A Mini Project Synopsis on

Car Rental System

S.E. - I.T Engineering

Submitted By

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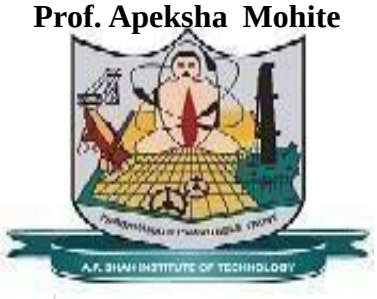

DEPARTMENT OF INFORMATION TECHNOLOGY

A.P.SHAH INSTITUTE OF TECHNOLOGY

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UNIVERSITY OF MUMBAI

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CERTIFICATE

This to certify that the Mini Project report on **Car Rental System** has been submitted by **Mayur Jain (20104024), Madhur Dukhande (20104014) and Aryan Amin (20104071)** who are the students of A.P.Shah Institute of Technology, Thane as a partial fulfilment of the requirement for the degree in **Information Technology**, during the academic year **2021-2022** in the satisfactory manner as per the curriculum laid down by University of Mumbai.

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Chapter 1

Introduction:

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. The world has become a place where there is a lot of technological development; where every single thing done physically has been transformed into computerized form. Nowadays, people's activities have been transformed into work done by computerized systems. 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.

Purpose:

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 reserve available cars 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 bookings : Allows the customer to book space for a group in the case of weddings or corporate meetings (Event management)

1.2 Objectives:

The Objectives are as follows:

- To design a user-friendly system that enables client check for availability of vehicleand book or reserve a vehicle online.
- To design a system that enables clients pay their car rent online.
- To develop a system that stores bookings and reservations information as well as payment history to help the organization keep track of transactions.
- To implement geofencing and remote car deactivation upon expiration of rental period.

1.3 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. The area covers include:

- Car rental industry: This includes study on how the car rental business is being done, process involved and opportunity that exist for improvement.

- PHP Technology used for the development of the application.

- General customers as well as the companies staff will be able to use the system effectively.

- Web-platform means that the system will be available for access 24/7 except when there is a temporary server issue which is expected to be minimal.

Chapter 2

Problem Definition

- Based on observations, some small companies already have a car rental system which is not a web based application. This is a limitation that gives them capability to store customer's details, but at the same time they cannot make their services more available to the public through the internet, they rather make use of posters toadvertise their services to the public. These types of companies can overcome these problems by switching to the web base application of their type of system.

- They also make use of phone call reservations which is also limited to many featuresas compare to a web base system. For example a customer may make a phone call reservation for a particular car, but when he/she comes to pick the car, he/she might turn not to like the car; this could be because the customer could not see a sample picture of the car he/she wants to rent

Chapter 3

3.1 Proposed System :

In this car rental system we are going to introduce online booking of car rent will be available. So the Burdon of the customer will be reduced. 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 system increases customer retention and simplify vehicle and staff Management in an efficient way.

- 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, employment issues and vehicle issues such as and insurance. The car information can be addedto the system by admin.

- And admin will decide the money for car rent. it bases on the day. Vehicle replacement is available if any problem that occurs in the vehicle

.

3.2 Features and Functionality:

- Provides the searching facilities based on various factors. Such as Car,Customer, supplier, insurance.
- It tracks all the information of Payment, Booking, Supplier etc
- Manage the information of Payment
- Shows the information and description of the Car, Customer
- All the fields such as Car, Customer, Insurance are validated and does not take invalid values
- It generates the report on Car, Payment, Booking Provide filter reports on Customer, Supplier, Insurance
- You can easily export PDF for the Car, Booking, Supplier
- Application also provides excel export for Payment, Customer, Insurance
- You can also export the report into csv format for Car, Payment, Insurance

- To increase efficiency of managing the Car, Payment
- It deals with monitoring the information and transactions of Supplier Manage the information of Car
- Editing, adding and updating of Records is improved which results in proper resource management of Car data
- Manages the information of Supplier
- Integration of all records of Insurance

Chapter 4

Project Outcome:

User can able to login & Signup if in case user forget their password then they can change their password too.

• User will able to access their profile page.

User can able to maintain the records of rented cars .

• Price of every cars rented in different years are available with their scanned copy of bills in pdf format.

• The uploaded bills of rented cars can be printed later when they are required.

• Only Registered Users can view or edit the data. Thus providing protection to the data.

• Editing, adding and updating of Records by the user

• It deals with monitoring the information and transactions .

• It tracks all the information of the transactions done.

• To increase efficiency of the application.

Chapter 5

Software Stack :Netbeans 12.5

Front End: java swing

Swing is a GUI widget toolkit for Java.[1] It is part of Oracle's Java Foundation Classes (JFC) – anAPI for providing a graphical user interface (GUI) for Java programs.Swing was developed to provide a more sophisticated set of GUI components than the earlier Abstract Window Toolkit (AWT). Swing provides a look and feel that emulates the look and feel of several platforms, and also supports a pluggable look and feel that allows applications to have a look and feel unrelated to the underlying platform. It has more powerful and flexiblecomponents than AWT. In addition to familiar components such as buttons, check boxes and labels, Swing provides several advanced components such as tabbed panel, scroll panes, trees,tables, and lists.

Backend: My SQL

MySQL is an open-source relational database management system (RDBMS).Its name is a combination of"My", the name of co-founder Michael Wideness's daughter, and "SQL", the abbreviation for Structured Query Language. A relational database organizes data into one or more data tables in which data types may be related to each other; these relations help structure the data. SQL is a language programmers use to create, modify and extract data from the relational database, as well as control user access to the database. In addition to relational databases and SQL, an RDBMS like MySQL works with an operating system to implement a relational database in a computer's storage system, manages users, allows for network access and facilitates testing database integrity and creation of backups.

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Chapter 6

Project Design :

In this phase, a logical system is built which fulfils the given requirements. Design phase of software development deals with transforming the client's requirements into a logically working system.
Normally, design is performed in the following in the following two steps:
Primary Design Phase: In this phase, the system is designed at block level. The blocks are created on the basis of analysis done in the problem identification phase. Different blocks are created for different functions emphasis is put on minimizing the information flow between blocks. Thus, all activities which require more interaction are kept in one block.
Secondary Design Phase: In the secondary phase the detailed design of every block is performed. The general tasks involved in the design process are the following:

- Design various blocks for overall system processes.
- Design smaller, compact and workable modules in each block. Design various database structures.
- Specify details of programs to achieve desired functionality. Design the form of inputs, and outputs ofthe system.
- Perform documentation of the design

.
User Interface Design: User Interface Design is concerned with the dialogue between a user and the computer. It is concerned with everything from starting the system or logging into the system to the eventually presentation of desired inputs and outputs. The overall flow of screens and messages is called a dialogue

The following steps are various guidelines for User Interface Design:

- The system user should always be aware of what to do next.
- The screen should be formatted so that various types of information, instructions and messages always appear in the same general display area.
- Message, instructions or information should be displayed long enough to allow the system user to read them.
- Use display attributes sparingly.
- Default values for fields and answers to be entered by the user should be specified. A user should not be allowed to proceed without correcting an error.

- The system user should never get an operating system message or fatal error.

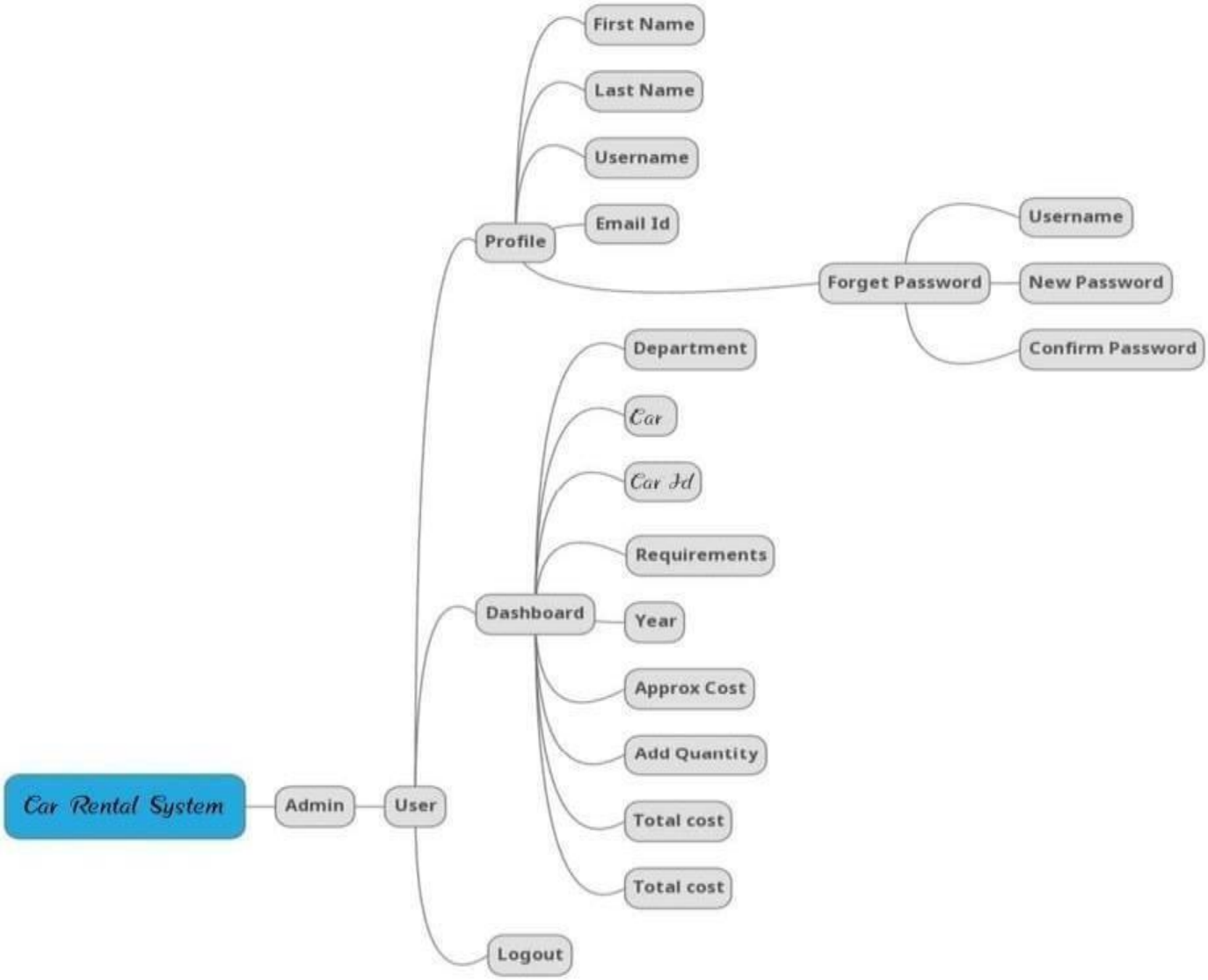

figure ..6.1.1 flowchart

6.1.**Implementation:**

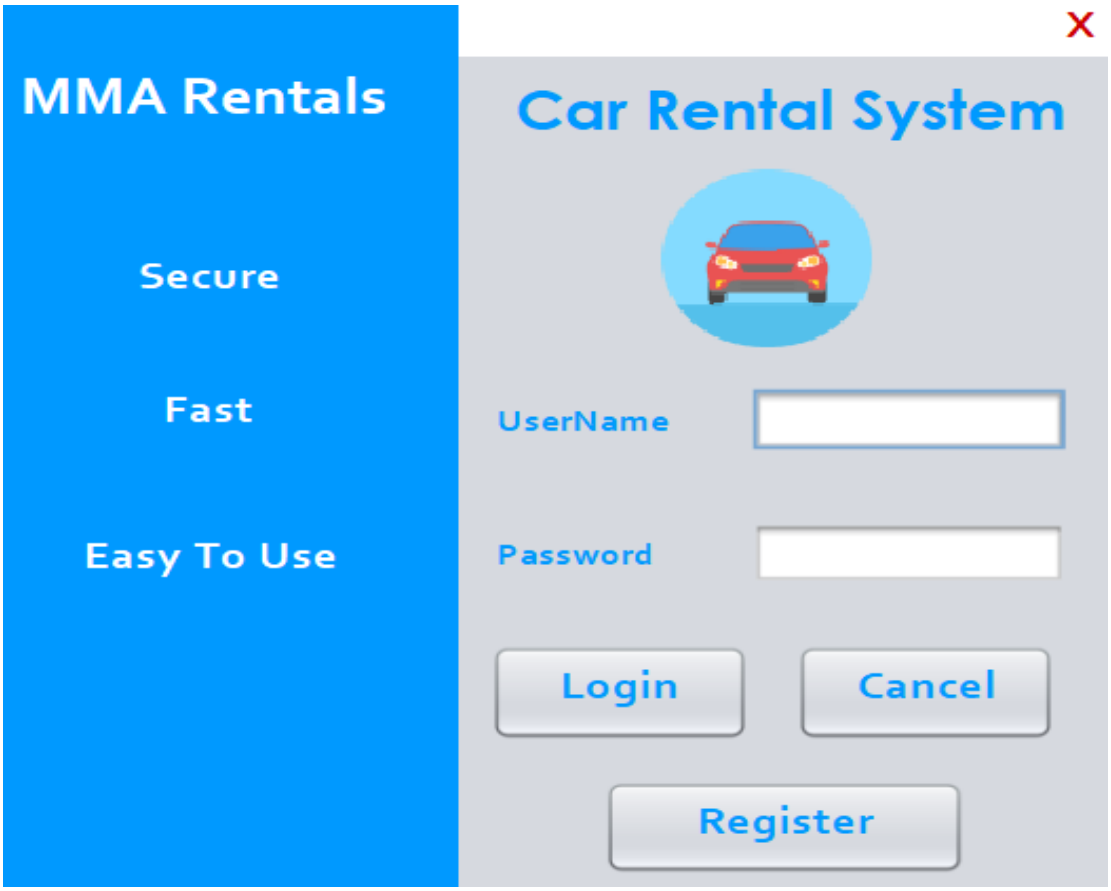

Figure 6.1.2 Login Page

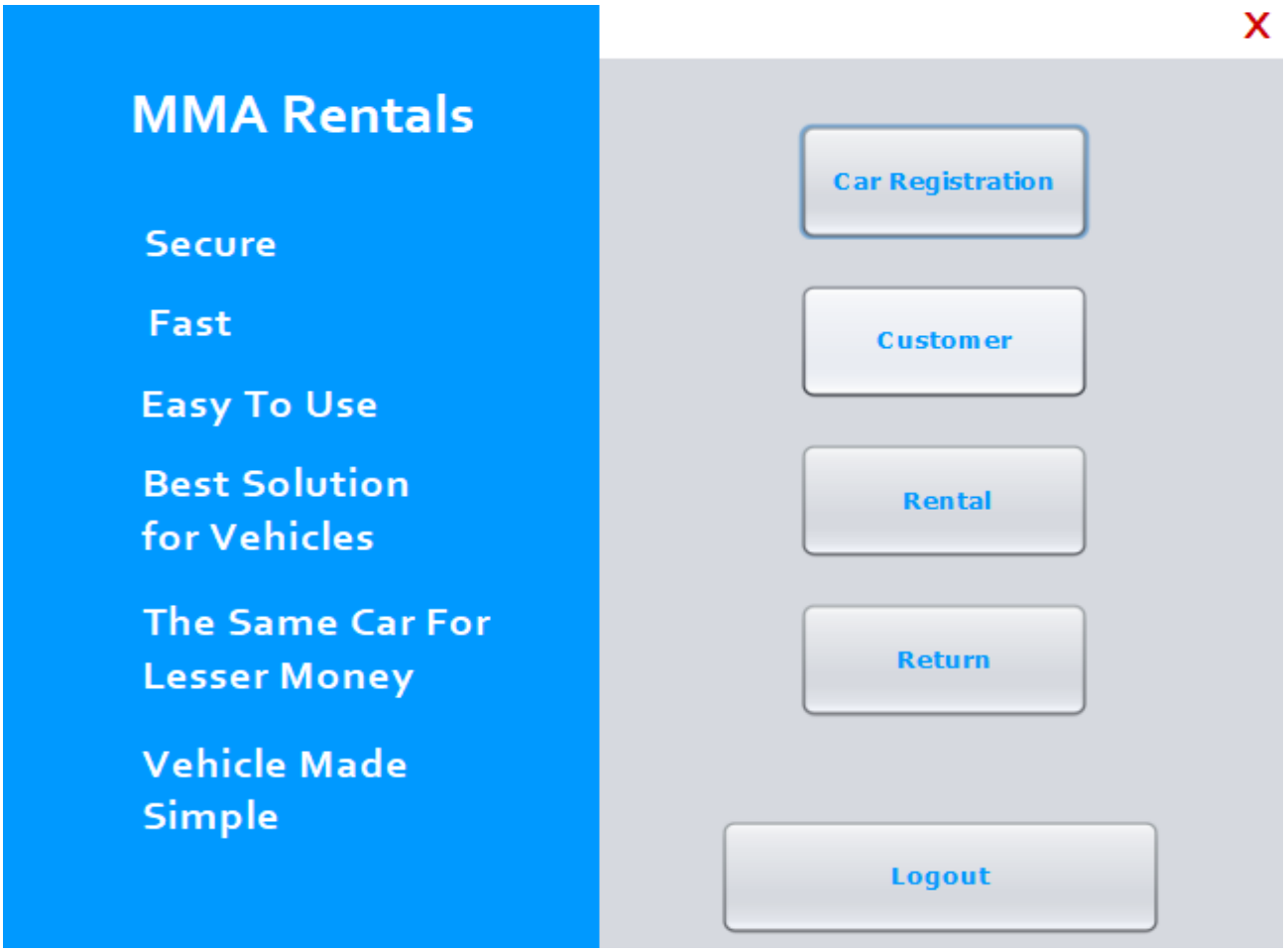

Figure 6.1.3 Homepage

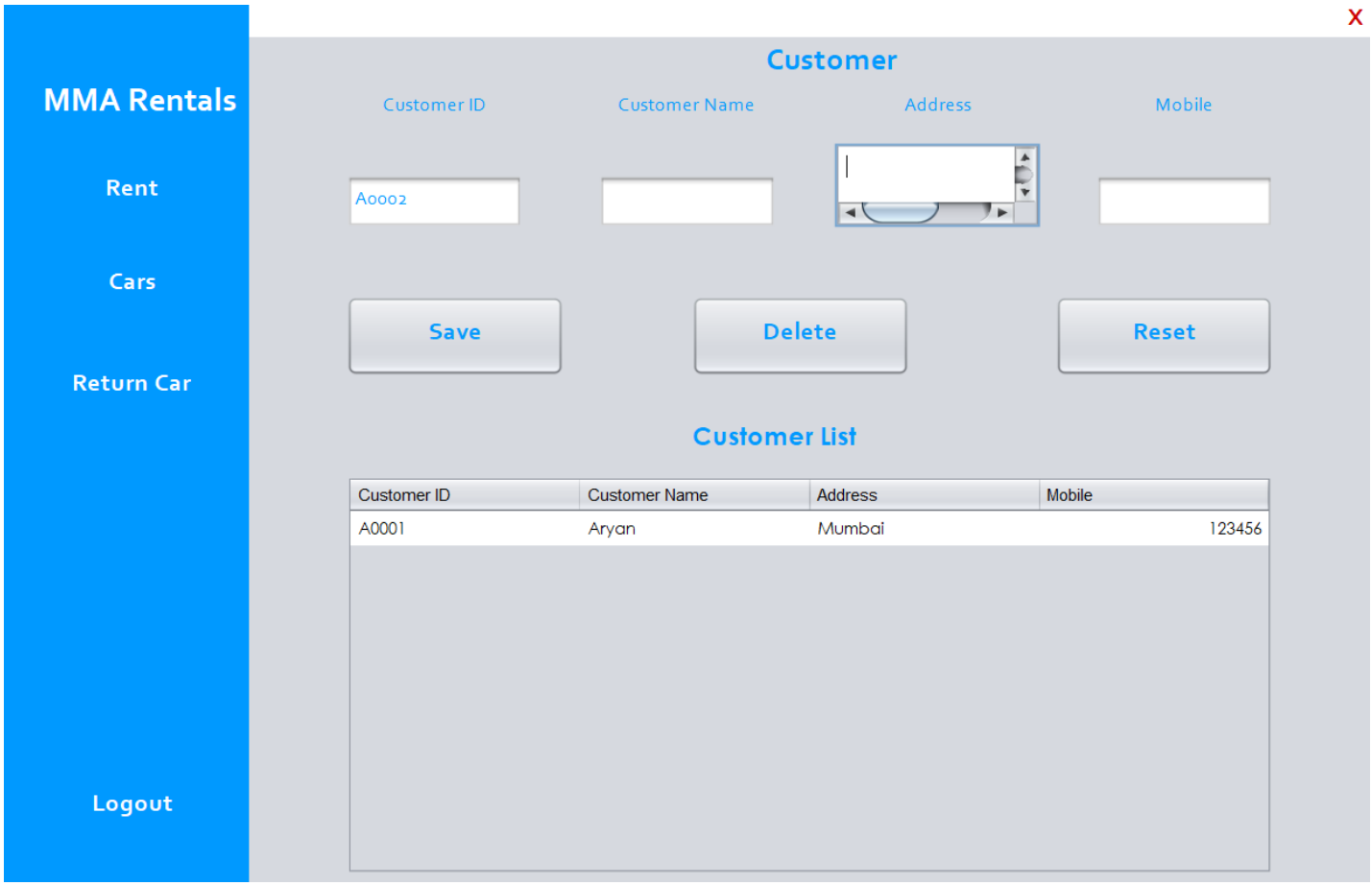

Figure 6.1.4 customer's information page

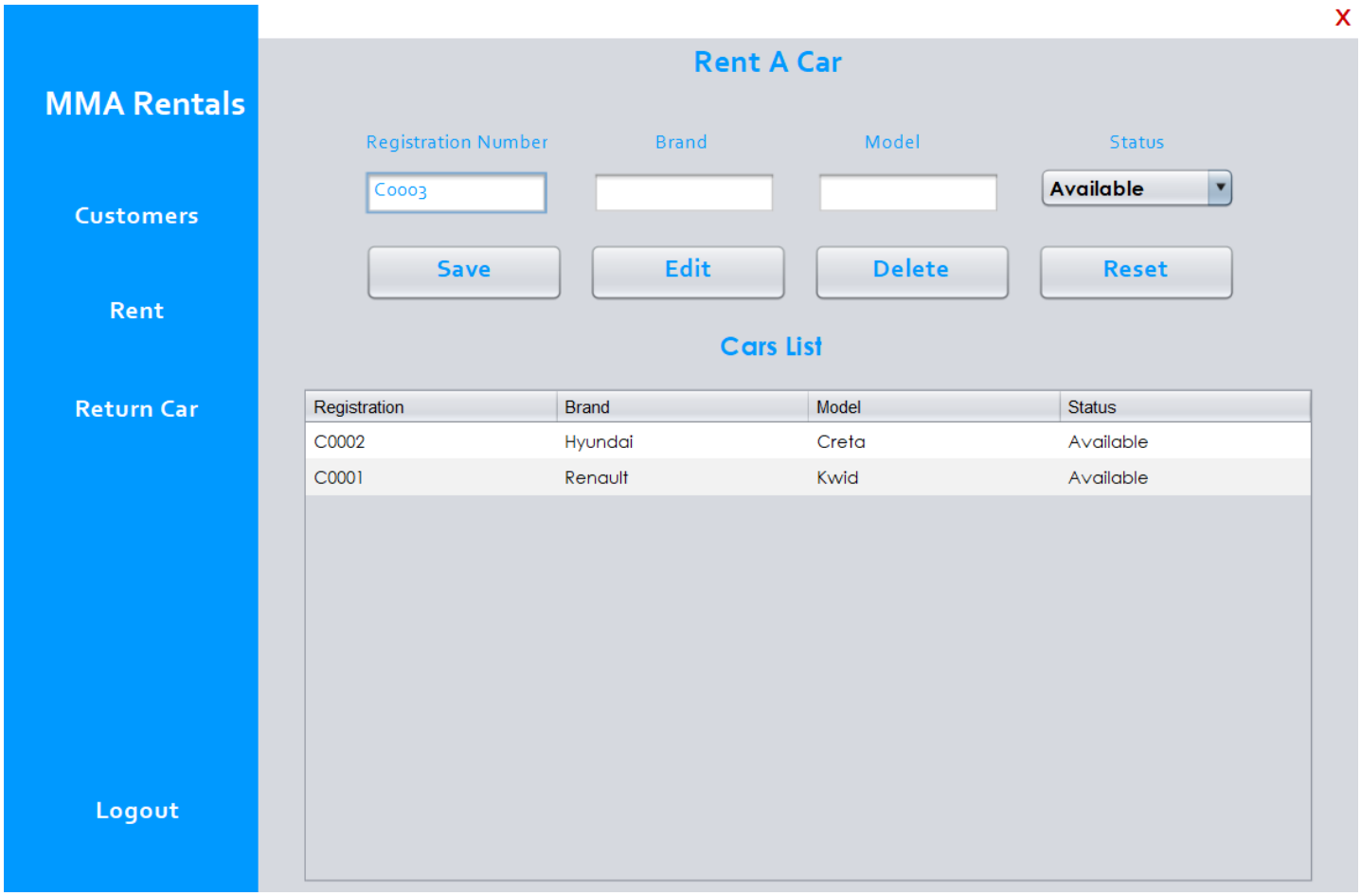

Figure 6.1.5 car renting information page

Chapter 7

Database Design

1.1 ER Model

A database management system (or DBMS) is essentially nothing more than a computerized data-keeping system.
Users of the system are given facilities to perform several kinds of operations on such a system for either manipulation of the data in the database or the management of the database structure itself.
E-R model stands for an Entity-Relationship model. It is a high-level data model.
It develops a conceptual design for the database. The Below E-R Model is the representation of Car Rental System.

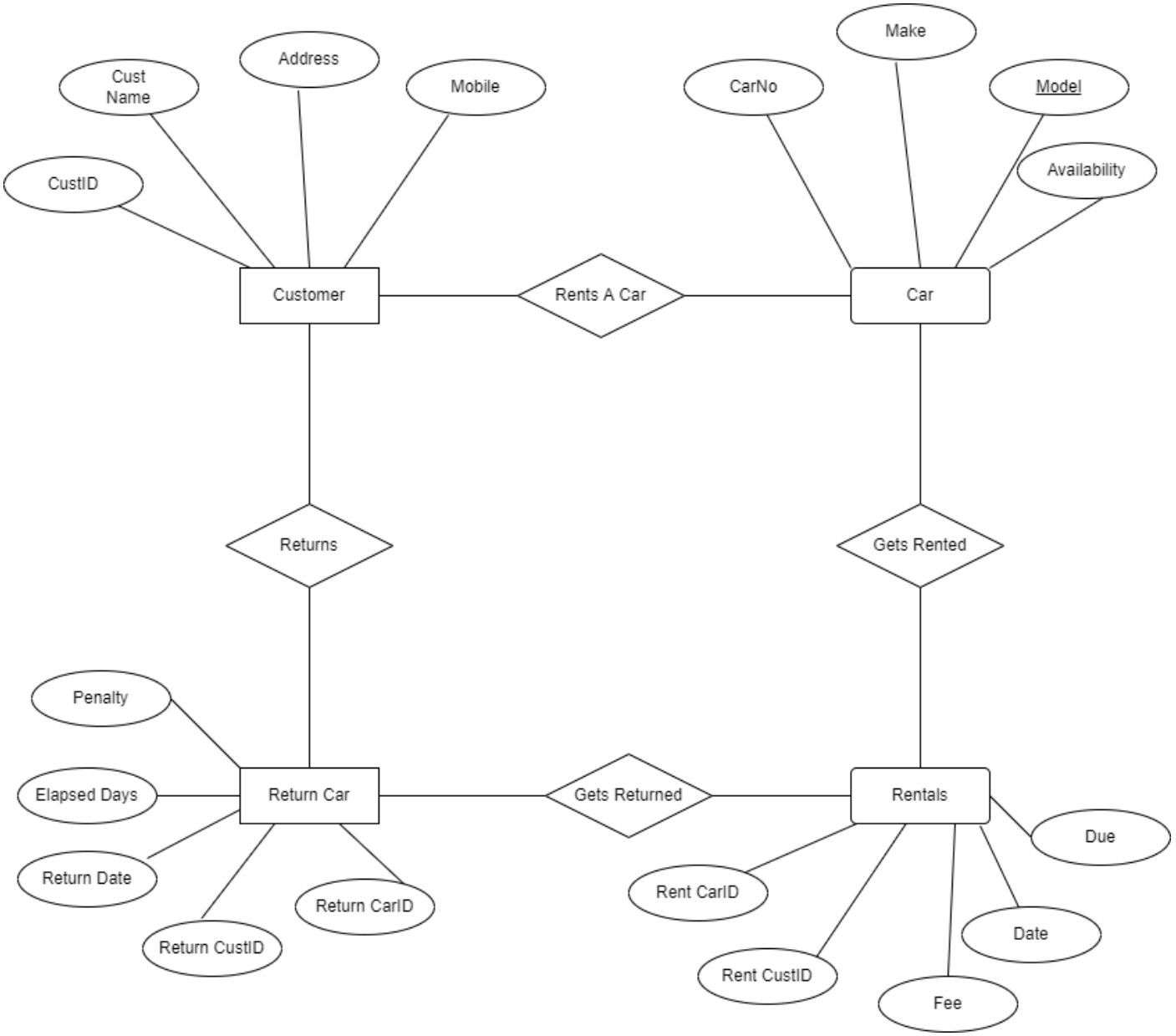

Figure7.1.1 ER Diagram

Figure7.1 ER Model

Chapter 8

Project scheduling

Project Scheduling Template

1		1st week of january	Implementing 1st module/ functionality (Designing the main page/admin will login with security verification and will enter to the main menu)
	Mayur Jain	2nd week of january	Testing 1st module Testing GUI with database 1.Signup 2.Login 3.Forgot password 4.Mainframe
2	Madhur Dukhande	3rd week of january	Implementing 2nd module/ functionality (designing next page/ functionality: Here information of Cars , available companies will be shown)
3	Aryan Amin	By the end of march month	Implementing 3rd module/ functionality (Transfer page/ functionality: On this page admin can view the list of people who needs cars or have kept cars for rent.)

Conclusion:

In comparison to previous experiences, when every activity related to the vehicle rental business was restricted to a physical place alone, the car rental industry has emerged with new delicacies. Even if the physical location has not been completely eliminated, the internet'spower has altered the nature of functions and how these tasks are accomplished.
Customers may now book vehicles online, rent automobiles online, and have the car delivered to their home if they are a registered member, or they can travel to the office topick up the car.

At the end it is concluded that we have made effort on following points…

- Made statement of the aims and objectives of the project.
- The description of Purpose, Scope, and applicability.
- We define the problem on which we are working in the project.
- We describe the requirement Specifications of the system and the actions that can be done on these things.
- We understand the problem domain and produce a model of the system, which describes operations that can be performed on the system.
- We included features and operations in detail, including screen layouts.
- We designed user interface and security issues related to system.
- Finally the system is implemented and tested according to test cases.

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