



INSTITUTE FOR ADVANCED COMPUTING AND
SOFTWARE DEVELOPMENT AKURDI, PUNE

Documentation On

**Vehicle Service Station
Management**

PG-DAC MAR 22

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Project Guide

ABSTRACT

Nowadays, the population of human on earth is increase. Most of them have their own vehicle. So, the vehicle service center might be busy especially during festive seasons.

This project is a web-based vehicle service station management system for an existing service station. The project objective is to deliver the service information of service station and application into web platform.

This project is an attempt to provide the service station services to the customers.

It helps consumer to add service request to the service station through internet by using a website device. Thus, the customer will get the service from that service station. This system can be implemented to any service station in the locality.

ACKNOWLEDGEMENT

I take this occasion to thank God, almighty for blessing us with his grace and taking our endeavor to a successful culmination. I extend my sincere and heartfelt thanks to our esteemed guide, **Mrs. Megha s Mane** for providing me with the right guidance and advice at the crucial juncture sand for showing us theright way. I extend my sincere thanks to our respected **Centre Co-Ordinator Mr.Prashant Karhale**, for allowing us to use the facilities available. I would like tothank the other faculty members also, at this occasion. Last but not the least, I would like to thank my friends and family for the support and encouragement theyhave given me during the course of our work.

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INTRODUCTION

The increase of vehicles productions in the domestic and worldwide market has boosted the confidence of auto ancillary units and vehicles servicing sector. As the servicing of existing vehicles population is an essential activity, there is large scope in this area given the increasing number of vehicles of the road year after year. A vehicles services station has to have facilities to service the vehicles, such as necessary equipment facilitating, wheel alignment etc. Vehicle Service Station Management System provides necessary services to the service station for efficient management. In India, there are lots of holiday festivals throughout the year. People with families will gather around together to celebrate the holidays. Some will have to travel in order to return home to their families. But sometimes, the car service center might be busy especially during festive seasons since a lot of people decide to service their vehicles at the same time. Staff also will not have enough hands to handle many customers at the same time. The proposed of the Vehicles Service Centre Management System is to help the staffs to manage the tasking. Besides, all the data will be kept in a database of the system. Information can easily be retrieved. Document and report preparation can also be prepared in lesser time as well. This system involved three users which are admin, service center and customers. Admin has authority to add new service station according to the cities. They also can view all the reports that involved in this system. The service center will have their own servicing plans and slots. They also can manage their profile and change the password. The customer can register and log into the system. After that, they can book a service plan and slot for their vehicle. They also can view their vehicle's report and will get the system generated booking confirmation email.

Features: -

1. The system provides efficient way to book the slot and plan in the service center.
2. The system provides easy interface that users can easily select service center from respective city.
3. System provides better ways for searching service center according to cities and available service slots.
4. New service center can be added easily.
5. Service center providers can easily communicate to all consumers by sending personalized mail to their respective email id.
6. Personalized Dashboard for service center.

1.1 PROJECT OBJECTIVE

The objective of the project is to make an application to book vehicle service slot. In order to build such an application complete web support, need to be provided. A complete and efficient web application which can provide the online service booking experience is the basic objective of the project. The web application can be implemented in the form of an application with web view.

1.2 PROJECT OVERVIEW

The central concept of the application is to allow the customer book service plan and slot virtually using the internet . The information pertaining to the products are stored on an RDBMS at the server side.

The server processes the service center slots and plans selected by the customer. The application was designed into two modules first is for the customers who requires service for the customer. Second is for the service centers who provide services for the vehicle the application is hosted on the web and the administrator maintains the database. The application, which is deployed on the web. Data entry into the application can be done through various screens designed for various users(Admin, service center, customer). Once the authorized personal feed the relevant data into the system, several reports could be generated as per the security.

1.3 PROJECT SCOPE

This system can be used to add any vehicle service station in the locality or in any cities. The system have a facility to manage the service station according to their resources. By the use of this online portal where their customers can enjoy easily adding service request according to their convenience from anywhere, the service station will always know the resources required for a day according to the booked slots.

1.4 STUDY OF THE SYSTEM

1.4.1 MODULES:

The system after careful analysis has been identified to be presented with the following modules and roles.

The modules involved are:

- Admin
- Service center
- Customer

1.4.1.1 Admin:

The admin is the super user of this application. Only admin have access into this admin page. Admin is the owner of the application. The admin can add the service center to the system

This module is having one sub modules.

1. Sign in
2. Sign out
3. Add service center

➤ **Sign in**

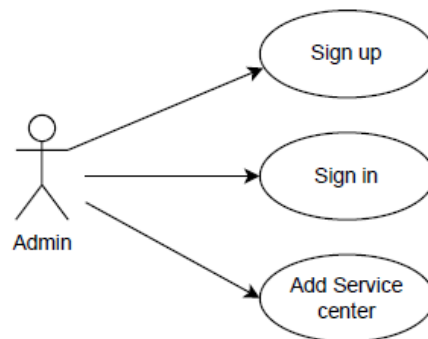
Admin can sign in to the system by using valid credential.

➤ **Add service center**

Only admin has the authority to add service center in the system.

➤ **Sign out**

After completion of task he/she may log out form system.



Admin Activity Diagram

Figure 1 Admin Activity Diagram

1.4.1.2 Service center

1. Sign in
2. Sign out
3. Add slots
4. Update slots
5. Delete booking
6. Update registration
7. Add plans

➤ **Sign in**

Service center can sign in to the system by using valid credential.

➤ **Add slots**

Service center has the authority to add service slots in the system.

➤ **Update slots**

Service center has the authority to update service slots.

➤ **Delete booking**

Service center can delete booking done by the user by entering respective booking id.

➤ **Update registration details**

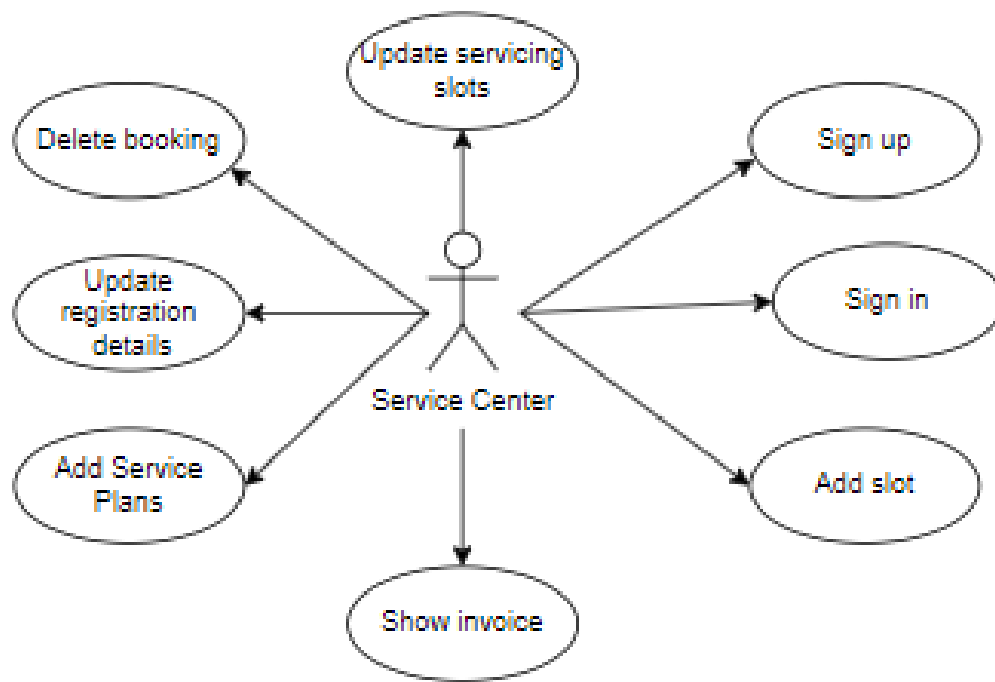
Service center has the authority to update registration details.

➤ **Add plans**

Service center can add service plans according to their available services with chargeable amount.

➤ **Sign out**

After completion of task they may log out from system.



Service Centre Activity Diagram

Figure 2 Service center Activity Diagram

1.4.1.3 Customer

1. Sign in
2. Sign out
3. Select city and service center
4. Select date
5. See available slots
6. Enter vehicle details
7. Book slot

➤ **Sign in**

Customer can sign in to the system by using valid credential.

➤ **Select city and service center**

Customer can select city and service center according to his/her convenience.

➤ **Update slots**

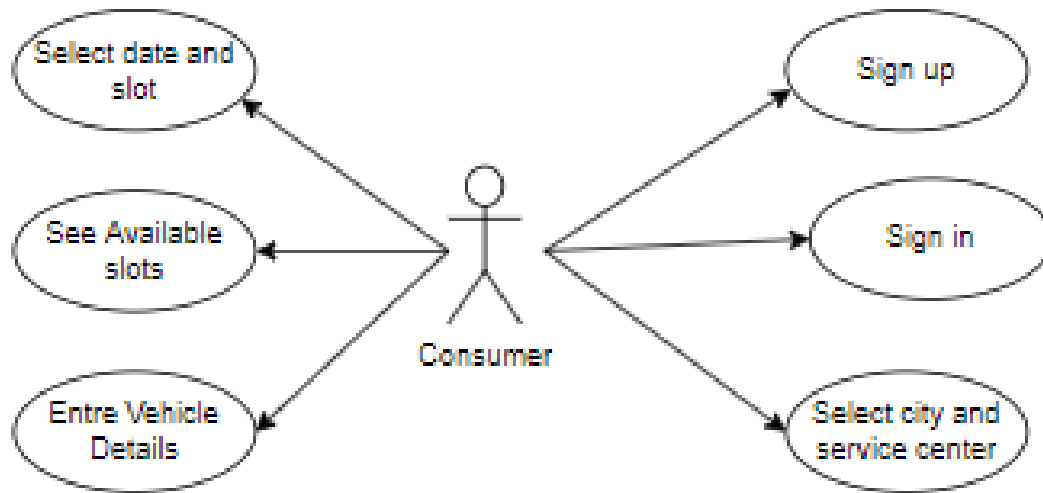
After selecting the city and service center available slots are shown on screen.

➤ **Enter vehicle details**

In order to book the service slot need to enter vehicle details.

➤ **Book slot**

After giving the vehicle details service slot can be booked.



Consumer Activity Diagram

Figure 3 Customer Activity Diagram

SYSTEM ANALYSIS

System analysis is the process of gathering and interpreting facts, diagnosing problems, and using the information to recommend improvements on the system. System analysis is a problem-solving activity that requires intensive communication between the system users and system developers.

System analysis or study is an important phase of any system development process. The system is viewed as a whole, the inputs are identified, and the system is subjected to close study to identify the problem areas. The solutions are given as a proposal. The proposal is reviewed on user request and suitable changes are made. This loop ends as soon as the user is satisfied with the proposal.

2.1 EXISTING SYSTEM

The current system for vehicle servicing is to visit the shop manually and from the available plans choose the plan customer want and getting the service done by payment of the price of the plan.

- ✓ It is less user-friendly.
- ✓ User must go to service center and select plan.
- ✓ It is difficult to identify the correct proper plan according to budget and services
- ✓ Description of the plan limited.
- ✓ It is a time-consuming process
- ✓ Not in reach of distant users.

2.2 PROPOSED SYSTEM

In the proposed system customer need not go to the service center for booking the service slot the. He can book the service slot through the application. Service center can give the servicing slot for respective dates.

2.3 SYSTEM REQUIREMENT SPECIFICATION

2.3.1 GENERAL DESCRIPTION

Product Description: The system consists of two parts. A web application which can provide the online service booking service slot for vehicle of the customer by accessing the web service from his System. Web application should be able to help the customer for selecting his service plan and to help the service center in managing the orders from the customers.

Problem Statement:

As online applications became a trend nowadays the regular service providers are losing their customers to online brands. Customers have effortless service experience and saving time through online service management. For competing with those online brands, if service centers are providing an online portal where their customers can book service slot through internet and get the plans and slot confirmation through email it will increase the number of customers.

2.3.2 SYSTEM OBJECTIVES

- To provide a Web application for online booking of service center plans and slots in an existing service center.
- To provide an online booking web site for the same service center.

2.3.3 SYSTEM REQUIREMENTS

2.3.3.1 NON-FUNCTIONAL REQUIREMENTS

i. EFFICIENCY REQUIREMENT

When vehicle service center management application implemented customer can Book the service slot and plan in an efficient manner.

ii. RELIABILITY REQUIREMENT

The system should provide a reliable environment to both customers and service centers. All bookings should be reaching at the service center without any errors.

iii. USABILITY REQUIREMENT

The Web application is designed for user friendly environment and ease of use.

iv. IMPLEMENTATION REQUIREMENT

Implementation of the system using React in front end with Spring Boot as back end and it will be used for database connectivity. And the database part is developed by MySQL. Responsive web designing is used for making the website compatible for any type of screen.

v. DELIVERY REQUIREMENT

The whole system is expected to be delivered in one month of time with a weekly Evaluation by the project guide.

2.3.3.2 FUNCTIONAL REQUIREMENTS

Customer

➤ Login

This feature used by the Customer to login into system. A customer must login with his username and password to the system after registration. If they are invalid, the user not allowed to enter the system.

Functional Requirement

- Username and password will be provided by the customer at the time of registration .
- Password should be hidden from others while typing it in the field.

➤ REGISTER NEW

Customer Description of feature

A new Customer will have to register in the system by providing essential details in order to access services in the system.

Functional Requirement

- System must be able to verify and validate information.
- The system must encrypt the password of the customer to provide security.

➤ **BOOKING SERVICE SLOT**

Description of feature

The customer can select city and service center of his choice and the desired service plan for his vehicles. He can get the confirmation after clicking book-slot button. After confirming the email the user can book the service on specified date.

Functional Requirement

- System must ensure that, only a registered customer can login.
- Admin account should be secured so that only owner of the application can access that account

IACSD

ADMIN

➤ MANAGE

SERVICE CENTER

Description of features

The administrator can add service center.

SERVICE CENTER

➤ MANAGE SERVICE CENTRE AND PLANS

Description of features

The service center can manage the service slots and plans.

Can update registration details

Can delete the booking

Can update the slots

.

SYSTEM DESIGN

System design is the solution for the creation of a new system. This phase focuses on the detailed implementation of the feasible system. Its emphasis is on translating design specifications to performance specification. System design has two phases of development.

- Logical Design
- Physical Design

During logical design phase the analyst describes inputs (sources), outputs (destinations), databases (data stores) and procedures (data flows) all in a format that meets the user requirements. The analyst also specifies the needs of the user at a level that virtually determines the information flow in and out of the system and the data resources. Here the logical design is done through data flow diagrams and database design. The physical design is followed by physical design or coding. Physical design produces the working system by defining the design specifications, which specify exactly what the candidate system must do. The programmers write the necessary programs that accept input from the user, perform necessary processing on accepted data and produce the required report on a hard copy or display it on the screen.

3.1 INPUT AND OUTPUT DESIGN

3.1.1 INPUT DESIGN:

Input design is the link that ties the information system into the world of its users. The input design involves determining the inputs, validating the data, minimizing the data entry and provides a multi-user facility. Inaccurate inputs are the most common cause of errors in data processing. Errors entered by the data entry operators can be controlled by input design. The user-originated inputs are converted to a computer-based format in the input design. Input data are collected and organized into groups of similar data. Once identified, the appropriate input media are selected for processing. All the input data are validated and if any data violates any conditions, the user is warned by a message. If the data satisfies all the conditions, it is transferred to the appropriate tables in the database. In this project the student details are to be entered at the time of registration. A page is designed for this purpose which is user friendly and easy to use. The design is done such that users get appropriate messages when exceptions occur.

3.1.2 OUTPUT DESIGN:

Computer output is the most important and direct source of information to the user. Output design

is a very important phase since the output needs to be in an efficient manner. Efficient and intelligible output design improves the system relationship with the user and helps in decision making. Allowing the user to view the sample screen is important because the user is the ultimate judge of the quality of output. The output module of this system is the selected notifications.

DATABASE DESIGN

3.2 DATABASE

Databases are the storehouses of data used in the software systems. The data is stored in tables inside the database. Several tables are created for the manipulation of the data for the system. Two essential settings for a database are

- Primary key - the field that is unique for all the record occurrences
- Foreign key - the field used to set relation between tables

Normalization is a technique to avoid redundancy in the tables.

3.3 SYSTEM TOOLS

The various system tools that have been used in developing both the front end and the back end of the project are being discussed in this chapter.

3.3.1 FRONT END:

React is a library which is developed by Facebook and is utilized to implement the frontend. React (also known as React.js or ReactJS) is a free and open-source front-end JavaScript library for building user interfaces or UI components. It is maintained by Facebook and a community of individual developers and companies. React can be used as a base in the development of single page or mobile applications. However, React is only concerned with state management and rendering that state to the DOM, so creating React applications usually requires the use of additional libraries for routing, as well as certain client-side functionality.

3.3.2 BACKEND:

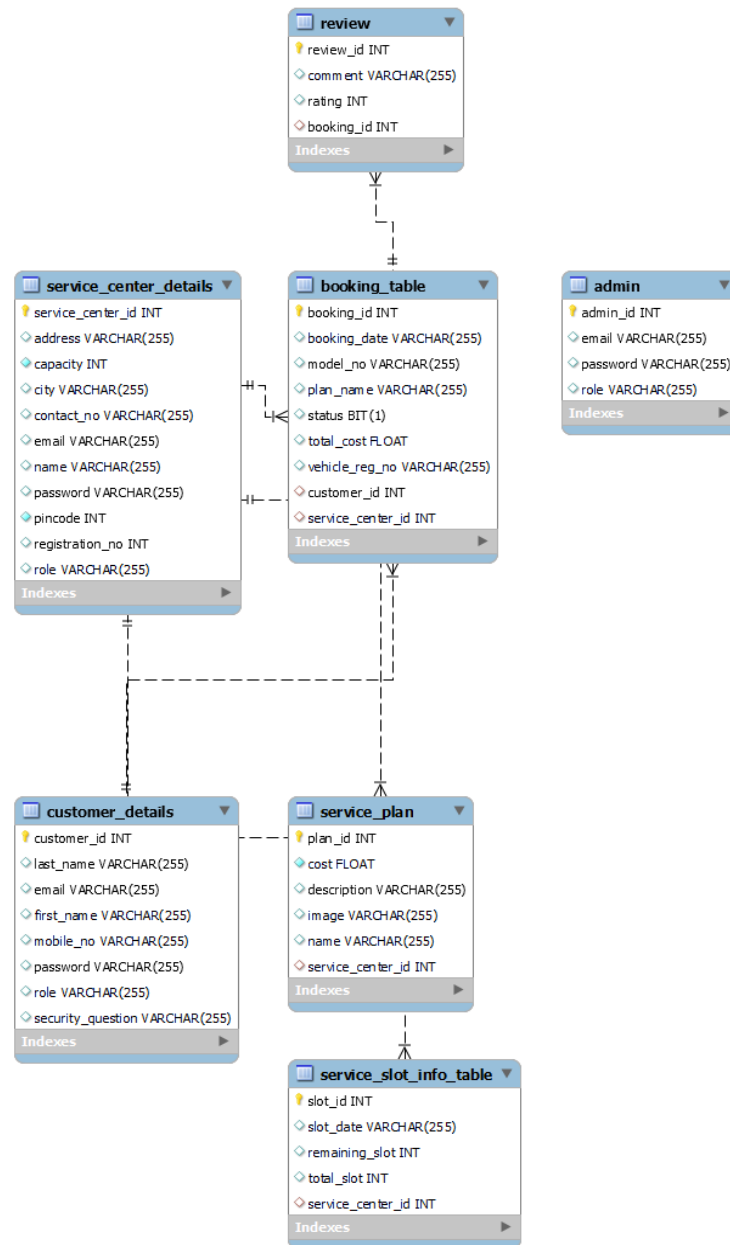
The back end is implemented using MySQL which is used to design databases.

MySQL:

MySQL is the world's second most widely used open-source relational database management system (RDBMS). The SQL phrase stands for Structured Query Language. An application software called Navicat was used to design the tables in MySQL.

Spring-Boot:

This is used to connect MYSQL and fetch data from database and store the data in database. The Spring Framework is an application framework and inversion of control container for the Java platform. The framework's core features can be used by any Java application, but there are extensions for building web applications on top of the Java EE (Enterprise Edition) platform. Although the framework does not impose any specific programming model, it has become popular in the Java community as an addition to the Enterprise JavaBeans (EJB) model.

E-R Diagram:*Figure 7 E-R Diagram*

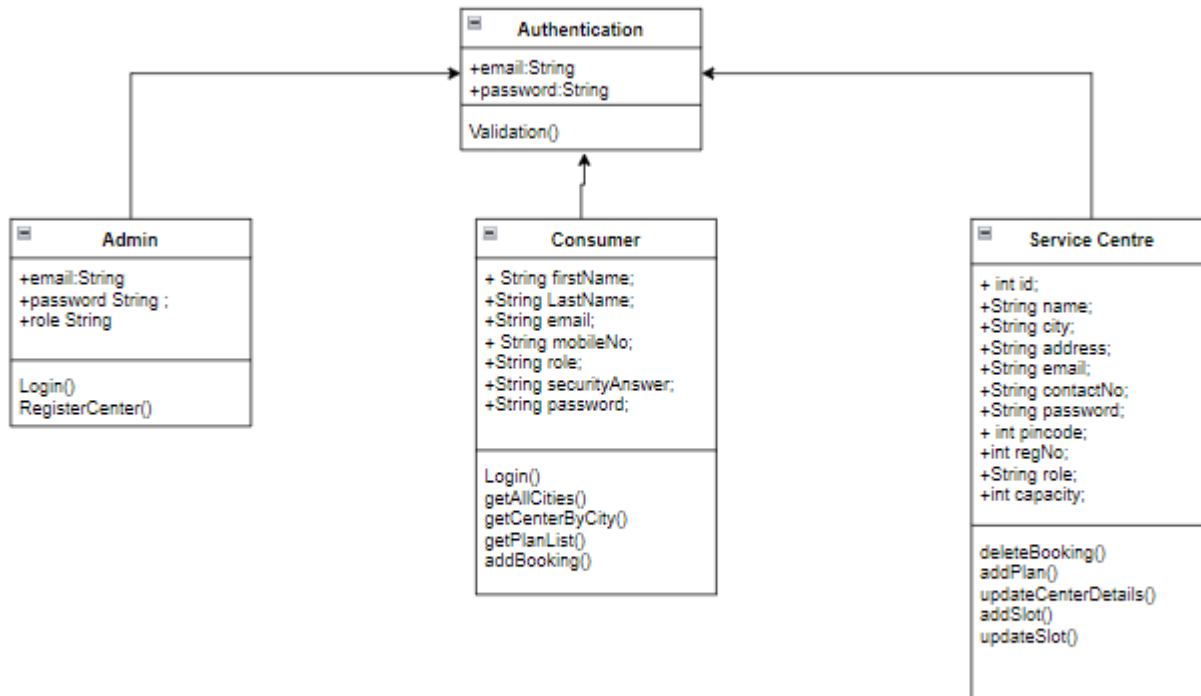
Class Diagram:*Figure 8 Class Diagram*

TABLE STRUCTURE:**Tables:**

```
+-----+
| Tables_in_vssm |
+-----+
| admin          |
| booking_table  |
| customer_details |
| review         |
| service_center_details |
| service_plan   |
| service_slot_info_table |
+-----+
7 rows in set (3.54 sec)
```

Admin:

```
mysql> desc admin;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| admin_id | int | NO | PRI | NULL | auto_increment |
| email | varchar(255) | YES | | NULL | |
| password | varchar(255) | YES | | NULL | |
| role | varchar(255) | YES | | NULL | |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.10 sec)
```

Booking Table:

```
mysql> desc booking_table
-> ;
```

Field	Type	Null	Key	Default	Extra
booking_id	int	NO	PRI	NULL	auto_increment
booking_date	varchar(255)	YES		NULL	
model_no	varchar(255)	YES		NULL	
plan_name	varchar(255)	YES		NULL	
status	bit(1)	YES		NULL	
total_cost	float	YES		NULL	
vehicle_reg_no	varchar(255)	YES		NULL	
customer_id	int	YES	MUL	NULL	
service_center_id	int	YES	MUL	NULL	

```
9 rows in set (0.00 sec)
```

Customer details :

```
mysql> desc customer_details;
```

Field	Type	Null	Key	Default	Extra
customer_id	int	NO	PRI	NULL	auto_increment
last_name	varchar(255)	YES		NULL	
email	varchar(255)	YES		NULL	
first_name	varchar(255)	YES		NULL	
mobile_no	varchar(255)	YES		NULL	
password	varchar(255)	YES		NULL	
role	varchar(255)	YES		NULL	
security_question	varchar(255)	YES		NULL	

```
8 rows in set (0.00 sec)
```

Service Centre Details :

```
mysql> desc service_center_details;
```

Field	Type	Null	Key	Default	Extra
service_center_id	int	NO	PRI	NULL	auto_increment
address	varchar(255)	YES		NULL	
capacity	int	NO		NULL	
city	varchar(255)	YES		NULL	
contact_no	varchar(255)	YES		NULL	
email	varchar(255)	YES		NULL	
name	varchar(255)	YES		NULL	
password	varchar(255)	YES		NULL	
pincode	int	NO		NULL	
registration_no	int	YES		NULL	
role	varchar(255)	YES		NULL	

11 rows in set (0.00 sec)

Service Plan:

```
mysql> desc service_plan;
```

Field	Type	Null	Key	Default	Extra
plan_id	int	NO	PRI	NULL	auto_increment
cost	float	NO		NULL	
description	varchar(255)	YES		NULL	
image	varchar(255)	YES		NULL	
name	varchar(255)	YES		NULL	
service_center_id	int	YES	MUL	NULL	

6 rows in set (0.00 sec)

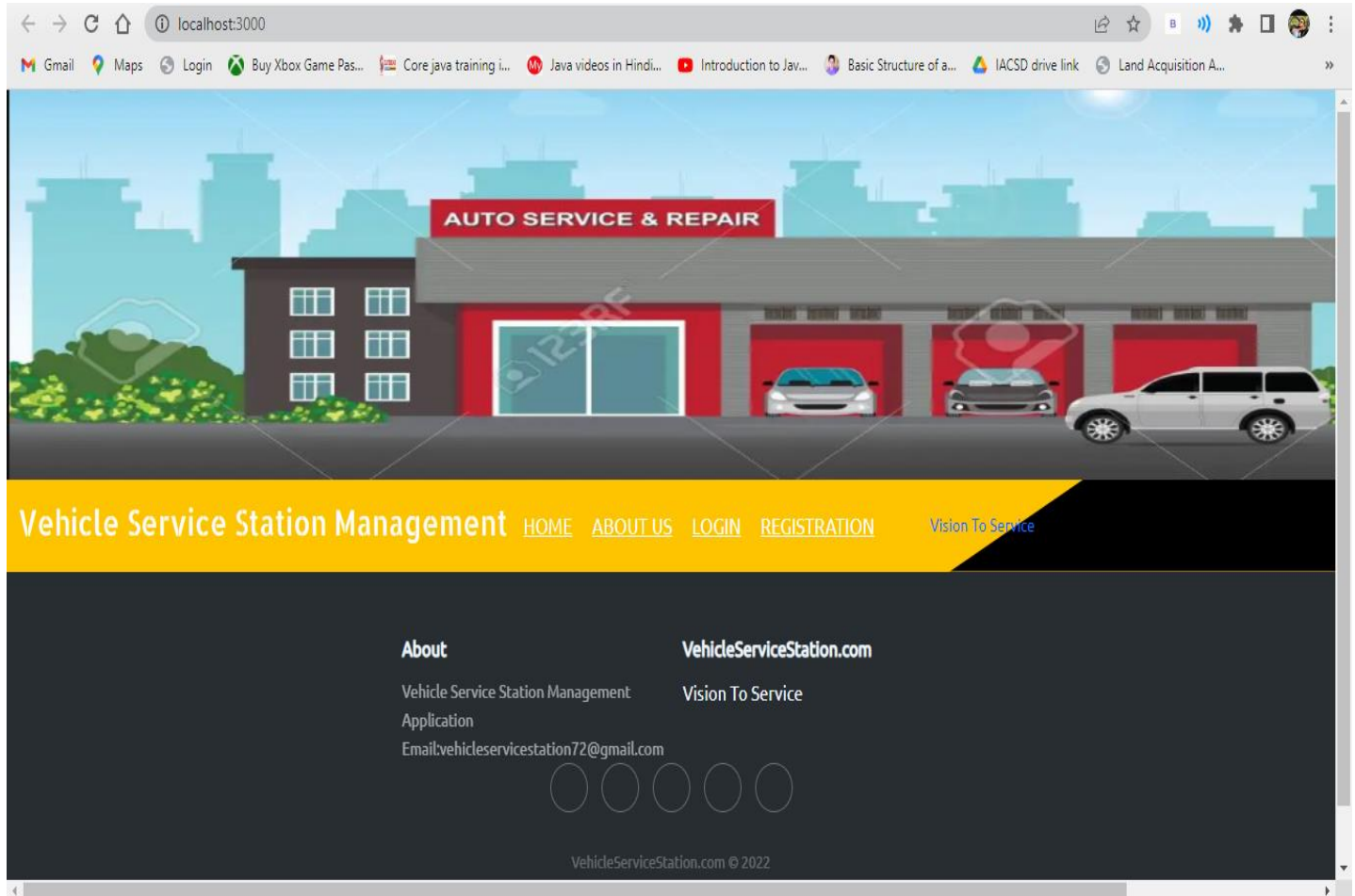
Service Slot Info:

```
mysql> desc service_slot_info_table;
```

Field	Type	Null	Key	Default	Extra
slot_id	int	NO	PRI	NULL	auto_increment
slot_date	varchar(255)	YES		NULL	
remaining_slot	int	YES		NULL	
total_slot	int	YES		NULL	
service_center_id	int	YES	MUL	NULL	

5 rows in set (0.00 sec)

PROJECT SCREENSHOTS:



localhost:3000/login

Gmail Maps Login Buy Xbox Game Pas... Core java training I... Java videos in Hindi... Introduction to Jav... Basic Structure of s... IACSD drive link Land Acquisition A...

AUTO SERVICE & REPAIR

Vehicle Service Station Management [HOME](#) [ABOUT US](#) [LOGIN](#) [REGISTRATION](#) [Vision To Service](#)

Welcome Vehicle Service Station Application
Vision to service

Signin

Username

Password

I am a
☐ Customer ☐ Service Center
☐ Admin

SIGNIN

Admin Login:

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Admin

Logout

HI,
dhananjaykhuje@gmail.com

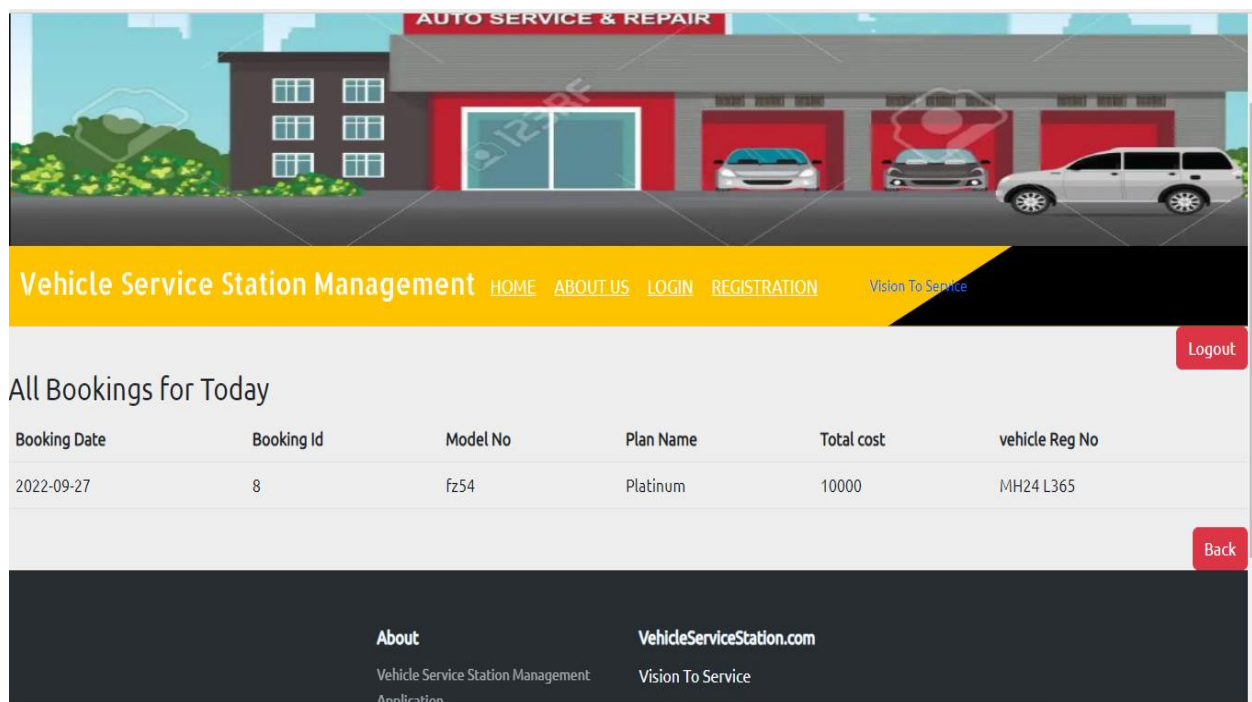
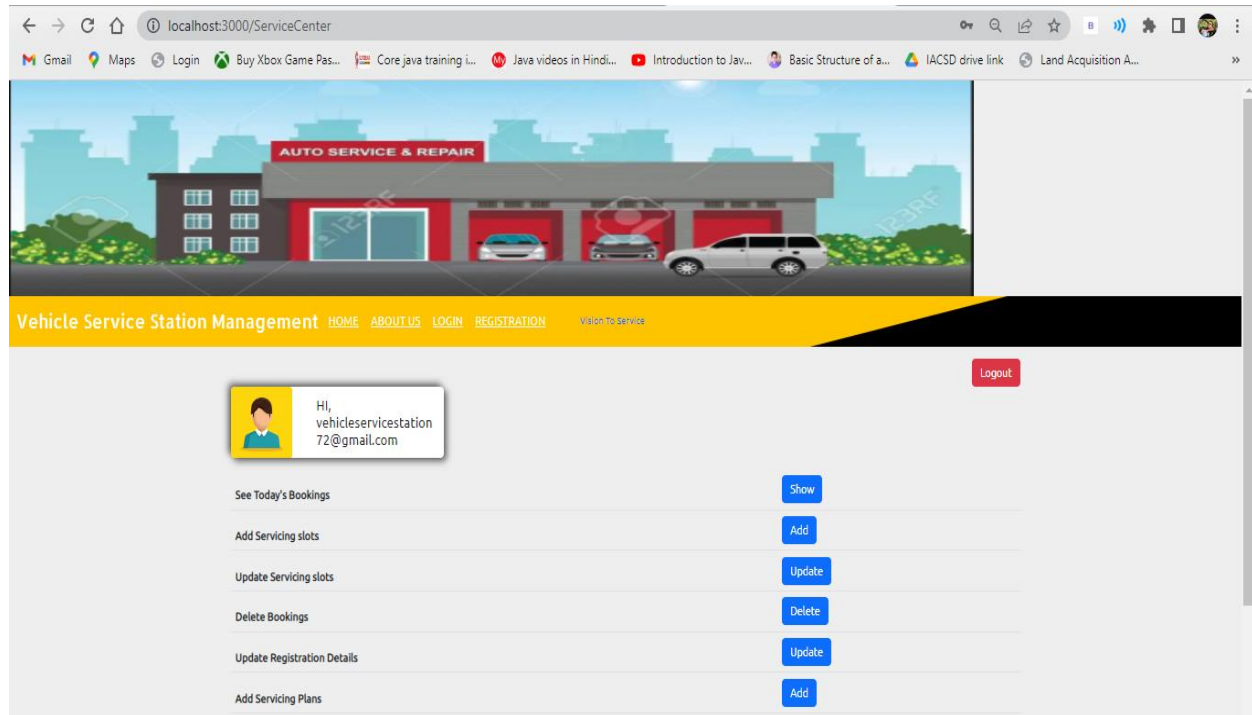
Add Service Centers

Signup

ServiceCenter Name:	Address:	City:
<input type="text" value="Enter Service Center Name"/>	<input type="text" value="Enter address"/>	<input type="text" value="Enter city"/>
Pin code:	Registration No.:	Service Capacity:
<input type="text" value="Enter pincode"/>	<input type="text" value="Enter regNo"/>	<input type="text" value="Enter capacity"/>
Mobile No:	Email:	Password:
<input type="text" value="Enter contactNo"/>	<input type="text" value="Enter email"/>	<input type="text" value="Enter password"/>


SIGNUP

Service Station Login:



localhost:3000/AddBooking

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Add slots for date [Logout](#)

Date:

Please fill out this field.
Enter Number of slots:

Please fill out this field.
Username:


Please fill out this field.
[Submit](#)

[Back](#)

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localhost:3000/UpdateBooking

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Update servicing slots for Today [Logout](#)

First Name:

Please fill out this field.
Enter Number of slots:

Please fill out this field.
Username:


Please fill out this field.
[Update](#)

[Back](#)

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localhost:3000/DeleteBooking

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Delete a Booking

Enter Booking Id:

Booking Id:

Please fill out this field.

[Delete](#)

[Logout](#)

[Back](#)


About
Vehicle Service Station Management
Application
Email: vehideservicesstation72@gmail.com

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localhost:3000/UpdateRegistration

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Welcome

Update Your Details

Enter Name:

enter name

Please fill out this field.

Enter Contact No:

enter contact no

Please fill out this field.

Enter Capacity:

enter capacity

Please fill out this field.

☐ I agree.
Check this checkbox to continue.

[Submit](#)

[Logout](#)

[Back](#)

localhost:3000/AddPlan

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Enter plan Name: Please Fill out this Field.

Enter Cost of plan: Please Fill out this Field.

Enter description for plan: Please Fill out this Field.

[Add Plan](#) [Logout](#)

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Vehicle Service Station Management
Application
Email: vehicleservicestation72@gmail.com

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Consumer Registration :

localhost:3000/registration

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Vehicle Service Station Management HOME ABOUT US LOGIN REGISTRATION Vision To Service

Signup

First Name: Last Name: Mobile No:

Email:

Password: Nick Name:

[SIGNUP](#)


Already a member? [Signin](#)

Welcome Vehicle Service Station Application
Vision To Service

Consumer Login:

localhost:3000/Customer

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Vehicle Service Station Management [HOME](#) [ABOUT US](#) [LOGIN](#) [REGISTRATION](#) [Vision To Service](#)

Hi, bhavanjayd@gmail.com [Logout](#)

Select Your City:

Select ServiceCenter:


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Vehicle Service Station Management Application
Email: vehicleservicestation72@gmail.com

VehicleServiceStation.com
Vision To Service

VehicleServiceStation.com © 2022

localhost:3000/Customer

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Hi, bhavanjayd@gmail.com [Logout](#)

Select Your City:

Select ServiceCenter:

ServiceCenter Details

Service Center:	Shriram
Address:	Satara road
City:	Pune
Email:	vehicleservicestation72@gmail.com
Reg NO:	123

[Show Service Plans](#)

Plan Details

show Service Plans

select plan:

Name	Desc	cost
Gold	Washing,oiling,Fluid checking	5000
Platinum	Gear-Box checking,Engine Checking,Wheel Alingment	10000

your selected plan is Gold

Select Date

09/26/2022

Available Slots

8

Enter Your Vehicle Details

Enter Vehicle Registration No.:

Enter vehicleRegNo

Please Fill out this Field.

Enter model No:

Enter modelNo

Please Fill out this Field.

Click here to book your slot

About

Vehicle Service Station Management
Application
Email:vehicleservicestation72@gmail.com

VehicleServiceStation.com

Vision To Service

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your selected plan is Gold

Select Date

09/26/2022

Available Slots

8

Enter Your Vehicle Details

Enter Vehicle Registration No.:

MH24 L365

Valid.

Enter model No:

fz54

Valid.

Click here to book your slot

About

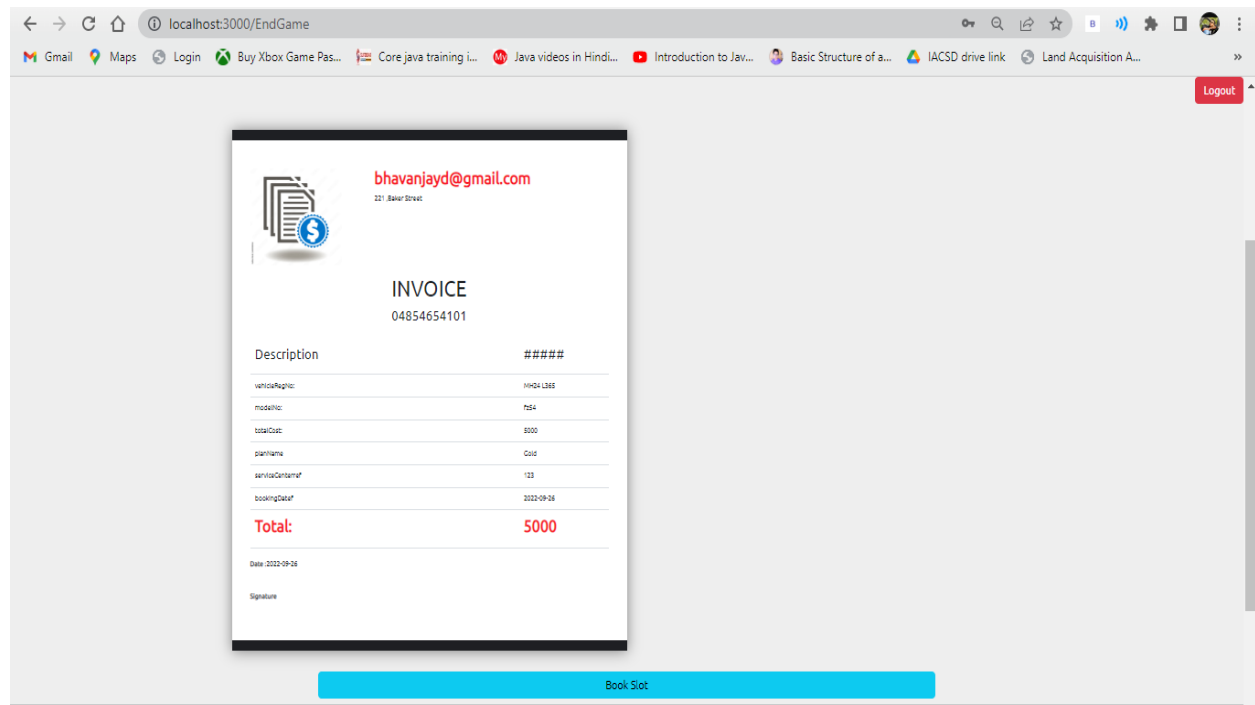
Vehicle Service Station Management
Application
Email:vehicleservicestation72@gmail.com

VehicleServiceStation.com

Vision To Service

VehicleServiceStation.com © 2022

ENG 10:48 AM



Booking Confirmation Inbox x



vehicleservicestation72@gmail.com

to me ▾

11:50 (0 minutes ago)



Dear Jay Depe

You have successfully booked a servicing slot for your vehicle at Shriram

Resigtration Details:

Vehicle No: MH24 L365

Total Cost: 10000.0

Booked Date 2022-09-26

↩ Reply

➦ Forward

CONCLUSION

The project entitled **Vehicle Service Station Management** was completed successfully.

The system has been developed with much care and free of errors and at the same time it is efficient and less time consuming. The purpose of this project was to develop a web application.

This project helped us in gaining valuable information and practical knowledge on several topics like designing web pages using React.js, usage of responsive templates and management of database using MySQL. The entire system is secured. Also, the project helped us understanding about the development phases of a project and software development life cycle. We learned how to test different features of a project.

This project has given us great satisfaction in having designed an application which can be implemented to any nearby shops or branded shops selling various kinds of products by simple modifications.

There is a scope for further development in our project to a great extent. A number of features can be added to this system in future like providing review feature and adding mechanic management for service station. These features could have implemented unless the time did not limit us.

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SRS

Project Title – Vehicles Service Station Management System

Group No - 36

Group Members –

- Bhavanjay Balaji Depe(223047)
- Dhananjay Sudhakar Khuje (223048)

Document - SRS

1.Objective: The system” Vehicles Service Station Management System”

Allows providing vehicle for service. Customer can book service slot and can select service plan which is provided by service centre. A vehicle service station management is entity that takes care of servicing of customer vehicle according to plan selected by the customer.

2.Introduction:-

Vehicles Service Management System for managing the service station of vehicles. The management includes vehicles admin, vehicle service centre and customer. Thus, it is an easy way for customer to request his vehicles service according his convenience.

3.Document Purpose:-

This System Requirement Specification (SRS) aims to provide the readers and users information about the system and its functions and specifications. It describes the data, functional and behavioural requirements of the software. This software is designed to manage the service stations. This will take the users request for vehicles service and according to the issue/problem it estimate how much cost are coming in the whole service .The main purpose of it provide better services to customer.

4. Scope:- Registration system, end user will have the ability to create request for his vehicles service according to his date

a) Description:-

1. Add service station.
2. Manage service slot and plans.
3. Manage slot booking.
4. Creating invoice according to plan.
5. Sending Email of booking confirmation

b)Product Perspective:-

The software will be a new independent product, that it is not a component of another program. It is intended for the administration of the management and other concerned users. The product will import and insert its data from MySQL Database and use the Spring Boot for its integrated development environment. This information can only be accessed by the admin, service centre, and customer. All the forms used in the product follows a clear and logical structure. Management of data includes searching, adding, modifying.

5. Functional requirement:

1. Vehicles Service station management (web application).
2. Customer (user), Admin, Service centre would be able to use same web site.
3. Vehicle details will be filed by customer.
4. Individual (Customer, Service centre) managing vehicle service using web service.
5. Invoice and email generation.

6. System feature and requirement:-

This program designed for customer and to assist admin and service centre management to manage their user's data in an orderly manner. It shall perform the following functions:

1. Protect the database of the firm by requiring a correct data.
2. Registered username and password.
3. Facilitate a step-by-step process of entering, organizing, retrieving, modifying and deleting data from the database without the need to go the database itself.
4. Add new service centre easily.
5. Add new customer information easily.
7. Display vehicles information to service centres an organized manner for easy operations and management.

7. Hardware requirement:-

To be able to run the system, the minimum requirements of the hardware for this system are:

1. CPU 2.0 GHz or CPU (laptops) Core
2. CPU (desktops) RAM 2 GB RAM
3. HDD 60 GB min
4. 7200 RPM 6 GB or at least 10% free space (whichever is greater)

7. Software requirement:-

1. Frontend-ReactJs
2. Backend-Java(Spring boot)
3. Database-MySql

8. Non- functional requirement :-

Performance requirement :

1. No delayed actions in system
 - a. Quick load time between pressing login button and being logged in.
 - b. General quick load times for any page submission and page loading.
2. Compatibility with most browsers.
3. System should be able to store an adequate number of Users and Vehicles.

8.1.safety requirement :

Different information is entered into the database such as information about the different user, vehicles etc. Mismanagement of information might cause customer dissatisfaction that will eventually lead to profit loss, only because of mistakes on giving information. In line with this, the management should always manage service properly.

8.2.Security Requirement :

The admin, service center , and customer have respective accounts with password that enables only the authorised person to login onto the system. Passwords are required so that no one else can access the system or database. In the case of the administrator, he/she needs to have the adequate knowledge about maintaining databases should the system encounter problems. Because the customer themselves provide the information entered into the database, there should be very little problems about the information entered. Security systems need database storage just like many other applications.

8.3.Reliability:

Vehicles Service Management System will be always available 99.99% VSM should have low down time.

8.4. Scalability:

Vehicle management System will provide consistent user experience irrespective of number of users grow on web application .

8.5.Portablity :

- VSM web application could be access to any personal device.
- VSM web application could be deployed to any server operating environment
- VSM web application could deployed to any cloud such as AWS.
- VSM web application could have been deployed to any other physical server or Virtualized server.

8.6.Compatibility:

- VSM could be installed on windows server , Linux server.
- VSM will provide cross browser compatible user interface

9.Entity listing:-

1-Admin:

id;

email;

password;

role;

2-Customer:

Id

FirstName

LastName

Email

Mobile number

Role

Security Answer

Password

3-Service Centre:

id
name
city
address
email
contactNo
password
pincode
regNo
role
capacity

4- BookingTable

bookingId
vehicleRegNo
modelNo
status
totalCost
bookingDate
planName

5- Plan

id
name
description
image
cost

6- ServiceSlotInfoTable

slotId
date
totalSlot
remainingSlot