Project Name: Vehicle Service Management System
Branch DAC Sept-2022

Documentation On

"VEHICLE SERVICE MANAGEMENT SYSTEM"

DAC SEPT 2022

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1. Introduction:

1.1 Document Purpose:

This document communicates the business requirements and scope for developing Vehicle Service Management System. The scope of this document is to define the functional and non functional requirements, business rules and other constraints requirements.

1.2 Project Background:

Owners of vehicles can avoid unexpected car problems by maintaining their vehicles regularly. Early detection of vehicle problems is crucial in preventing them from developing into serious difficulties. We gathered information and discovered that the majority of vehicle repair companies or garages still handle their day-to-day transactions manually. Customer records are still entered manually, as are transactions with clients, tracking of vehicle repairs as they are made, updates of vehicle services, and billing. The functioning of the garage and the response time to client queries is slow downed by the ongoing usage of manual procedures.

1.3 Aim & Objectives:

The main objective of this project is to build a website that improves user accessibility and time flexibility to help customers and authorized vehicle service centers. Customers will be able to browse the service center's information, and view offers provided by the service centers. Customers can book service slots after login, and could track servicing status. Customers may do business for car service easily and comfortably.

2. Business Requirements Overview:

- Vehicle Service Management System is a public web application.
- Vehicle Service Management System is going to be opened to all Servicing Centers, but in a phased manner, the main target is to do for Servicing Centers of particular brands in India.
- There are mainly two types of users. One is the vehicle owners other one is authorized service centers.
- Customers can search for the available service centers and available booking slot for a specific time. Also, Customers can see past service records of their vehicles.
- Service centers can get the customer's vehicle information and approve the booking.
- The vehicle Service Management System provides the functions which connect the customer and the authorized service centers.
- Vehicle Service Management System is going to be maintained by Administrator.

3. Functional Requirements Overview:

Paperless School Management System consists of three modules described as below.

1. Customer Module
2. Service Center Module
3. Admin Module

3.1 Customer Module

- Customers can register.
- Customer can login to the system.
- Customer can add vehicle information.
- Customer can view service packages along with standard rates offered by the service centers.
- Customer can see available booking slots on a specific day, at a specific time before booking the service slot.

- Customers can check the progress of the service.
- Customer can view past service records.
- Customer can give rating and feedback.

3.2 Service Center Module

- Service centers can request for registration.
- Service centers can login to the system.
- Service centers can upload information about their facilities.
- Service centers can upload information about different packages offered.
- Service centers can update the progress of vehicle servicing.
- Service centers can raise the invoice.
- Service centers can view the ratings and feedback given by customer

3.3 Admin Module

- Administrator will approve the registration request of service centers.
- Create/update the list of standard tasks.
- Could generate a report about completed servicing tasks.

4. Non-Functional Requirement:

- The website should use professional design, look and feel and color scheme.
- Users will have no limitations for accessing the application through the Internet. The portal being an internet application, it is difficult to specify an exact number of visitors or users. Hence, we will target the system to support sufficient users on the launch of phase 1.
- Being a public website, the site must follow general usability guidelines for menus, navigation, colors, links and other actions provided on the screens.
- The system should be designed in such a manner that the user will be able to complete tasks in a minimum number of steps.

5. Use-Case Diagram

5.1 Customer:

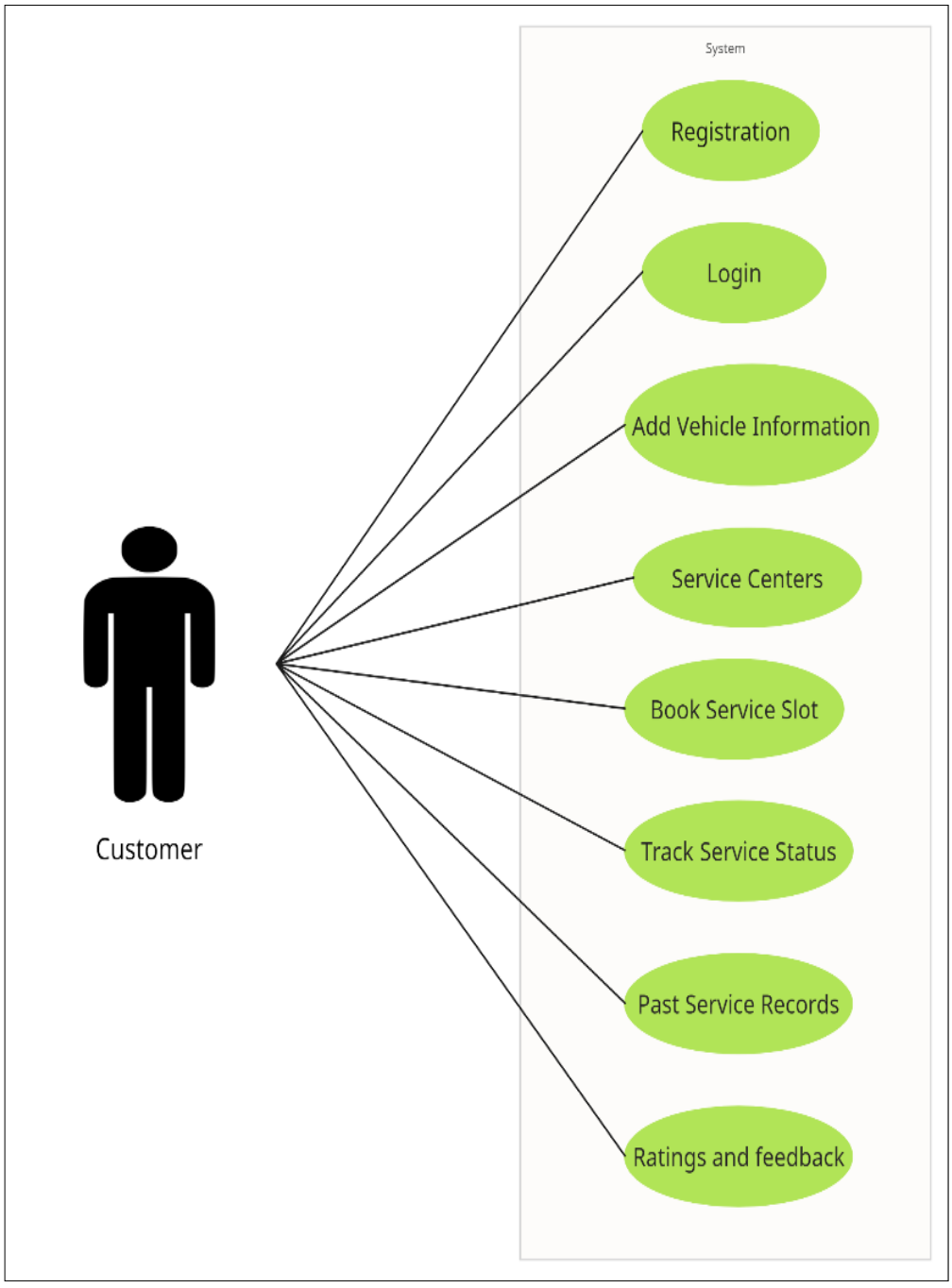


Fig. Use-Case Diagram for Customer

5.2 Service Center:

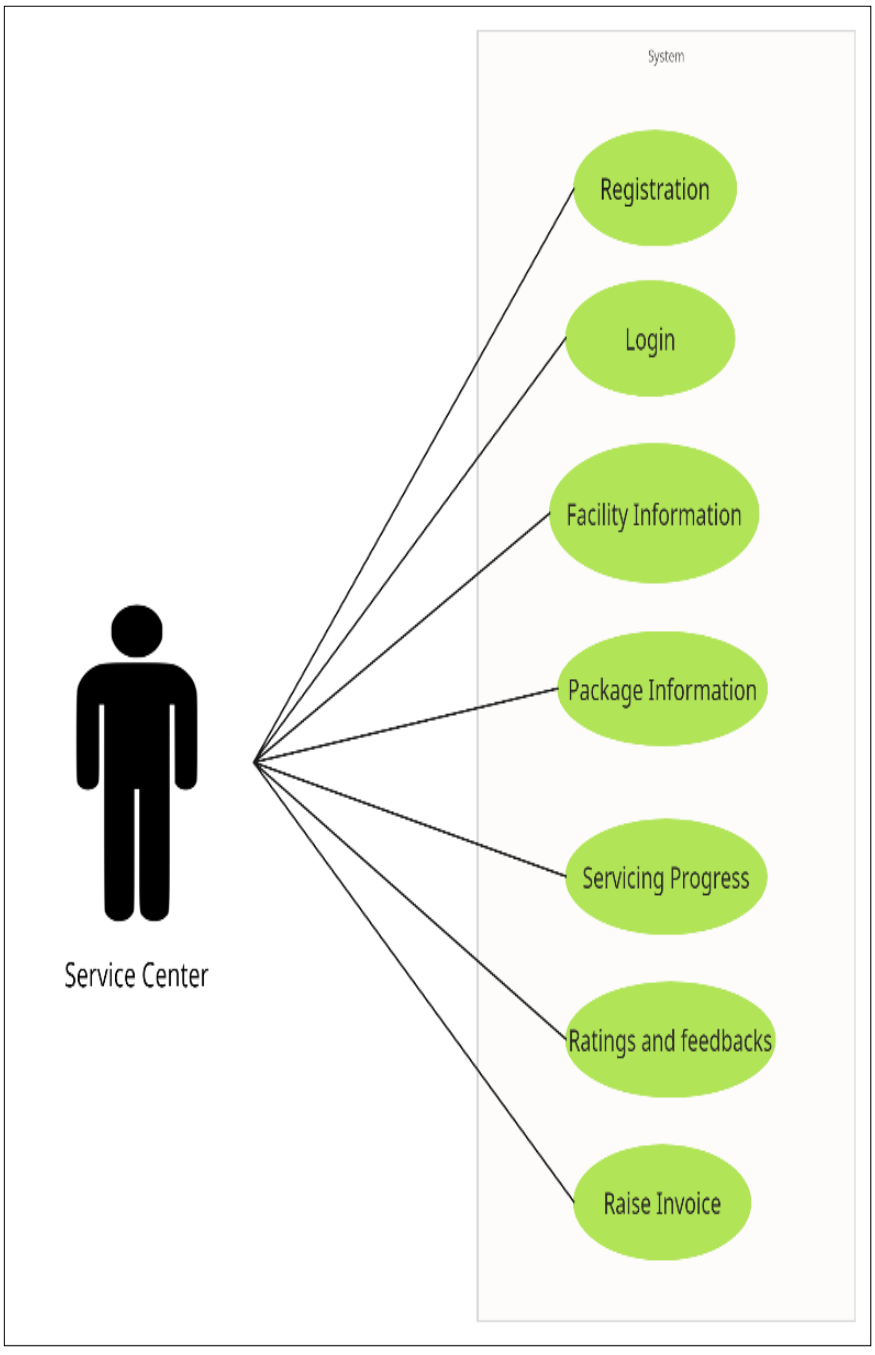


Fig. Use-Case Diagram for Service Center

5.3 : Admin :

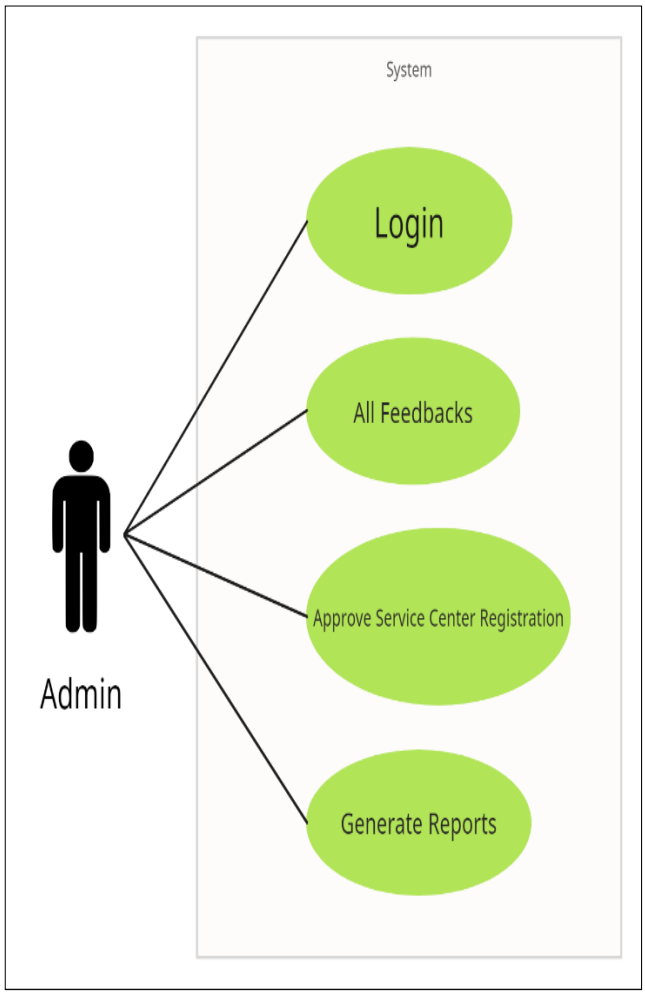


Fig. Use-Case Diagram for Admin

6.Project Architecture Diagram:

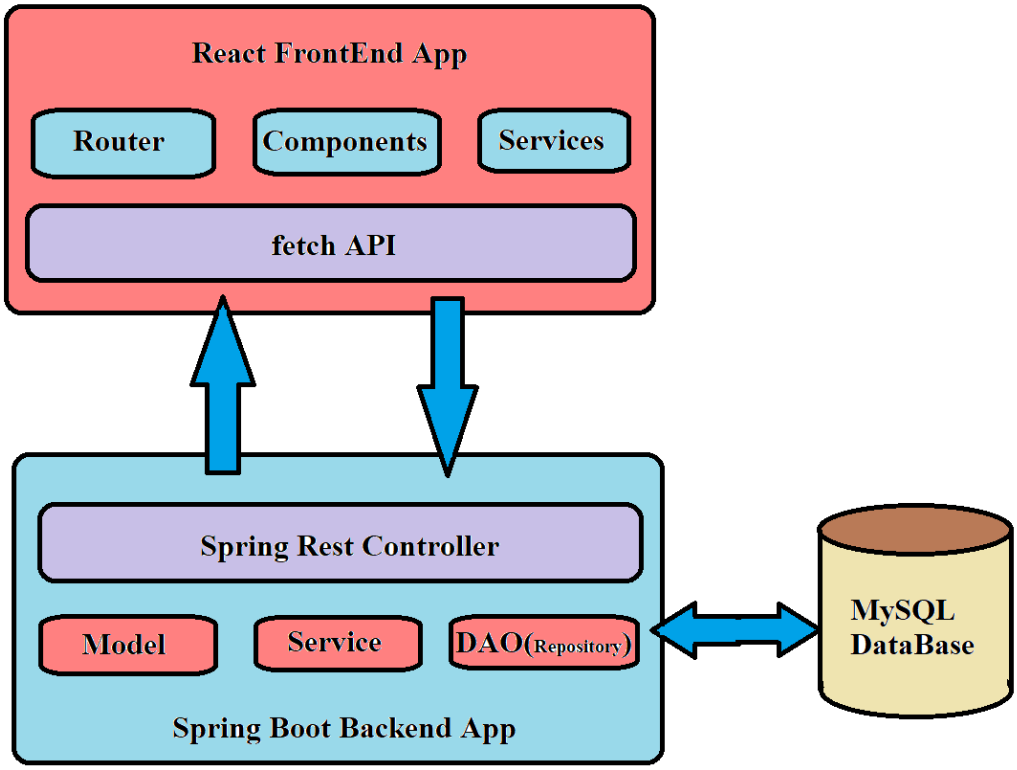


Fig. Project Architecture Diagram

7. Database Design:

1. Customer table:

Field	Type	Null	Key	Default	Description
customerid	Integer		Primary Key	Null	Unique customer ID
firstname	Varchar(45)			Null	First name of customer
lastname	Varchar(45)			Null	Last name of customer
birthdate	Datetime			Null	Date of birth of customer
contactno	Varchar(45)			Null	Contact number of customer
emailed	Varchar(45)			Null	email id of customer
lane	Varchar(45)			Null	Lane from customer's address
areaid	Integer		Foreign key	Null	Address of customer
loginid	Integer		Foreign key	Null	Login ID of customer

2. Service center table:

Field	Type	Null	Key	Default	Description
servicecentersid	Integer		Primary key	Null	Unique ID of service centers
scname	Varchar(45)			Null	Name of service center
emailid	Varchar(45)			Null	Email ID of service center
contactno	Varchar(45)			Null	Contact no of service center
lane	Varchar(45)			Null	Lane of service center's address
bookinglimit	Integer			Null	Range of Booking limit
brandid	Integer		Foreign key	Null	Unique ID of brand of vehicle
areaid	Integer		Foreign key	Null	Unique ID of area of service center
loginid	Integer		Foreign key	Null	Login ID

3.Vehicle table:

Field	Type	Null	Key	Default	Description
vehiclesid	Integer		Primary key	Null	Unique ID of the vehicle
vehiclenumber	Varchar(45)			Null	RTO registered number of vehicle
model	Varchar(45)			Null	Model of the vehicle
fueltype	Varchar(45)			Null	Type of fuel used in the vehicle
registrationyear	Integer			Null	Registration year of the vehicle
brandid	Integer		Foreign key	Null	Unique brand ID of the vehicle's brand
customerid	Integer		Foreign key	Null	Unique customer ID

4. Login table:

Field	Type	Null	Key	Default	Description
loginid	Integer		Primary key	Null	Login ID
userid	Varchar(45)			Null	User ID
password	Varchar(45)			Null	Respective password
answer	Varchar(45)			Null	Answer of security question
status	Tiny integer			Null	Status of able or unable user
roleid	Integer		Foreign key	Null	Unique role ID of the website user
questionid	Integer		Foreign key	Null	ID of security question

5.Package details table

Field	Type	Null	Key	Default	Description
packagedetailsid	Integer		Primary key	Null	Unique ID about package details
packagename	Varchar(45)			Null	Name of the package
cost	Decimal			Null	Price of the package
servicecenterid	Integer		Foreign key	Null	Service center ID

6.Transactions table:

Field	Type	Null	Key	Default	Description
transactionid	Integer		Primary key	Null	Unique ID of transaction
amount	Decimal			Null	Amount to be paid by customer
date	Datetime			Null	Date of the service
paymenymode	Varchar(45)			Null	Mode of payment used
Serviceprogressid				Null	Service progress ID

7.Invoices table:

Field	Type	Null	Key	Default	Description
invoiceid	Integer		Primary key	Null	Unique invoice ID generated
Status	Tinyint			Null	
servicerequestid	Integer		Foreign key	Null	
transactionid	Integer		Foreign key	Null	Transaction ID

8.Security questions table:

Field	Type	Null	Key	Default	Description
questionid	Integer		Primary key	Null	Unique question ID
questiontext	Varchar(45)			Null	Text of the question

9.Service requests table:

Field	Type	Null	Key	Default	Description
servicerequestid	Integer		Primary key	Null	Service request ID
status	Tinyint			Null	Status
bookingdate	Datetime			Null	Slot Booking date
pickuptime	Datetime			Null	Vehicle pick-up time
servicedate	Datetime			Null	Date of servicing
vehicleid	Integer		Foreign key	Null	Vehicle ID
Servicecenterid	Integer		Foreign key	Null	Service center ID
Packageid	Integer		Foreign key	Null	Package ID

10.Service progress table:

Field	Type	Null	Key	Default	Description
serviceprogressid	Integer		Primary key	Null	Service progress ID
checkin	Datetime			Null	Check-in time
stageone	Datetime			Null	Stage one of servicing
stagetwo	Datetime			Null	Stage two of servicing
checkout	Datetime			Null	Check-out time
delivered	Tinyint(1)			Null	Vehicle delivery message
servicerequestid	Integer			Null	Service request ID

11.Area table:

Field	Type	Null	Key	Default	Description
areaid	Integer		Primary key	Null	Unique area ID
areaname	Varchar(45)			Null	Name of the area
pincode	Integer			Null	Area pincode
cityid	Integer			Null	City ID

12.Roles table:

Field	Type	Null	Key	Default	Description
roleid	Integer		Primary key	Null	Unique role ID
rolename	Varchar(45)			Null	Name of the role of person who is logging in

13.Packages table:

Field	Type	Null	Key	Default	Description
packageid	Integer		-	Null	Package ID
faciltyid	Integer			Null	Facility ID

14.Facilities table:

Field	Type	Null	Key	Default	Description
facilityid	Integer			Null	Facility ID
facilityname	Varchar(45)			Null	Name of the facility

15.City table:

Field	Type	Null	Key	Default	Description
cityid	Integer			Null	City ID
cityname	Varchar(45)			Null	Name of the city

16.Brands table:

Field	Type	Null	Key	Default	Description
brandid	Integer			Null	Vehicle’s brand ID
bname	Varchar(45)			Null	Brand name of vehicle

17.Ratings table:

-

Field	Type	Null	Key	Default	Description
ratingid	Integer			Null	Rating ID
rating	Integer			Null	Rating score
comment	Varchar(45)			Null	Feedback comment
customerid	Integer			Null	Customer ID
servicecenterid	Integer			Null	Service center ID

8. ER-Diagram:

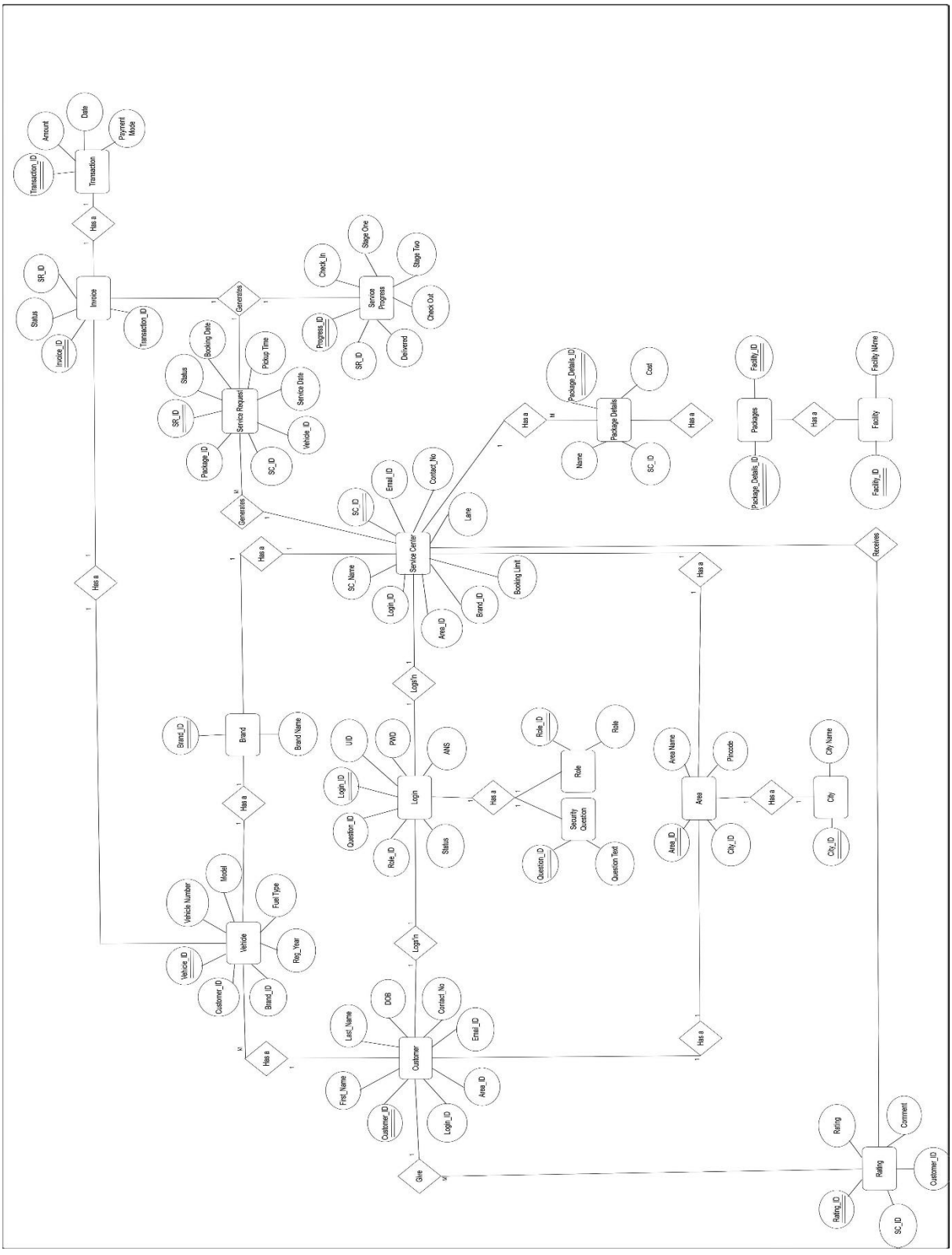
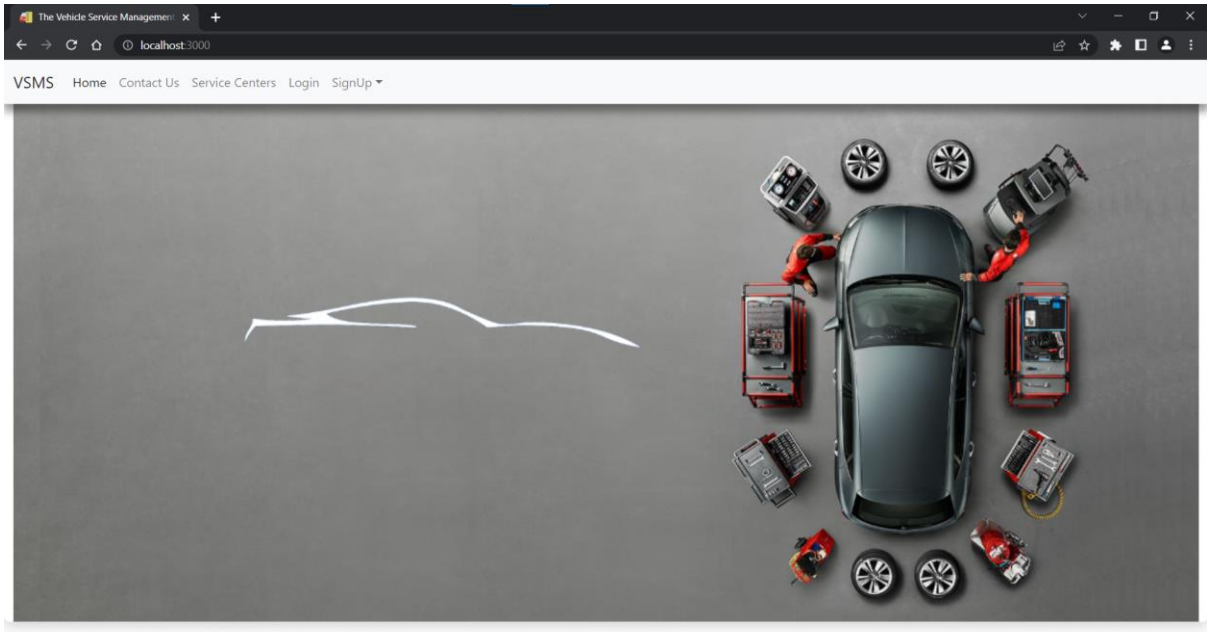


Fig. E-R diagram shows database of Vehicle Service Management System

9. Snapshots:

9.1 Home Page:

Following snapshot shows the Home page for Vehicle Service Management System

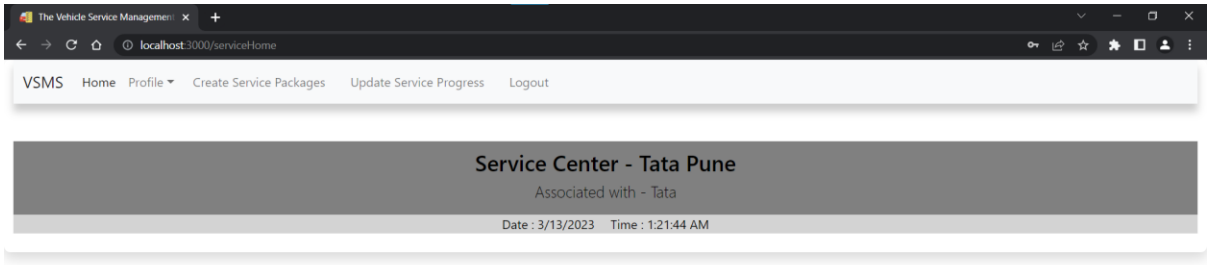


This page contains following controls

- Home
- Contact Us
- Service Centers
- Login
- Sign Up
  - User
  - Service Center

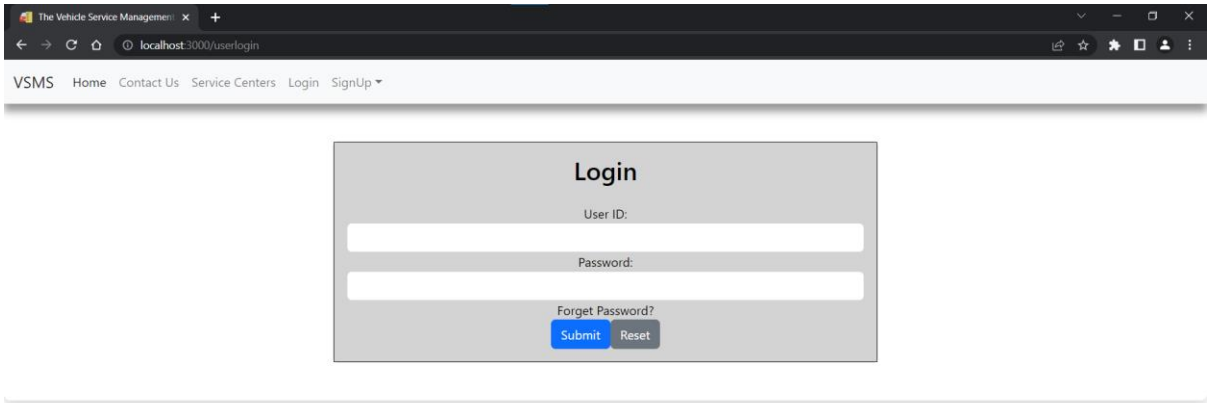
9.2 Service Centers Page:

Following snapshot shows the Service Center page for Vehicle Service Management System



9.3 Login Page:

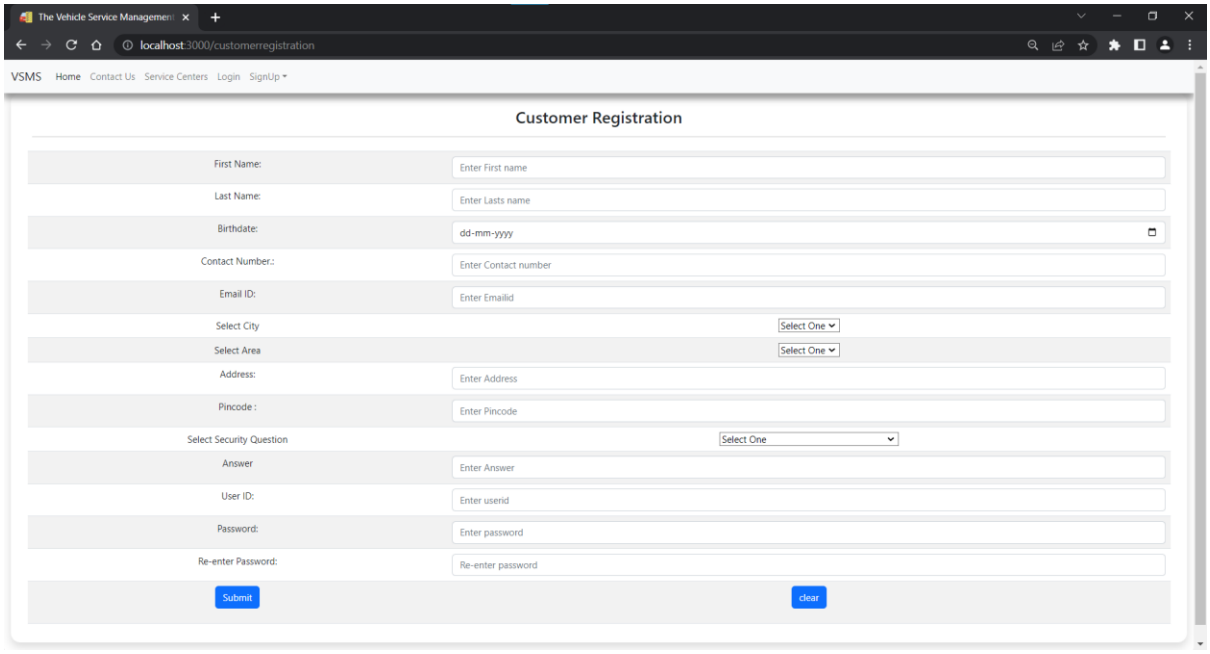
Following snapshot shows the Login page for Vehicle Service Management System



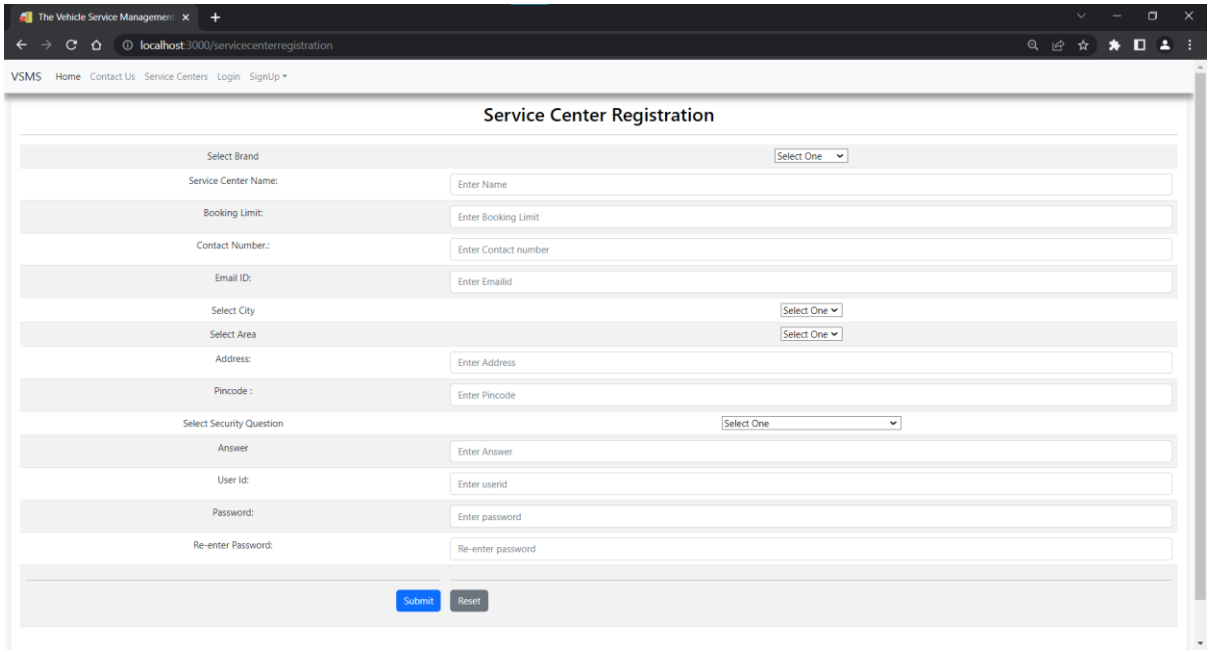
9.4 Sign Up Page:

Following snapshot shows the Sign Up page for Vehicle Service Management System

- Customer Registration Page:



- Service Center Registration page:

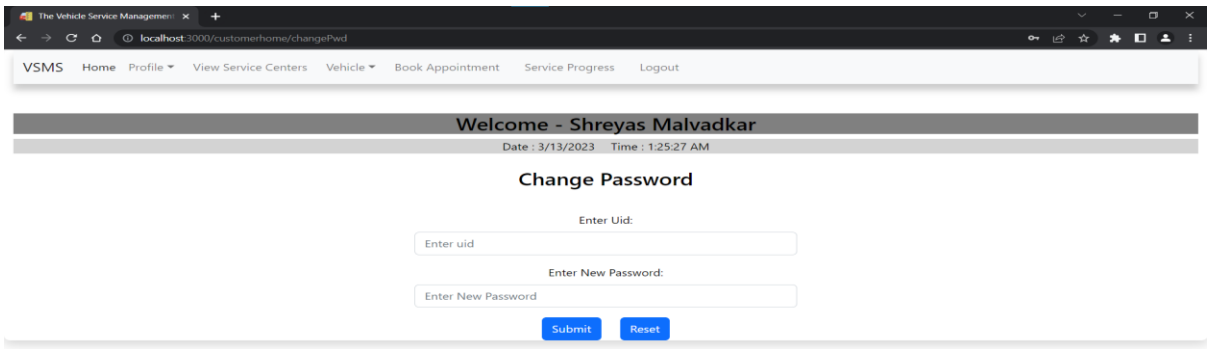


9.5 User login Page:

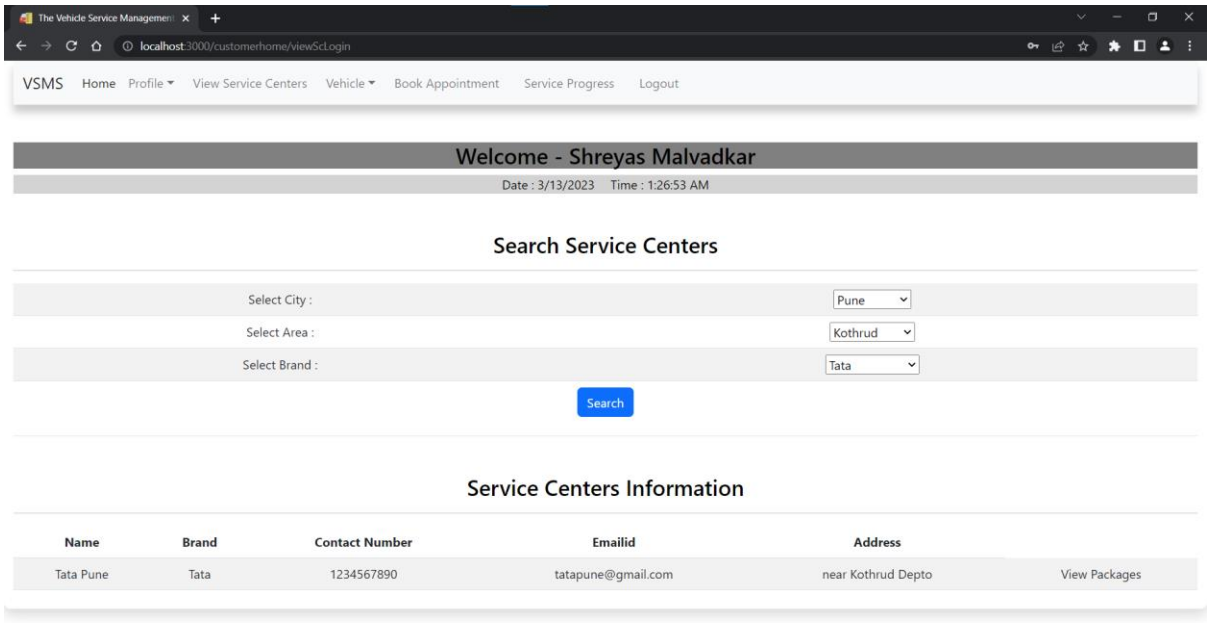
Following snapshot shows the User Login page for Vehicle Service Management System

This page contains following controls

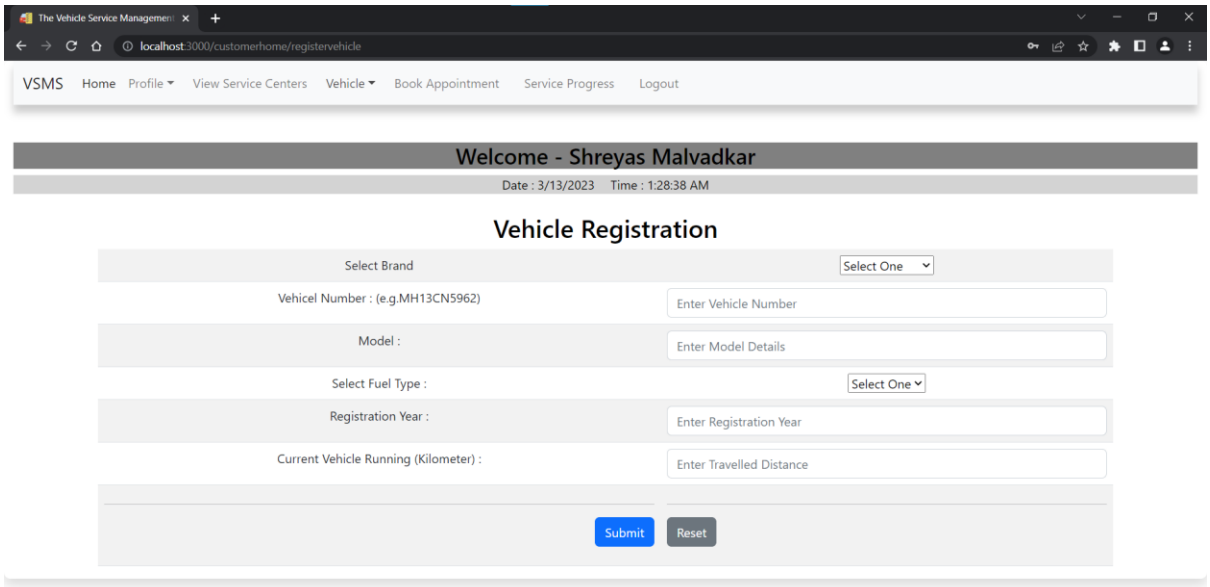
- Profile
    - Update profile
    - Change password



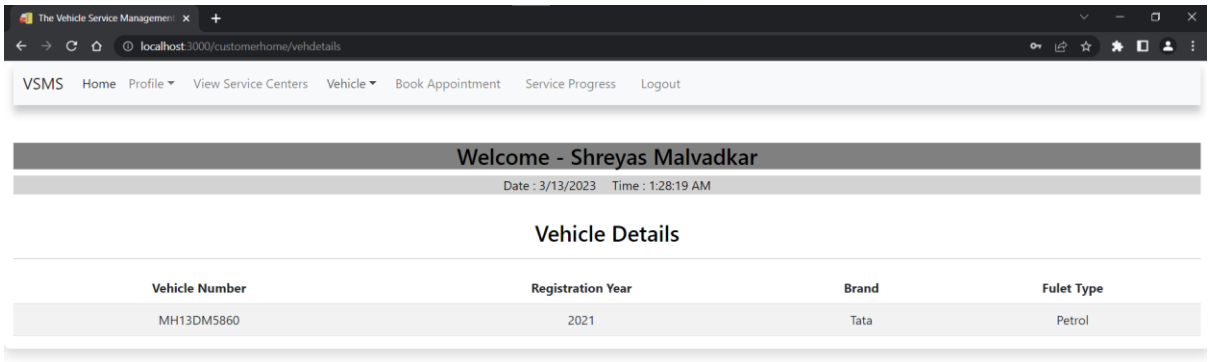
- View Service Centers



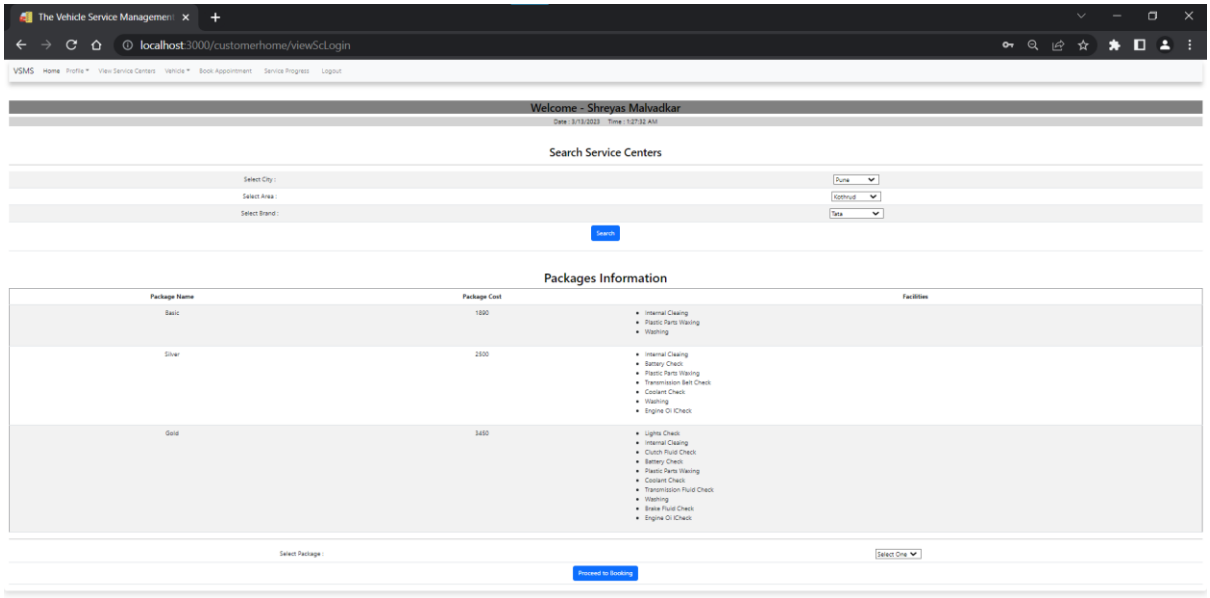
- Vehicle registration



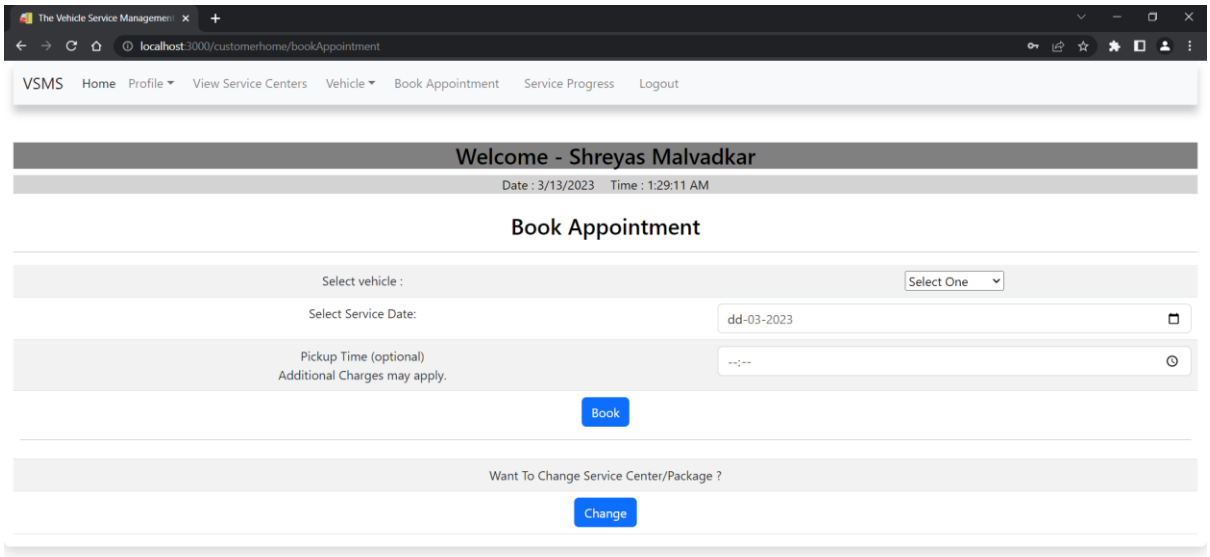
- Vehicle information



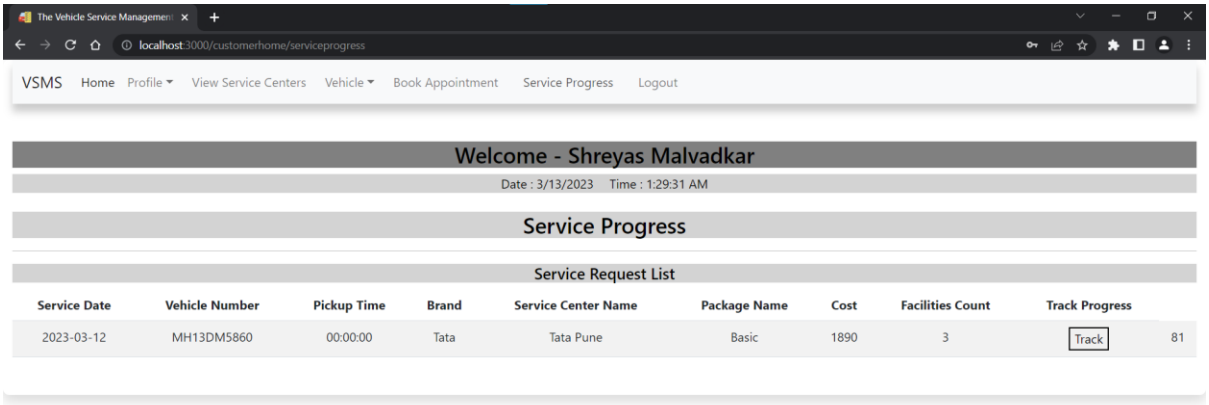
- Packages information



- Book Appointment

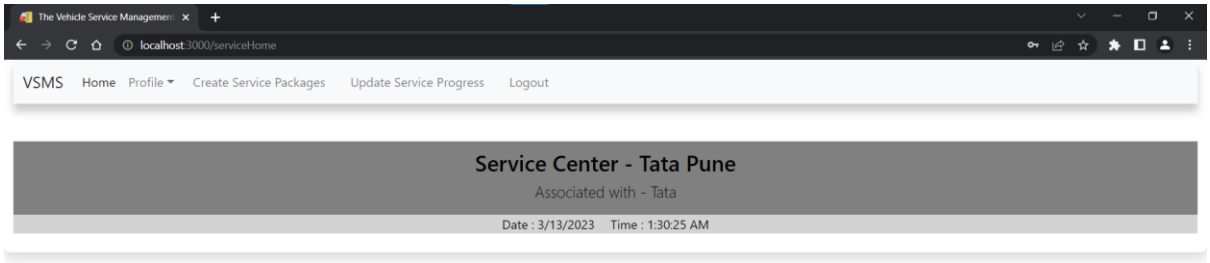


- Service Progress



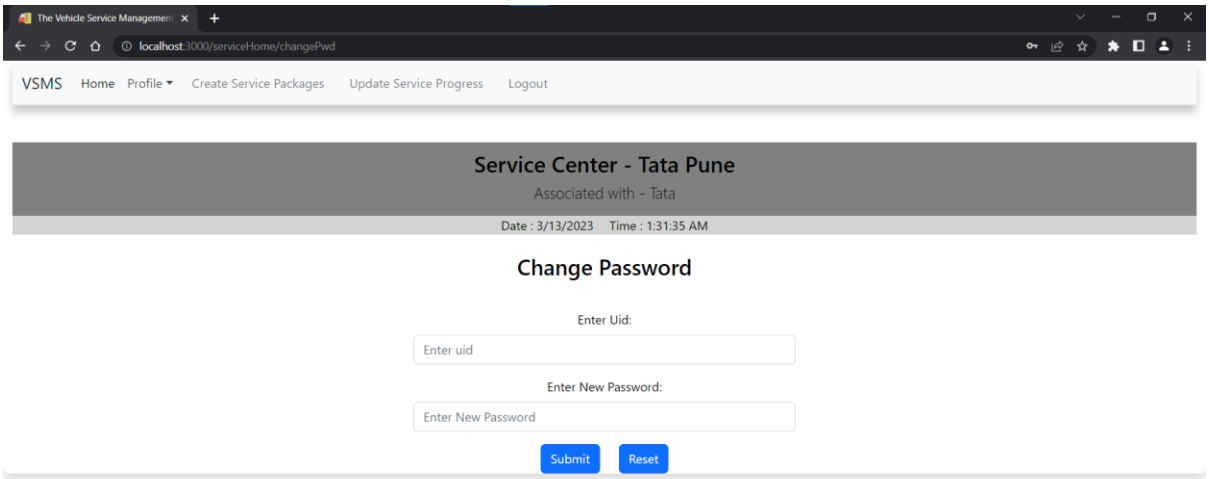
9.6 Service Center Login Page:

Following snapshot shows the Service Center Login page for Vehicle Service Management System

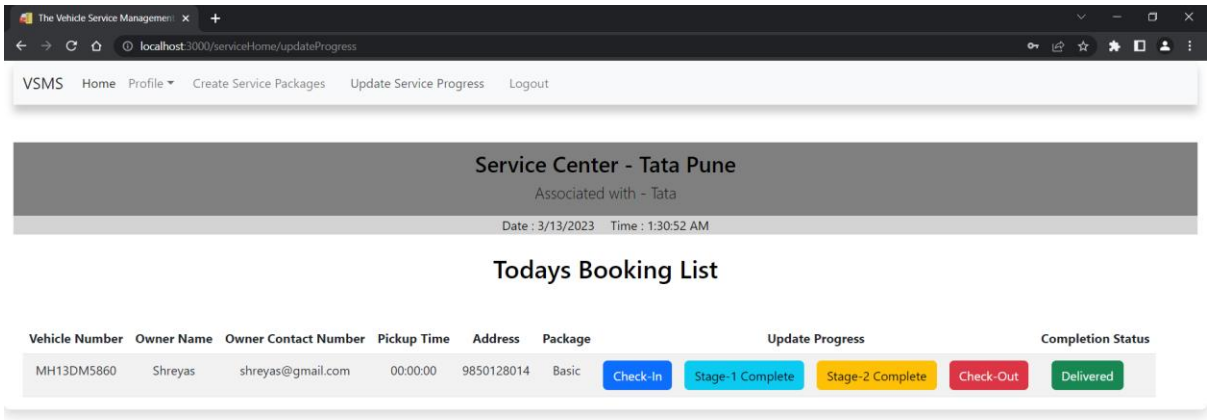


This page contains following controls

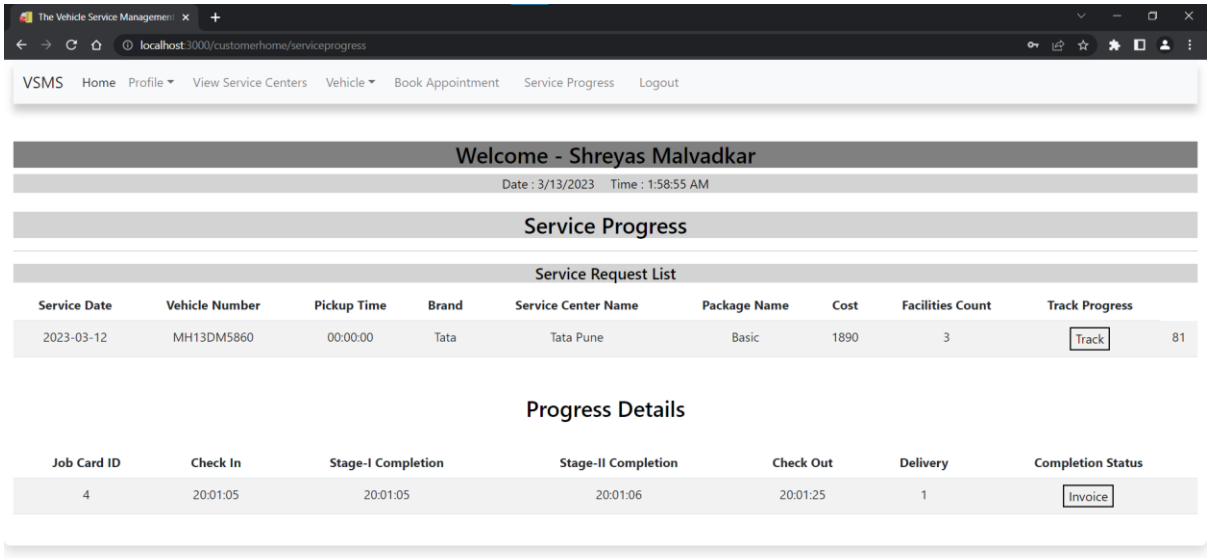
- Profile
    - Update profile
    - Change password



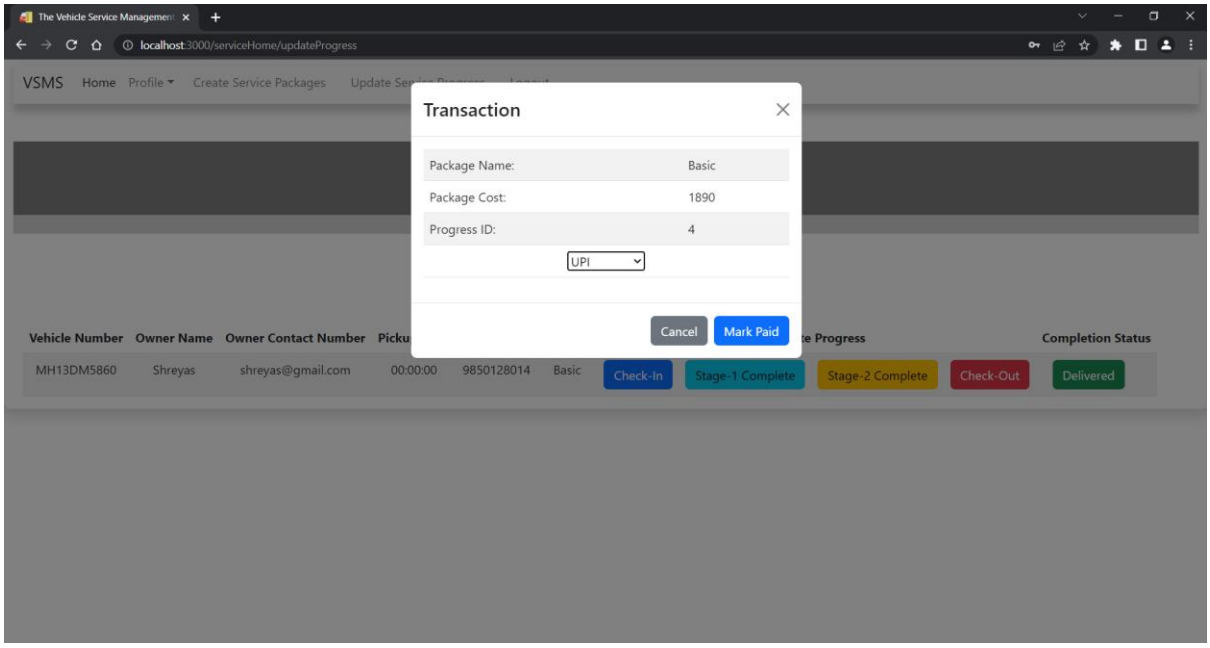
- View bookings



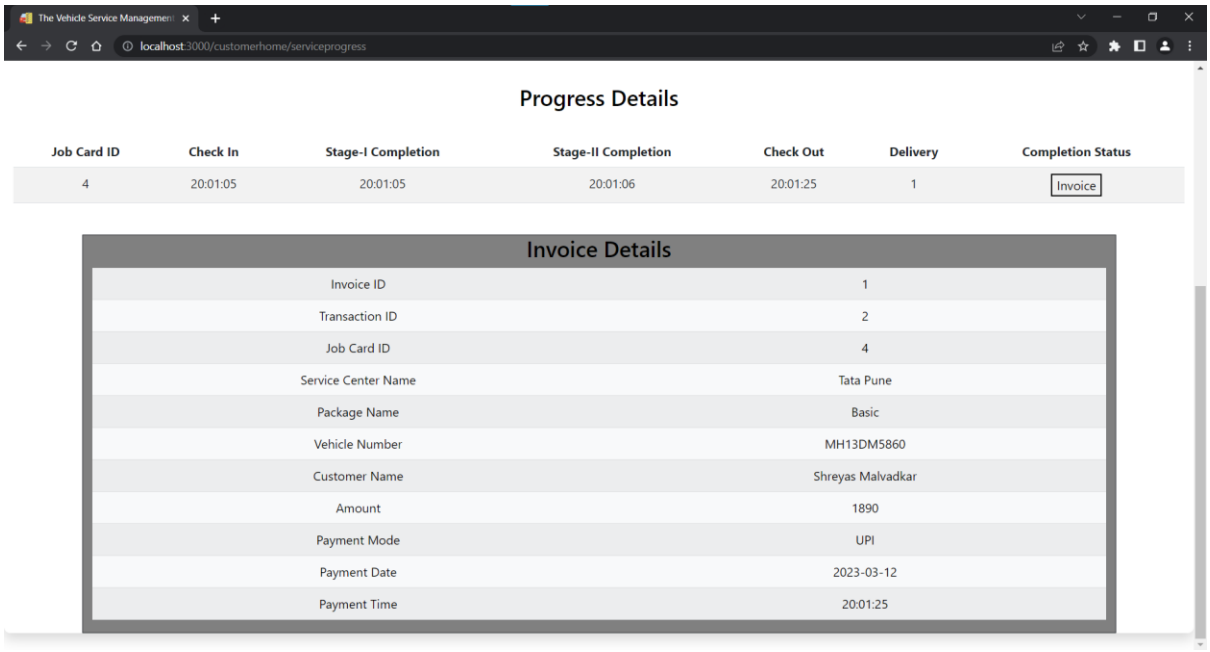
- Update service progress



- Transaction details



- Invoice details



10. CONCLUSION AND FUTURE SCOPE

Vehicle Service Management System provides better service platform to get customers and service centers connected.

Our system provides a very user-friendly platform where customer can easily register vehicle, login, search packages, book appointments, also service center will provide current status of the service progress.

Our system is aimed to do efficient management of various tasks like update profile, change password, create service packages, view bookings, update service progress, generate invoice and generate deliver message after service completion.

It digitally manages the service provision on a single platform.

Few things which we have kept aside for right now as our platform is new in the market but in future we desire to add are to establish this service provision across pan India, to create flexible packages as per customer's requirement and to notify customer about vehicle's service progress, service completion via SMS or email.