY KEY	Id of location
Location	VARCHAR(45)	NOT NULL	Pickuplocation of user

Table Name: Sub Location

Column	Type	Constraints	Description
SubLocationId	INT	PRIMARY KEY	Id of locations
SubLocationName	VARCHAR(60)	NOT NULL	Name of sublocation
LocationId	INT	FOREIGN KEY	Id of location

Table Name: Car

Column	Type	Constraints	Description
CarId	INT	PRIMARY KEY	Id of car
PlateNo	VARCHAR(10)	NOT NULL	Plateno of car
Status	VARCHAR(45)	NOT NULL	Status of car
ModelId	INT	FOREIGN KEY	Reference of model table

Table Name: Car Model

Column	Type	Constraints	Description
ModelId	INT	PRIMARY KEY	Id of model
ModelName	VARCHAR(45)	NOT NULL	Name of model
ModelYear	YEAR(4)	NOT NULL	Modelyear of car
ModelType	VARCHAR(45)	NOT NULL	Modeltype of car
ModelImage	VARCHAR(45)	NOT NULL	Image of car
Price	DECIMAL	NOT NULL	Price of car

Table Name: Testimonail

Column	Type	Constraints	Description
TestimonianialId	INT	PRIMARY KEY	Id of testimonial
Messages	VARCHAR(45)	NOT NULL	Messages of user
Timestamp	TIMESTAMP	NOT NULL	Date and time of user
Rating	FLOAT	NOT NULL	Rating of user
UserId	BIGINT	FOREIGN KEY	Reference of user table

Table Name: Payment

Column	Type	Constraints	Description
PaymentId	BIGINT	PRIMARY KEY	Id of Payment
Amount	DOUBLE	NOT NULL	Paid amount
Timestamp	TIMESTAMP	NOT NULL	Date and time of user
PaymentType	TINYINT	NOT NULL	Type of payment

Table Name: Contact

Column	Type	Constraints	Description
ContactId	INT	PRIMARY KEY	Id of Payment
Name	VARCHAR(45)	NOT NULL	Name of user
Subject	VARCHAR(45)	NOT NULL	Subject of contact
Messages	LONGTEXT	NOT NULL	Message fo subject
Email	VARCHAR(60)	NOT NULL	Email of user

Proposed Enhancements:

Enhancements in this projects can be as follows

Conclusion:

Bibliography:

- Django Documentation
 - <https://docs.djangoproject.com/en/2.2/>
- Youtube
 - <https://www.youtube.com>
- Visual Studio Code
 - <https://code.visualstudio.com>
- GitHub
 - <https://github.com>
- Stack Overflow
 - <https://stackoverflow.com>
- XAMPP server setup
 - <https://www.apachefriends.org/download.html>