Software Requirements Specification – EV MART

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ASPIRE SYSTEMS

Contents

1. Abstract

Transport is an integral part of our social living. The modern society cannot run without transport facilities. The conventional source of these transport is using a fuel. But in Now-a-days the demand of the fuel and its price getting hike day by day. The pollution like Air pollution must enhance by using a fuel. So to rectify these problems we have to move on to the next step of Renewable Resources. There are two sources are available to propel the vehicle. First one is the solar power and then battery source. In normal modern motorcycles the source of power will be battery and four wheelers are generally adapted with solar. Due to complexity the solar is difficult to install in the motorcycles. 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, EV MART System is the online facility to book Electric cars/bikes online within few clicks only. And all the information about the vehicle is provided for their reference like maintenance, charging system, all the features about the vehicle is clearly described. It also leads to create an awareness about the E-vehicles and people can easily access the information in few steps. This system creates new exploration on the E-Vehicles.

2. Objective and Scope

The purpose of this document is to describe the EV MART Software; it contains the functional and non-functional requirements of the project. The purpose of the document is to collect and analyze all assorted ideas that have come up to define the system, its requirements with respect to consumers. This document describes the project's target audience and its user interface, hardware and software requirements.

It defines how our client, team and audience see the product and its functionality. Nonetheless, it helps any designer and developer to assist in software delivery lifecycle (SDLC) processes. The purpose of this EV MART system is to explore the information about the E-Vehicles and also able to book Electric vehicles as desired.

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:

Electric Vehicle industry: This includes study on how the electric vehicle business is being done, process involved and opportunity that exist for improvement.

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. This system has targeted those customers who prefer to buy electric vehicles instead of conventional vehicles.

3 Project End Users

The user who require to book the vehicle online can use this website to order the vehicle online. This website affords service for the vehicle and user can fill the form and get service by using the website.

4. Modules description

4.1 User modules

4.1.1 Homepage module

Used for managing the details of Electric vehicles. In the Homepage itself it will show the types of electric vehicles available, Model, Price of the vehicles. It will give snippet about the website.

4.1.2 Log-in module

Used for managing the login details about collecting customer informations like Customer Name, Mobile Number, Email ID, Password for the security purpose etc. for the further contact information.

4.1.3 Registration module

Used for managing the user's registration validation and confirm the booking after payment successfully received. If test drive is choosen the information given and documents are verified and booking is confirmed.

4.1.4 Product page

This webpage shows the models of electric vehicles available and choose the test drive or booking of the vehicle in this module. The buttons are provided in the each model and it will contain and describe the facilities and some of the important information about the vehicle.

4.1.5 Service section

From product page it have option to navigate to the service section page where the service request is filled by the user. If there any breakdown or circuit checking, Battery swapping etc. is submitted as a request and it will be consolidated by the admin.

4.1.6 Vehicle information

After clicking of test drive or booking button or from product page by clicking the information navigation the webpage of information about the selected vehicles are displayed from where the colors, battery and motor configuration, charging time etc. are provided and if they are interested to buy the product the options are provided and it will move to test drive/booking page.

4.1.7 Test drive/Booking

Used for managing the Information about each vehicle. It will show more details about the vehicles and Day to Day updates about Electric field. The brief details about the vehicle problems also provided to enhance the knowledge and awareness among the people.

4.1.8 Payment module

Used for managing the Payment informations and if payment details is wrong then it will redirect to booking page and payment process done once again untill payment done.

4.2 Admin modules

4.2.1 Homepage module

Used for managing the details of Electric vehicles. In the Homepage itself it will show the types of electric vehicles available, Model, Price of the vehicles. It will give snippet about the website.

4.2.2 Log-in module

Used for managing the login details about collecting customer informations like Customer Name, Mobile Number, Email ID, Password for the security purpose etc. for the further contact information.

4.2.3 Vehicle management

In this module, the admin can manage to add the varients of vehicles which is need to be inserted in the user page. The vehicle model and its new update is also updated by the admin.

4.2.4 Service management

In this module, the service request filled by the user is examined and managed to provide the solution to that problem filled by the user. The services like Battery swapping, circuit checking, breakdown etc. are managed to provide the solution into the step doors of the user.

4.2.5 Test drive/Booking management

In this module, the number of vehicles are subjected to test drive or booking is managed and the delivery date, Confirming the booking/Test drive is managed by the admin. This module allow the user to customize the date for test drive and slot is confirmed by the admin.

4.2.6 Payment management

The admin manage the confirmation of the payment for the vehicle which is to be done by the user. If user payment done successfully then only the order will be confirmed by the admin, if it gets error or not credited the order will be not confirmed and admin confirms that and log-out.

5. Functional Requirements

5.1 General Requirement

A server shall host the EV MART system and provide system data processing and storage capability. A surface app page shall provide a customer with all customer system functionality. A display shall provide a Details about vehicle with all information and price system functionality.

5.2 Customer

The Customer select the test drive/booking to view the details about vehicles. Customer Shall be able to login or create account to enter the Booking page or test drive page. The customer can able to Book the

vehicle or remove the vehicle in a given period of time. Customer must provide proper documentation for both test drive and booking of the vehicle.

5.3 Information

The information about the each vehicle is viewed by the customer to impove their knoweldge in electric field and improve the awareness of guideline to follow for proper maintenance of the vehicle. The particular model vehicle information also availble to ensure the safety information.

5.4 Admin

Admin shall able to Manage users. Admin shall able to Manage providers. Admin shall able to Mange accounts. Admin shall to manage Vehicle details. Admin shall to manage Vehicle rate and reviews. Admin shall able to display top rated vehicle. Admin shall able to display offers for specific vehicles.

- Manage the information of Booking
- Shows the information and description of the vehicle, Customer etc.
- To increase efficiency of managing the vehicle, Booking it deals with monitoring the information and transactions of Payment
- Editing, adding and updating of Records is improved which results in proper resource management of vehicle data.
- Manage the information of Payment
- Integration of all records of Order.

6. Non-Functional Requirements

6.1 Safety Requirements

Customers that use the EV MART site will not experience any loss unless they provide proper details and documentation for the test drive vehicle given to them. Hence, the customer must handle the vehicle with care during test drive. Customers must refrain from doing anything that goes against company policy.

6.2 Security Requirements

The site will hold all user information in secure databases. It will not reveal any personal information and understands the importance of user security.

The user will have to create an account and password and is advised not to reveal either to anyone as they can take advantage of it. Transactions that occur will also be secure

6.3 Software Quality Attributes

The site once online will be available on all platforms and will work on all browsers. It will display up to date information about the availability of Electric vehicles and will regularly update its stock and ex-showroom

price of vehicles. The site will be easy to use and will allow the users to book their vehicle with ease. Transactions are also done quickly.

6.4 Human Engineering Requirements

Any element of the system will take no longer than 10-seconds to restart. Admin must not dismiss an booking vehicle unless the customer requests it.

6.5 Performance Requirements

The server shall be capable of supporting no less than 200 concurrent connections from any combination of computers, tablets and displays. The server shall be capable of supporting an arbitrary number of active bookings, that is, no bookings shall be lost under any circumstances.

7. High Level Design

- The Homepage will give the user a gist of what this online website is. It will contain small snippets of information about the website and a few products that are for sale will be displayed.
- Test drive/Booking option provided in Homepage to execute further choices. Log-in or sign-up is done after choosen the Test drive/Booking button.
- At the top of the Homepage the dropdown option is also provided for information module and select the products to be viewed about its information.
- The popular vehicles at the market are viewed in slideshow.

8. Low Level Design

- The small snippets of information on the homepage are the type of varient and the number of models being sold and when the shopping website was established.
- The product option dropdown contains different models or varients of vehicle to be choosen.
- When products are displayed, the information that will be provided are, the image of the product, the name, the price, and the specifications of the product.
- After the product sold out the maintenance guidelines also provided.

9. UML Diagrams

9.1 Use Case Diagram

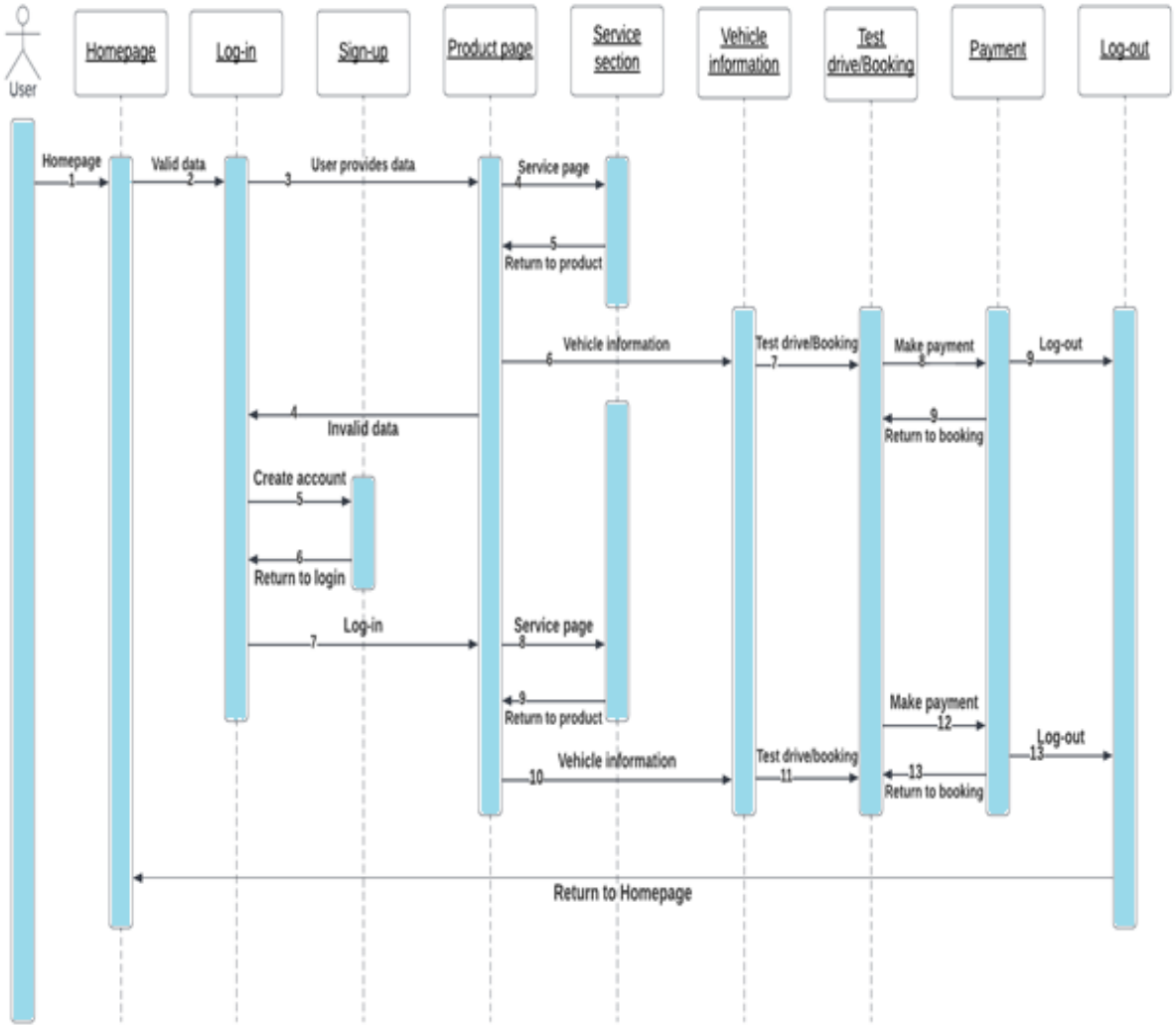
The use case model for any system consists of "use cases". Use cases represent different ways in which the system can be used by the user. In the use case diagram each use case is represented by an ellipse with the name of use case written inside the ellipse. All the ellipses of the system are enclosed with in a rectangle which represents the system boundary. The different users of the system are represented by using stick person icon. The stick person icon is normally referred to as an Actor. The line connecting the actor and the use cases is called the communication relationship.

9.2 Sequence diagram

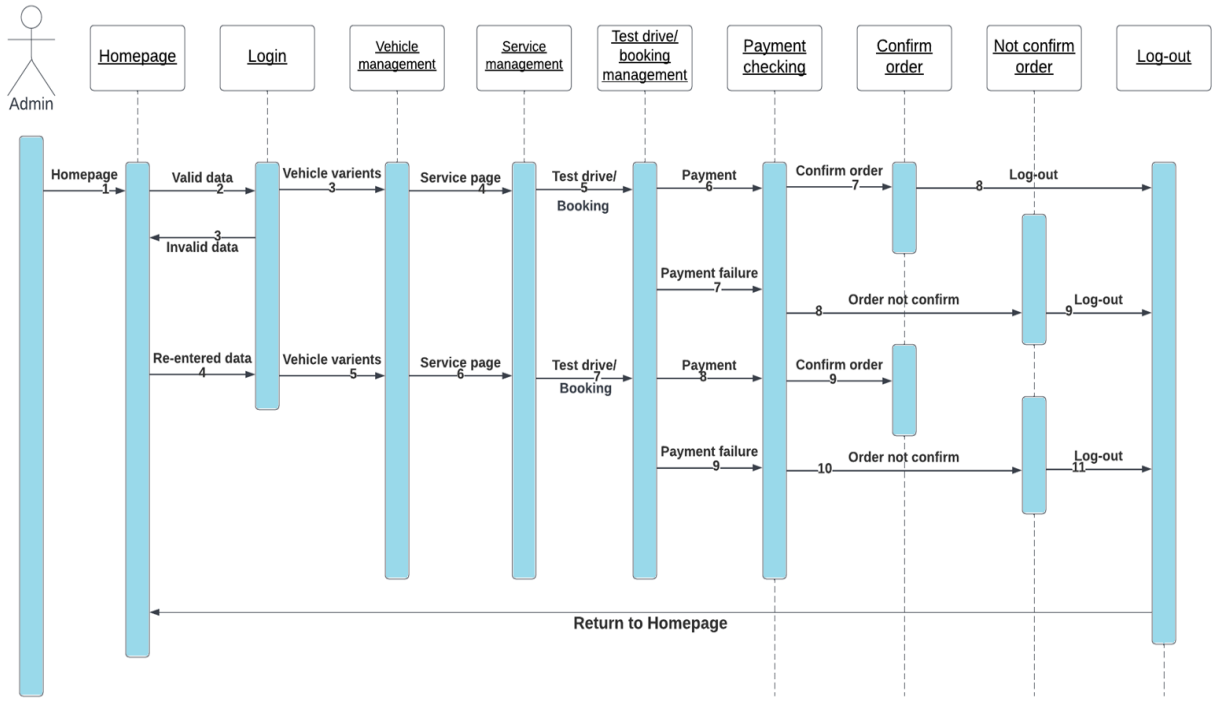
A sequence diagram is a type of interaction diagram because it describes how—and in what order—a group of objects works together.

- ✓ Represent the details of a UML use case.
- ✓ Model the logic of a sophisticated procedure, function, or operation.
- ✓ See how objects and components interact with each other to complete a process.
- ✓ Plan and understand the detailed functionality of an existing or future scenario.

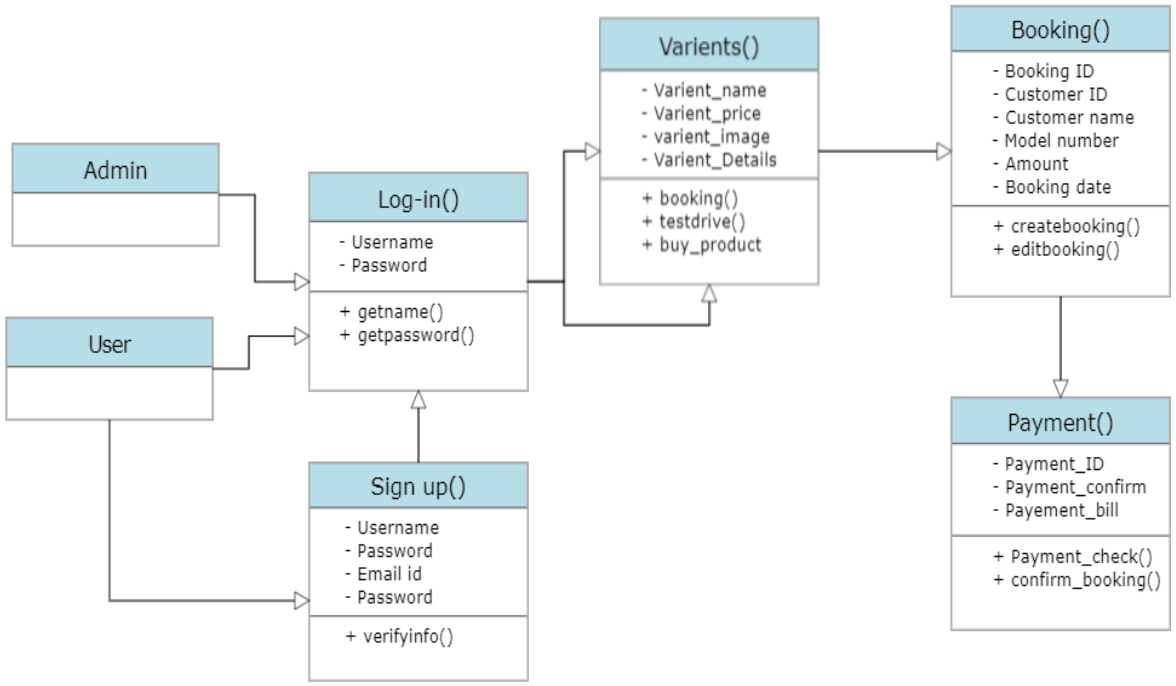
User Sequence diagram



Admin Sequence diagram



9.3 Class diagram

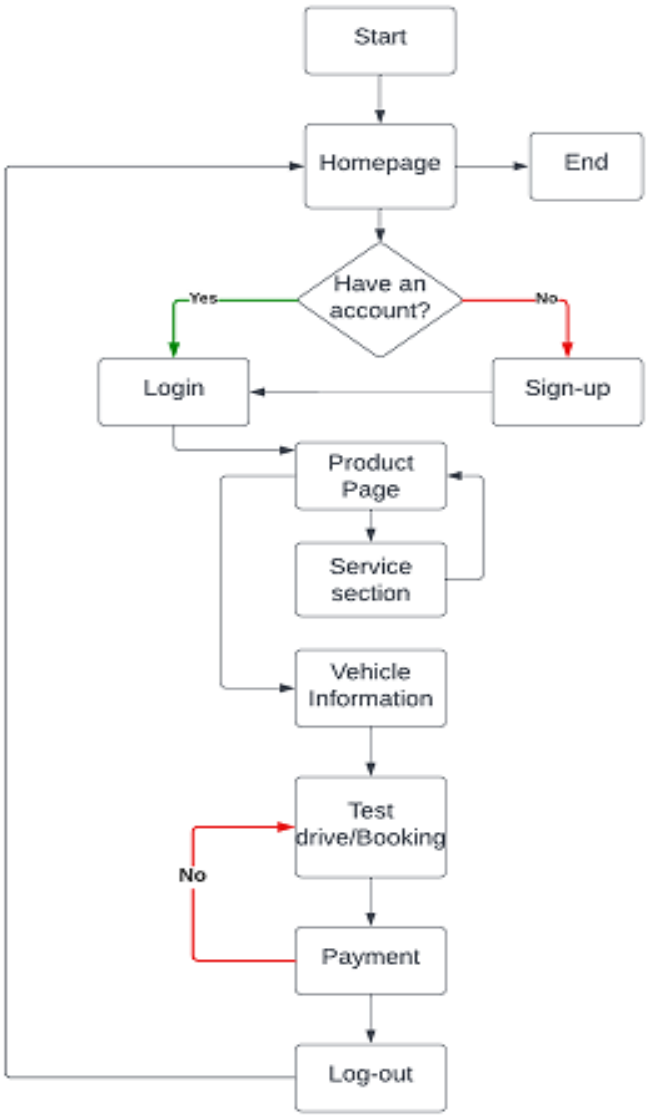


9.4 Flow Chart

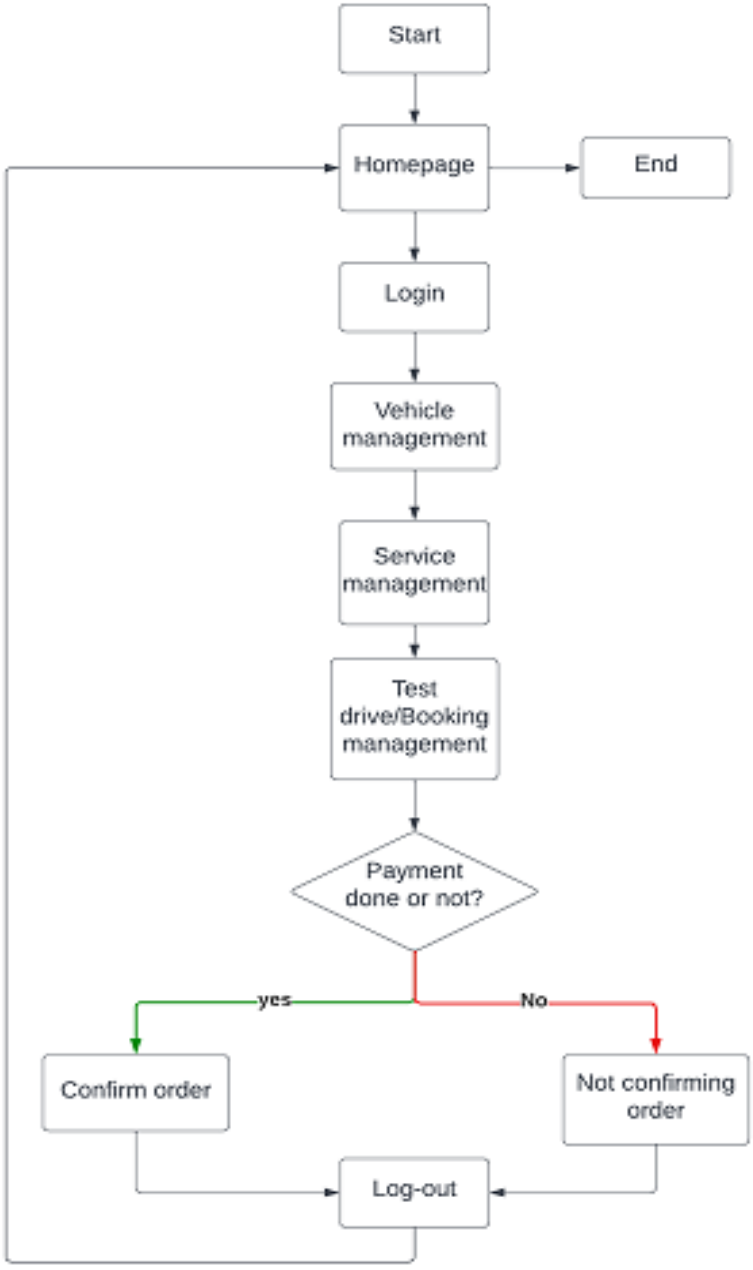
The basic purposes of activity diagrams is similar to other four diagrams. It captures the dynamic behavior of the system. Other four diagrams are used to show the message flow from one object to another but activity diagram is used to show message flow from one activity to another.

- ✓ Draw the activity flow of a system.
- ✓ Describe the sequence from one activity to another.
- ✓ Describe the parallel, branched and concurrent flow of the system.

User Flow chart

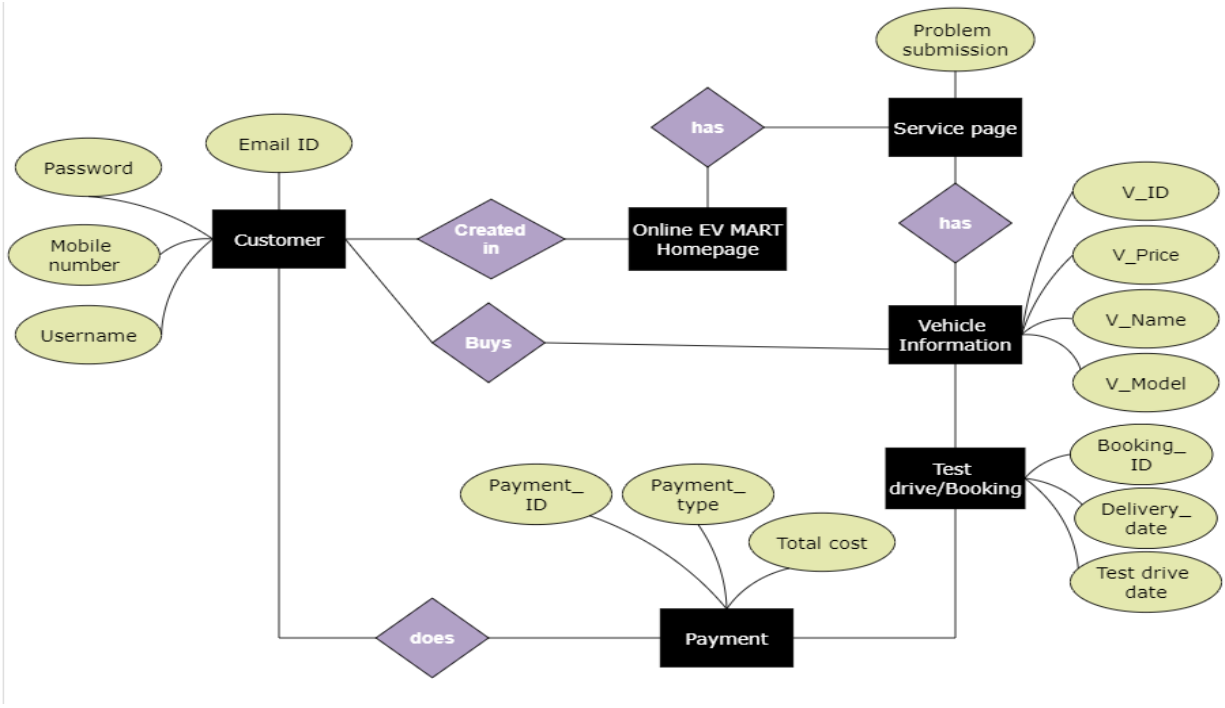


Admin Flow chart



9.5 Entity relationship diagram

User ER diagram



Admin ER diagram