"Car Clinic"

A PROJECT REPORT SUBMITTED TO

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In partial fulfillment of the requirements for Project work (Database Laboratory), fifth semester

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in

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Submitted by

Pravesh S Shetty(4NI17CS058)

Prashanth.N(4NI17CS057)

Kokila B.V(4NI17CS030)

Under the Guidance of

MJ Yogesh
Assistant Professor

Sindhu Devaki
Assistant Professor

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

THE NATIONAL INSTITUTE OF ENGINEERING

Mysore-570 008

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

THE NATIONAL INSTITUTE OF ENGINEERING

CERTIFICATE

This is to certify that the project work entitled "**Car Clinic**" is a work carried out by **Pravesh S Shetty (4NI17CS058) , Prashanth.N (4NI17CS057) and Kokila B.V (4NI17CS030)** in partial fulfillment for the project work (Database Laboratory), fifth semester, Computer Science & Engineering, The National Institute of Engineering **(**Autonomous Institution under Visvesvaraya Technological University, Belagavi) during the academic year 2019-2020. It is certified that all corrections and suggestions indicated for the Internal Assessment have been incorporated in the report deposited in the department library. The project work report has been approved in partial fulfillment as per academic regulations of The National Institute of Engineering, Mysuru.

Internal Guides **Professor & Head**

M.J Yogesh Assistant Proffessor	Sindhu Devaki Assistant Proffessor	Dr. V K Annapurna Professor and Head Dept. of CS&E NIE, Mysuru

Examiners

Name:	Name:
Designation:	Designation:

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PRAVESH S SHETTY (4NI17CS058)

PRASHANTH. N (4NI17CS057)

KOKILA B.V (4NI17CS030)

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ABSTRACT

Our project **Car Clinic** provides an easy interface for the customer.Since time factor plays a important role in everyone's life so no one wishes to waste their time.Employees in big companies and of other white collar jobs will be pressurised with their daily routine so may not have time for their car services.

By this project we will be able to make their(customer) work simpler so that they need not to wait for a the longer duration time inorder to get their services done.

After availing the services the customers have the provision to rate and provide reviews for the services that has been provided for them,so that it would help others to choose our center for better services.

Chapter 1

INTRODUCTION

As we step forward into the modern era of technology, we may find many engineering related applications are very beneficial for improvements into the society. This is the world of technology where people use smart phones for completing their daily tasks like shopping, paying bills, managing work and much more. The idea of this project is to add its features into the lives of the people so that the people need not waste their time in droping their cars for services.So inorder to make their work easier we ourselves go and pick their cars and get the service done. Because people nowadays in India people are very much workholic and are very much busy that they could not even drop their vehicles for services so inorder to facilite them and since customer's ease is our primary moto we provide pick and drop services. People instead of waiting for longer duration of time in queues can use our web application which makes their work simpler and better.

There might be many such service centers but the drawback is that their services are restricted to only specific manufacturers and models.There is no discrimination in our Car Clinic ,we provide all types of services to all type of manufacturers and models irrespectively.

Our services generally be like everything under one-roof:
servicing,repairs,inspection,denting/painting,roadside assistance and car care

The implementation of the above details has been done using Node JS, MySQL backend framework. Frontend technologies HTML5, CSS and database functionality are executed using relational database MYSQL.

Chapter 2

SYSTEM ANALYSIS

2.1 EXISTING SYSTEM

There are several online web portals as well as android based applications which are based on a similar idea. But most of them end up adding their own drawbacks. For example, if we consider

1) **Car Crew** (Online Car service web portal): This is a similar web application like ours , although the services provided by car crew are very good ,even they have their own disadvantage like their services are limited only to cities like Delhi,Mumbai,Rajasthan.

2) **Carpathy** (Online Mobile Application): This mobile application provides the same services as of Car crew but limited services and even their services are limited to particular cities.

2.2 PROPOSED SYSTEM

Facilitation of the car services by which customers gets impressed with our services provided.

- Every services provided by our service center will be of high quality,since we are armed with well equiped advanced machineries.
- We charge for what we do(the services will be pocket friendly for the customers).
- In addition, the customers can give us rating and feedback regarding our services so that if any improvements needs to be done,we would do it .

2.3 SYSTEM REQUIREMENTS

2.3.1 SOFTWARE DETAILS

Program or Package	Version used
Node JS	v12.13.0
MYSQL	v8.0.18
HTML	5
CSS	3

2.3.2 HARDWARE DETAILS

- RAM : 8GB
- Processor : Intel(R) Core(TM) i5-7200U CPU
- Processor speed :2.50GHz+

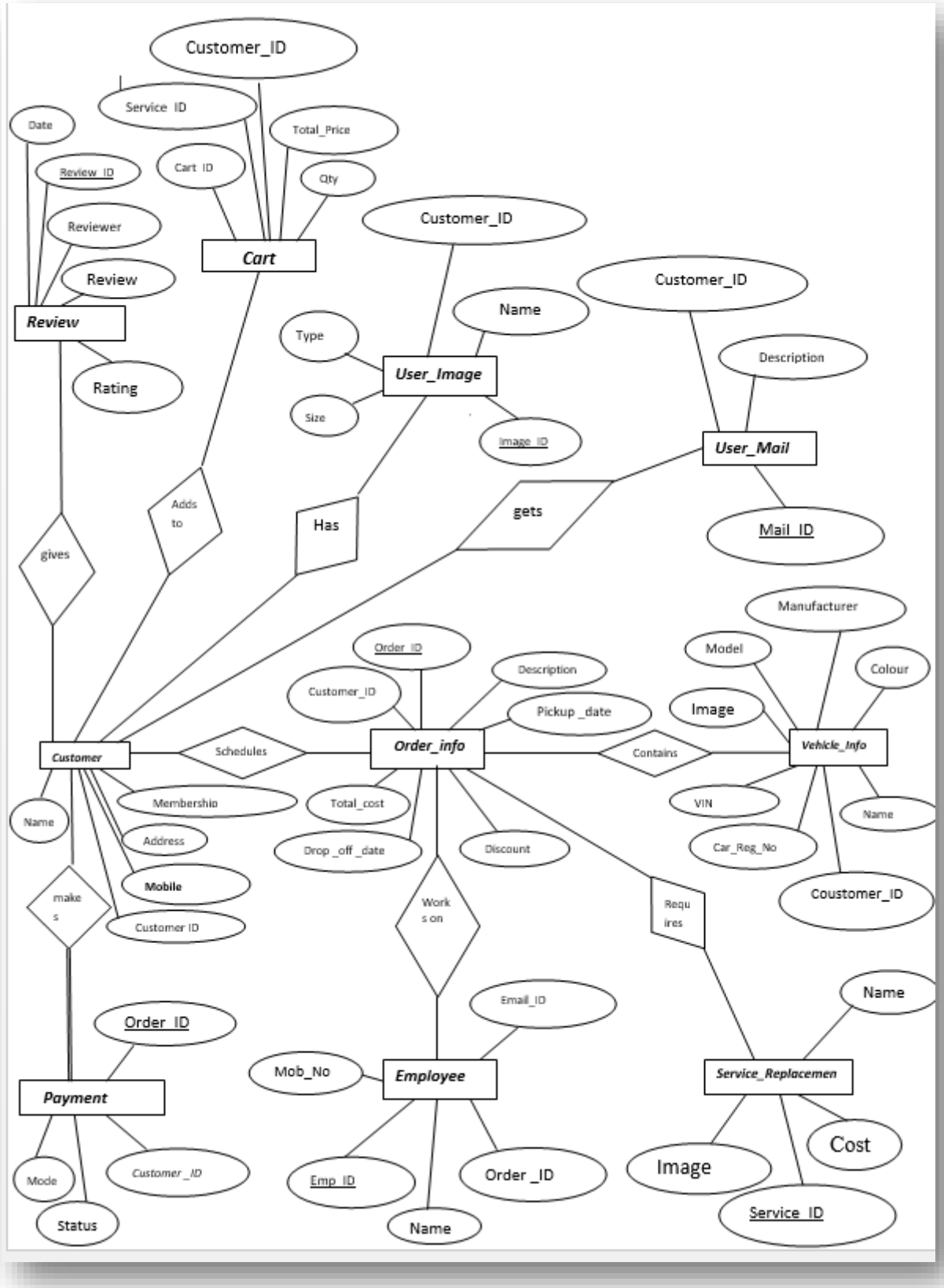
Chapter 3

SYSTEM DESIGN

3.1 ER DIAGRAM

An entity-relationship model (ER model) is a data model that describes the data and information aspects of a business process requirement, in an abstract way that can ultimately be implemented in a database, such as relational database. The main components of ER-models include entities and relationships that can exist among them. An entity is a real-world object about which data is stored. Relationship defines how the entities relate to each other. In the ER diagram in figure there are 8 entities and corresponding attributes. Attributes give further details about the entities. The entities in the ER model shown are accepted request, consumer request, chats, farmer bidding, farmer, consumer, items and notifications. Primary keys are represented with an underlined amongst the attributes. Relationship is defined by the diamond shape.

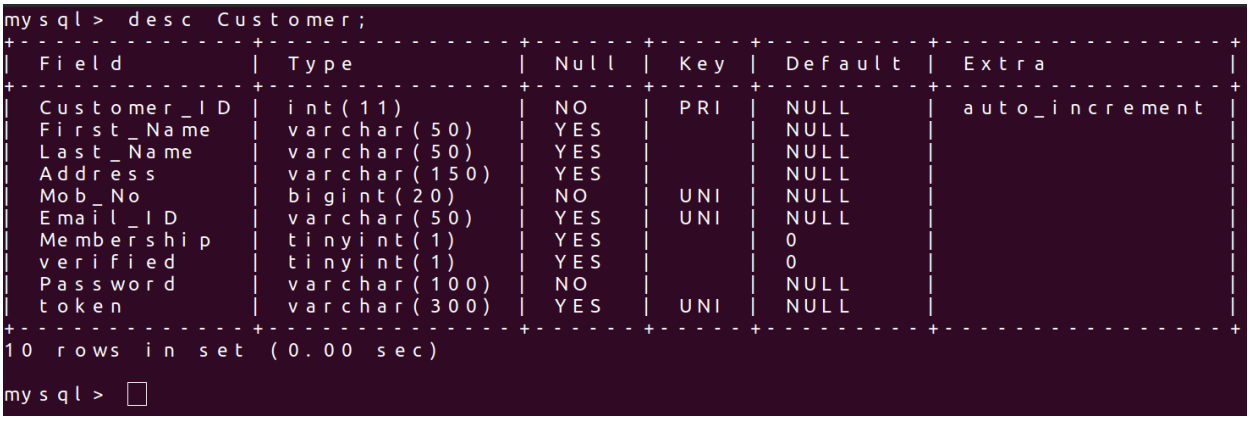
ER Diagram(fig 3.1)



3.2 Implementation

The description of the database is called the database schema, which is specified during the design of the database and is not expected to change frequently. Most data models have certain conventions for displaying schemas as diagrams. A displayed schema is called a schema diagram. The following figure shows the schema diagram for the placement portal. The diagram displays the structure of each record type but not the actual instances of the records.

3.2.1 Customer



```
mysql> desc Customer;
+--------------+---------------+------+-----+---------+----------------+
| Field        | Type          | Null | Key | Default | Extra          |
+--------------+---------------+------+-----+---------+----------------+
| Customer_ID  | int(11)       | NO   | PRI | NULL    | auto_increment |
| First_Name   | varchar(50)   | YES  |     | NULL    |                |
| Last_Name    | varchar(50)   | YES  |     | NULL    |                |
| Address      | varchar(150)  | YES  |     | NULL    |                |
| Mob_No       | bigint(20)    | NO   | UNI | NULL    |                |
| Email_ID     | varchar(50)   | YES  | UNI | NULL    |                |
| Membership   | tinyint(1)    | YES  |     | 0       |                |
| verified     | tinyint(1)    | YES  |     | 0       |                |
| Password     | varchar(100)  | NO   |     | NULL    |                |
| token        | varchar(300)  | YES  | UNI | NULL    |                |
+--------------+---------------+------+-----+---------+----------------+
10 rows in set (0.00 sec)

mysql>
```

Fig 3.2 Screenshot of customer table description

The **Customer** table is used to maintain the details of the customers.It uses *Customer_ID* as primary key and ***Mob_No,Email_ID,token*** as unique key.

3.2.2 Employee

```
mysql> desc Employee;
+-----------+--------------+------+-----+---------+----------------+
| Field     | Type         | Null | Key | Default | Extra          |
+-----------+--------------+------+-----+---------+----------------+
| Emp_ID    | int(11)      | NO   | PRI | NULL    | auto_increment |
| Name      | varchar(50)  | YES  |     | NULL    |                |
| Mob_No    | bigint(20)   | NO   |     | NULL    |                |
| Email_ID  | varchar(50)  | YES  |     | NULL    |                |
| Order_ID  | int(11)      | YES  | MUL | NULL    |                |
+-----------+--------------+------+-----+---------+----------------+
5 rows in set (0.01 sec)

mysql>
```

Fig 3.3 Screenshot of Employee table description

The **Employee** table is used to maintain the details of the employee working there. It uses *Emp_ID* as primary key and ***Order_ID*** as foreign key.

3.2.3 Order_Info

```
mysql> desc Order_Info;
+----------------+--------------+------+-----+---------+----------------+
| Field          | Type         | Null | Key | Default | Extra          |
+----------------+--------------+------+-----+---------+----------------+
| Order_ID       | int(11)      | NO   | PRI | NULL    | auto_increment |
| Customer_ID    | int(11)      | YES  | MUL | NULL    |                |
| Description    | varchar(300) | YES  |     | NULL    |                |
| Pickup_date    | date         | NO   |     | NULL    |                |
| Drop_off_date  | date         | NO   |     | NULL    |                |
| Discount       | int(11)      | YES  |     | 0       |                |
| Total_cost     | int(11)      | NO   |     | NULL    |                |
+----------------+--------------+------+-----+---------+----------------+
7 rows in set (0.01 sec)

mysql>
```

Fig 3.4 Screenshot of Order_Info table description

The **Order_Info** table provides us with the various credentials regarding the order placed.It uses *Order_Id* as primary key and ***Customer_Id*** as foreign key.

3.2.4 Vehicle_Info

```
mysql> desc Vehicle_Info;
+---------------+---------------+------+-----+-------------------------+-------+
| Field         | Type          | Null | Key | Default                 | Extra |
+---------------+---------------+------+-----+-------------------------+-------+
| VIN           | varchar(50)   | NO   | PRI | NULL                    |       |
| Manufacturer  | varchar(20)   | NO   |     | NULL                    |       |
| Colour        | varchar(20)   | NO   |     | NULL                    |       |
| Car_Reg_No    | varchar(50)   | YES  |     | NULL                    |       |
| Model         | year(4)       | NO   |     | NULL                    |       |
| Customer_ID   | int(11)       | NO   | MUL | NULL                    |       |
| Image         | varchar(100)  | YES  |     | /img/car_default.png    |       |
| Name          | varchar(100)  | NO   |     | NULL                    |       |
+---------------+---------------+------+-----+-------------------------+-------+
8 rows in set (0.01 sec)

mysql>
```

Fig 3.5 Screenshot of Vehicle_Info table description

The **Vehicle_Info** table used to maintain the details of the vehicle and these details provided by the costumer is displayed to the farmer. Here *Customer_Id* is primary key. ***Email-Id, Mobile.No*** are unique keys.

3.2.5 Service_Replacemnet

```
mysql> desc Service_Replacement;
+-------------+---------------+------+-----+---------+-----------------+
| Field       | Type          | Null | Key | Default | Extra           |
+-------------+---------------+------+-----+---------+-----------------+
| Service_ID  | int(11)       | NO   | PRI | NULL    | auto_increment  |
| Name        | varchar(50)   | YES  |     | NULL    |                 |
| Cost        | int(11)       | NO   |     | NULL    |                 |
| Image       | varchar(100)  | YES  |     | NULL    |                 |
+-------------+---------------+------+-----+---------+-----------------+
4 rows in set (0.01 sec)

mysql>
```

Fig 3.6 Screenshot of Service and Replacement table description

This table consists of the services been provided by our center,here each service has been assigned with particular service_Ids .Here *Service_Id* is primary key.

3.2.6 Cart

```
mysql> desc Cart;
+--------------+---------+------+-----+---------+----------------+
| Field        | Type    | Null | Key | Default | Extra          |
+--------------+---------+------+-----+---------+----------------+
| Cart_ID      | int(11) | NO   | PRI | NULL    | auto_increment |
| Customer_ID  | int(11) | NO   | MUL | NULL    |                |
| Service_ID   | int(11) | NO   | MUL | NULL    |                |
| Qty          | int(11) | YES  |     | 1       |                |
| Total_Price  | int(11) | NO   |     | NULL    |                |
+--------------+---------+------+-----+---------+----------------+
5 rows in set (0.01 sec)

mysql>
```

Fig 3.7 Screenshot of Cart table description

The **Cart** table consisits of selected services and spare parts that have been chosen by the customer .Here Cart_Id is primary key, Customer_Id and Service_Id are foreign key.

3.2.7 User_mail

```
mysql> desc User_Mail;
+-------------+---------------+------+-----+---------+----------------+
| Field       | Type          | Null | Key | Default | Extra          |
+-------------+---------------+------+-----+---------+----------------+
| Mail_ID     | int(11)       | NO   | PRI | NULL    | auto_increment |
| Customer_ID | int(11)       | NO   | MUL | NULL    |                |
| Description | varchar(200)  | NO   |     | NULL    |                |
+-------------+---------------+------+-----+---------+----------------+
3 rows in set (0.01 sec)

mysql>
```

Fig.3.8 Screenshot of User_mail table description

The **User_mail** table consists of the mail details of the customer .Here *Mail_Id* is primary key , ***Customer _Id*** is foreign key.

3.2.8 User_Image

```
mysql> desc User_Image;
+--------------+--------------+------+-----+---------+----------------+
| Field        | Type         | Null | Key | Default | Extra          |
+--------------+--------------+------+-----+---------+----------------+
| Image_ID     | int(11)      | NO   | PRI | NULL    | auto_increment |
| Customer_ID  | int(11)      | NO   | UNI | NULL    |                |
| Name         | mediumblob   | NO   |     | NULL    |                |
| Type         | varchar(50)  | NO   |     | NULL    |                |
| Size         | int(11)      | NO   |     | NULL    |                |
+--------------+--------------+------+-----+---------+----------------+
5 rows in set (0.01 sec)

mysql>
```

Fig.3.9 Screenshot of User_Image table description

The **User_image** table consists of the Images related to the user .Here *Image_Id* is primary key , ***Customer_Id*** as foreign key.

3.2.9 Payments

```
mysql> desc Payment;
+--------------+--------------+------+-----+--------------+--------+
| Field        | Type         | Null | Key | Default      | Extra  |
+--------------+--------------+------+-----+--------------+--------+
| Order_ID     | int(11)      | NO   | PRI | NULL         |        |
| Mode         | varchar(20)  | YES  |     | debit-card   |        |
| Customer_ID  | int(11)      | NO   | MUL | NULL         |        |
| Status       | varchar(20)  | YES  |     | Unconfirmed  |        |
+--------------+--------------+------+-----+--------------+--------+
4 rows in set (0.00 sec)

mysql>
```

Fig.3.9 Screenshot of Payments table description

The **Payments** table consists of the details regarding payments,modes of payments,status .Here *Order_Id* is used as primary key and ***Customer_Id*** is used as foreign key.

3.3.0 Review

```
mysql> desc Review;
+------------+----------------+------+-----+---------+----------------+
| Field      | Type           | Null | Key | Default | Extra          |
+------------+----------------+------+-----+---------+----------------+
| Review_ID  | int(11)        | NO   | PRI | NULL    | auto_increment |
| Reviewer   | varchar(50)    | NO   |     | NULL    |                |
| Review     | varchar(1000)  | YES  |     | NULL    |                |
| Rating     | decimal(2,1)   | NO   |     | NULL    |                |
| Date       | date           | YES  |     | NULL    |                |
+------------+----------------+------+-----+---------+----------------+
5 rows in set (0.01 sec)

mysql>
```

Fig.3.9 Screenshot of Review table description

The **Review** table consists of the details such as reviewer,rating , date etc .Here *Reviwer_Id* is used as primary key.

Chapter 4

System Design

Our project uses Node JS for the backend. Node JS is easy to get started with as a beginner because there is little boilerplate code for getting a simple app up and running. MySQL Workbench is a unified visual tool for database architects, developers, and DBAs. MySQL Workbench provides data modelling, SQL development, and comprehensive administration tools for server configuration, user administration, backup, and much more. The frontend of our website uses HTML5 and css.HTML5 defines the structure and layout of web document by using a variety of tags and attributes.CSS components are used for styling the website. The project runs on a local server.

4.1 Node JS

Node JS is an asynchronous event-driven JavaScript runtime designed to build scalable network applications.These design choices aim to optimise throughput and scalability in web applications with many input/output operations,as well as for real-time web application. A local server implemented in Node JS accepts the user data and inserts them into to MySQL database.

4.2 MySQL

Relational database InnoDB storage engine is used because of its fast performance because InnoDB arranges our data on disk to optimize common queries based on primary keys Each InnoDB table has a primary key index called the clustered index that organizes the data to minimize I/O for primary key lookups and rich feature set like it provides support for FOREIGN KEY referential-integrity constraints also its design follows the ACID model, with transactions featuring commit, rollback, and crash-recovery capabilities to protect user data.MYSQL is used for database functionality.

Chapter 5

System Testing

The application was tested with various input. The data included a multitude of cases to ensure that the entire application runs as expected. The portal is hosted in the local server.

5.1 Customer Login

Test cases of logging in with customer email-id and password was run and was found to run as excepted. The login takes the customer to Home page. In case of invalid email-id or password the consumer is prompted with a message in a login page saying the details provided where incorrect.

5.2 Customer

If the customers is registering for the first time as soon as he enters the required credentials which includes e-mail and click submit button,a link will be sent to the mail to verify mail,soon after the mail is verified he willl be prompted to login page as he further logs in he would be directed to Home page.The Home page has serveral categories of the services provided by Car Clinic.Here the customer can choose the service of his choice and add them to the cart and then he has to enter the vehicle details and register the vehicle,if he wishes to upload the picture of the vehicle ,we have that provision too.Once the details have been entered he could proceed to checkout which gives the total cost and payment can be made of choice,once this is done he could rate our service and provide feedback .If he wishes to make changes in the user profile he could go edit profile page where the changes can be made and even he could upload or change the profile picure .

Once the service is done he could delete his account if he wishes to delete.

Chapter 6

Results and Screenshots

Fig 6.1.1 Screenshot of Sign In or Sign Up page

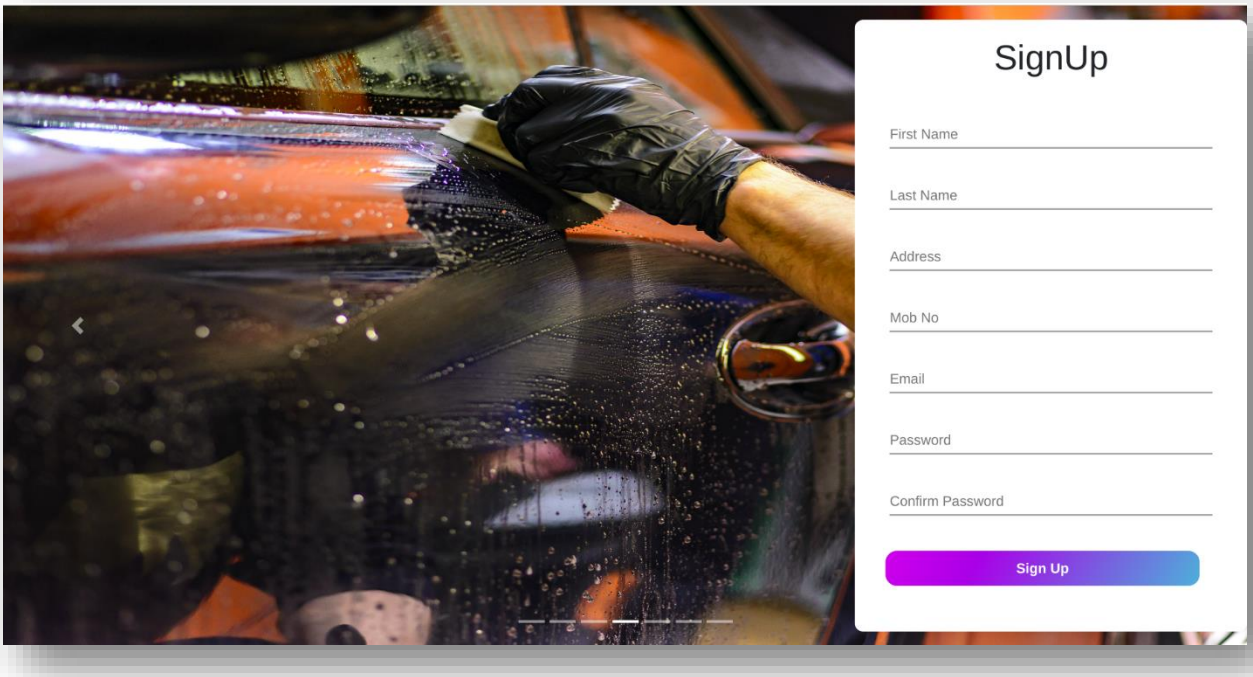


Fig 6.1.2 Screenshot of Sign up page

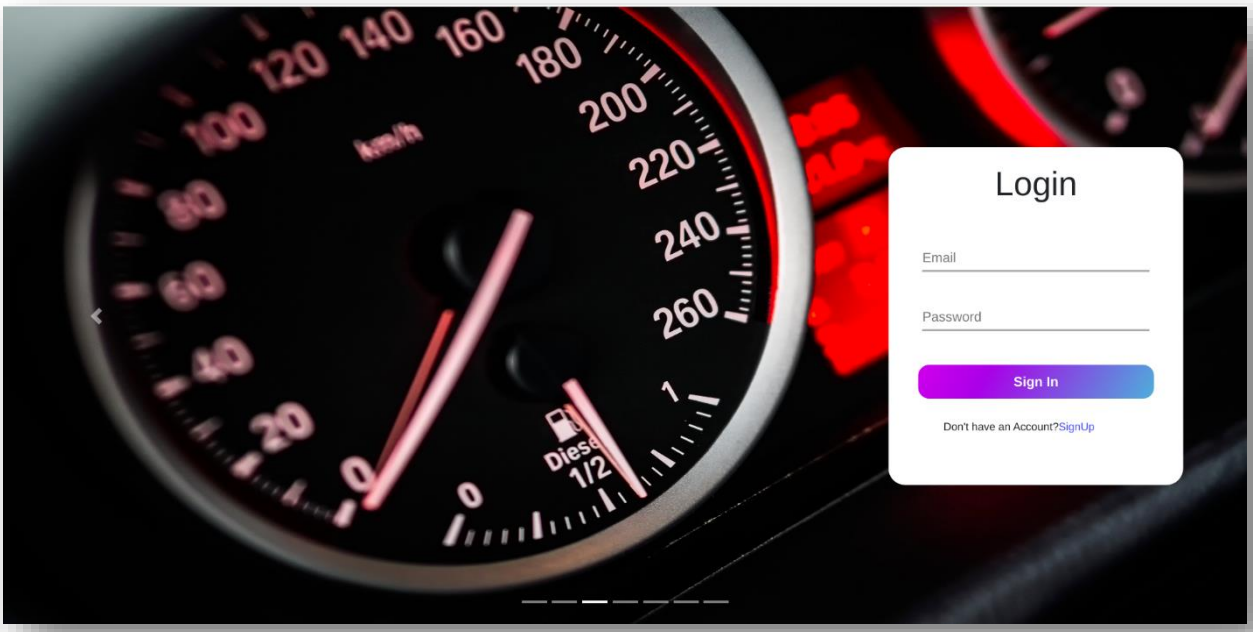


Fig 6.1.3 Screenshot of Sign In page

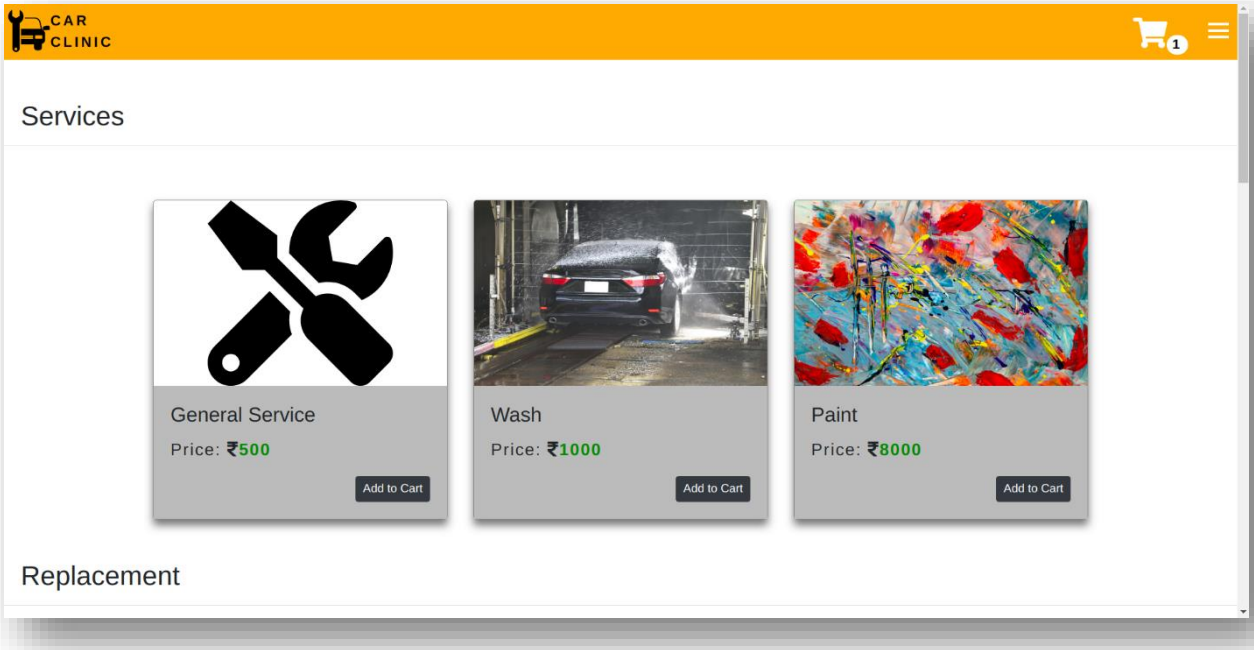


Fig 6.1.3 Screenshot of Home(1) page

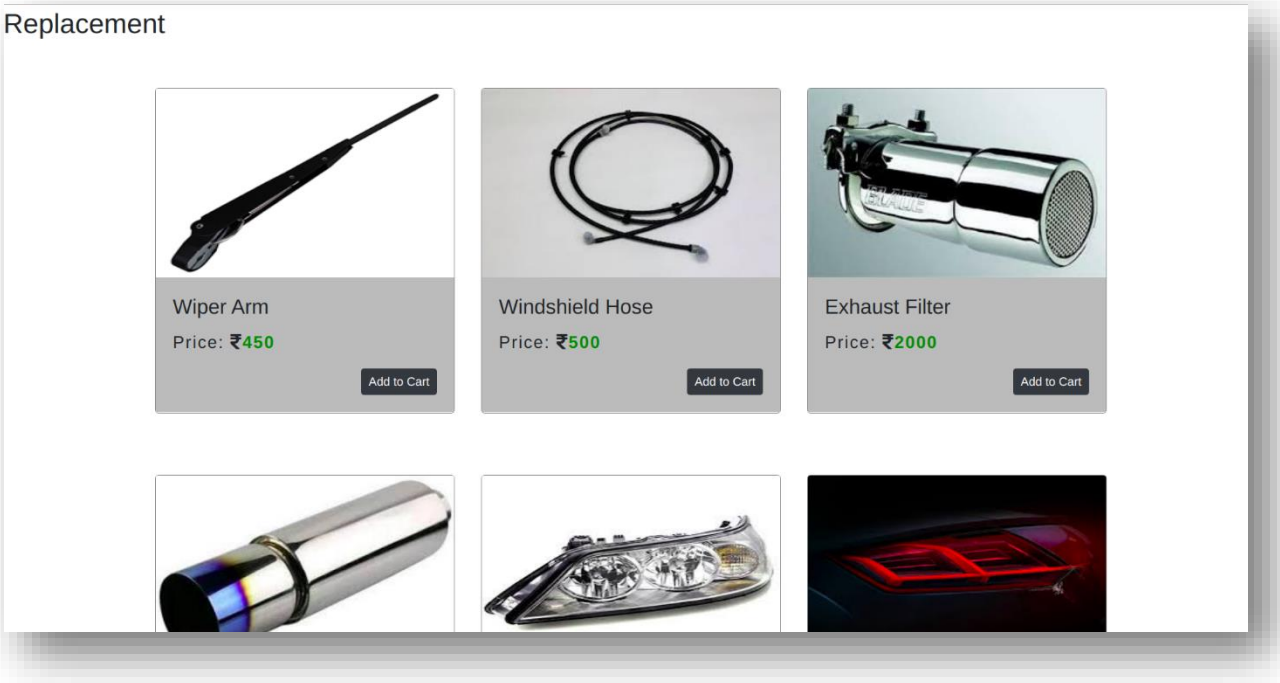


Fig 6.1.5 Screenshot of Home(2) page

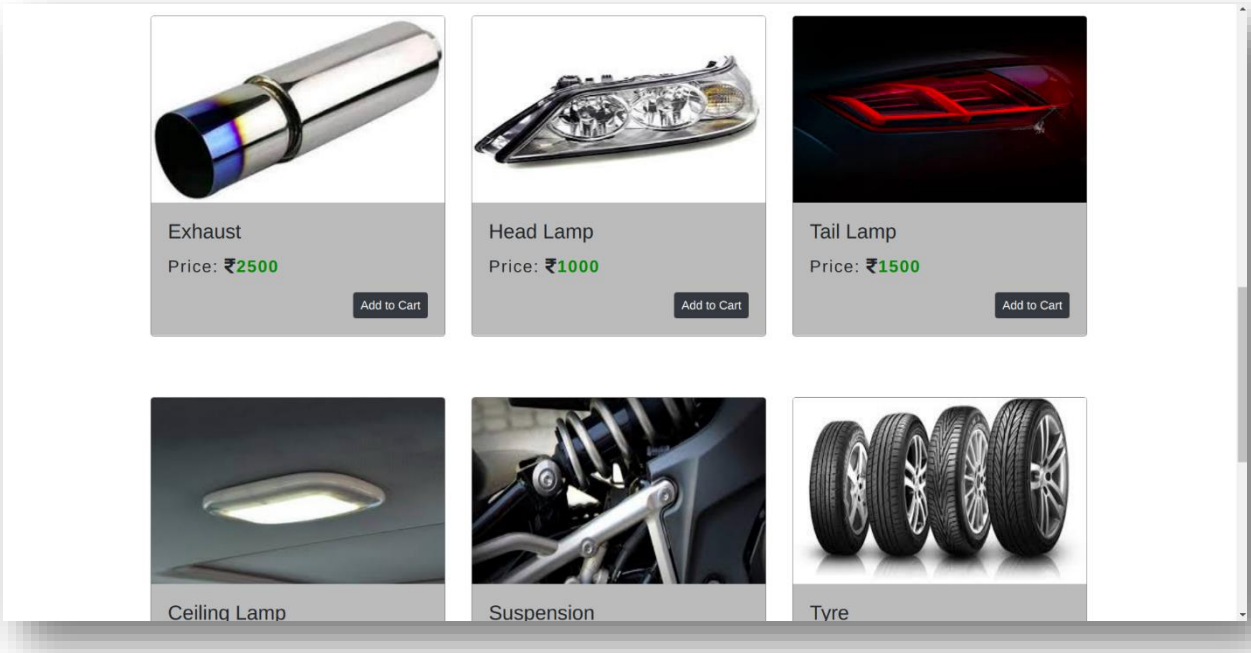


Fig 6.1.6 Screenshot of Home(3) page

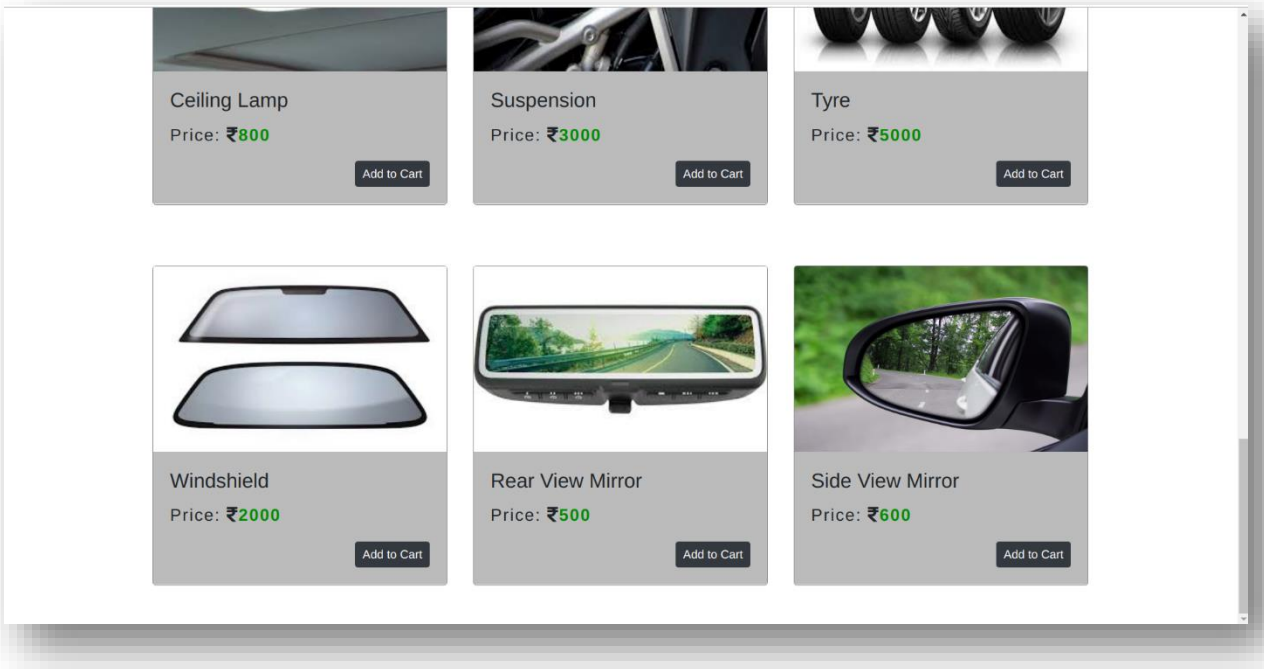


Fig 6.1.7 Screenshot of Home(4) page

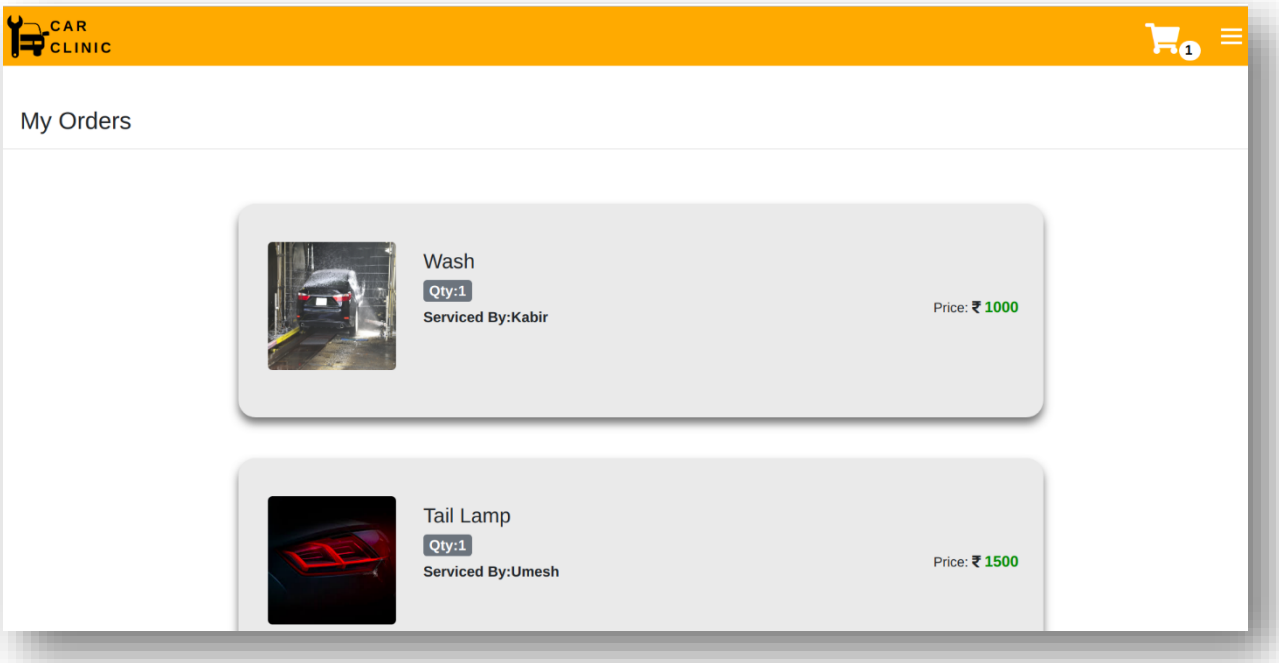


Fig 6.1.8 Screenshot of My Orders page

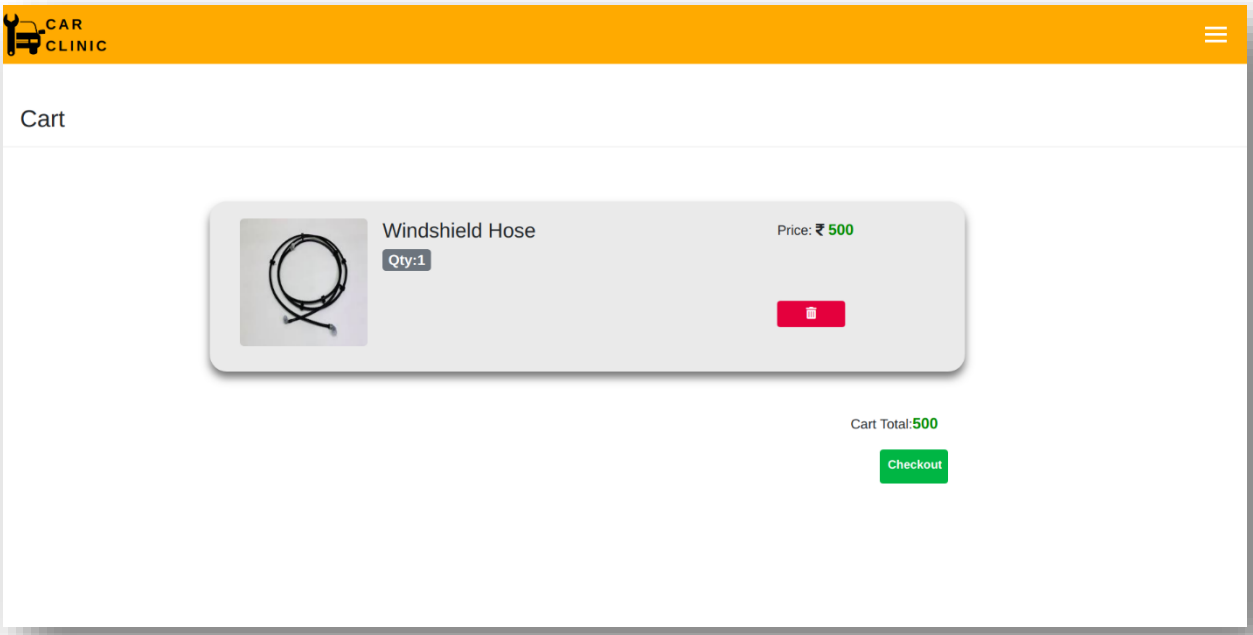


Fig 6.1.9 Screenshot of Cart page

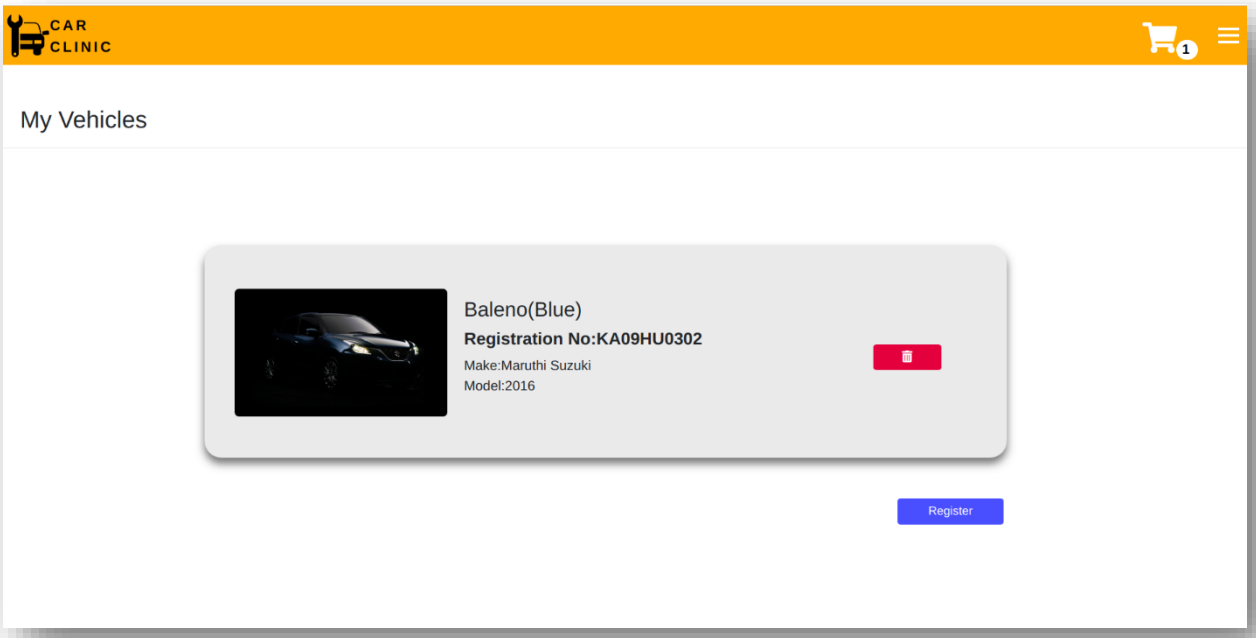


Fig 6.2.0 Screenshot of Vehicle Details page

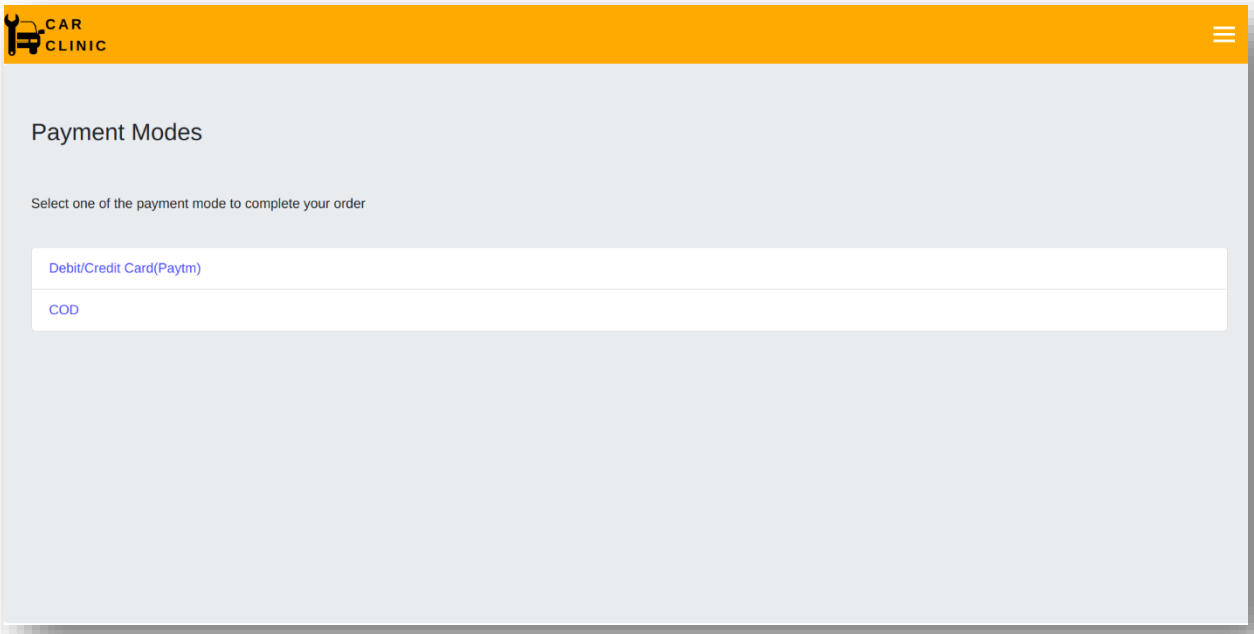


Fig 6.2.1 Screenshot of Payments page

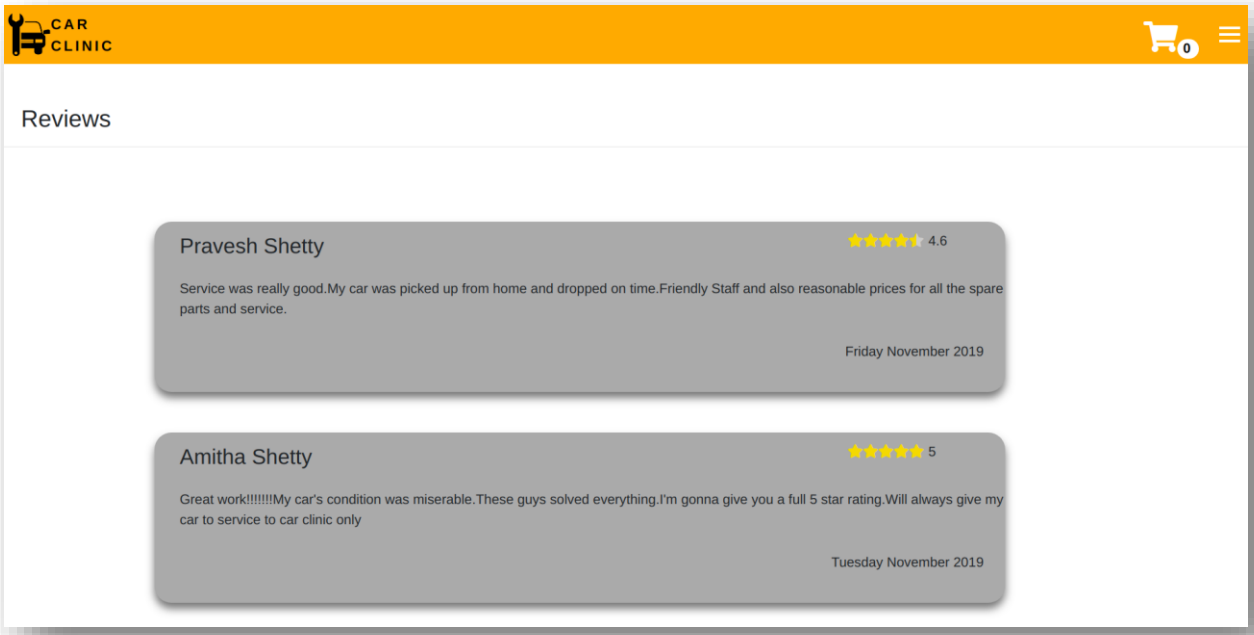


Fig 6.2.2 Screenshot of Reviews page

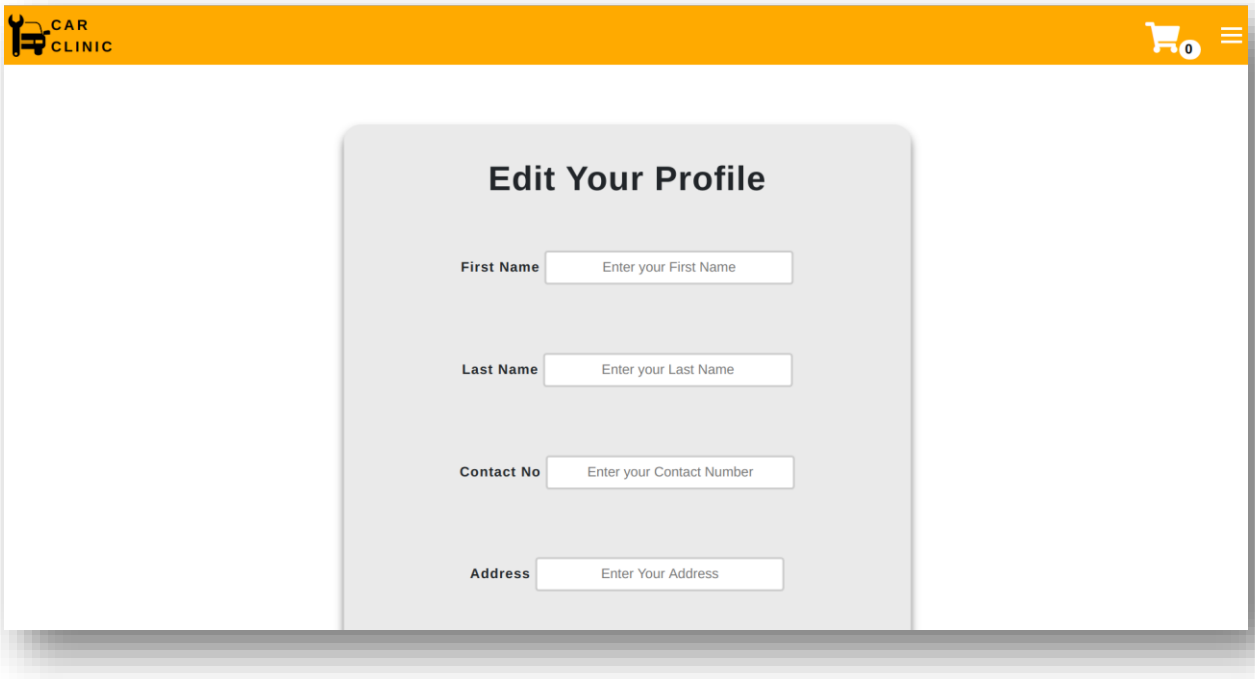


Fig 6.2.3 Screenshot of Edit profile(1) page

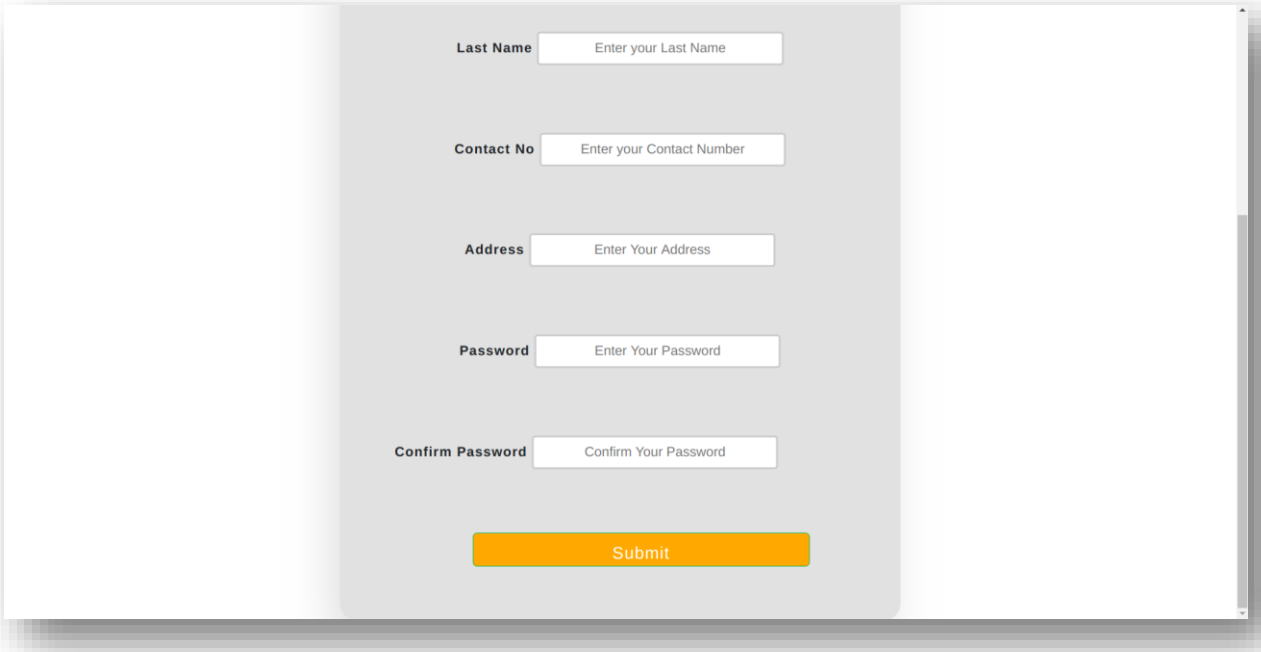


Fig 6.2.4 Screenshot of Edit profile(2) page

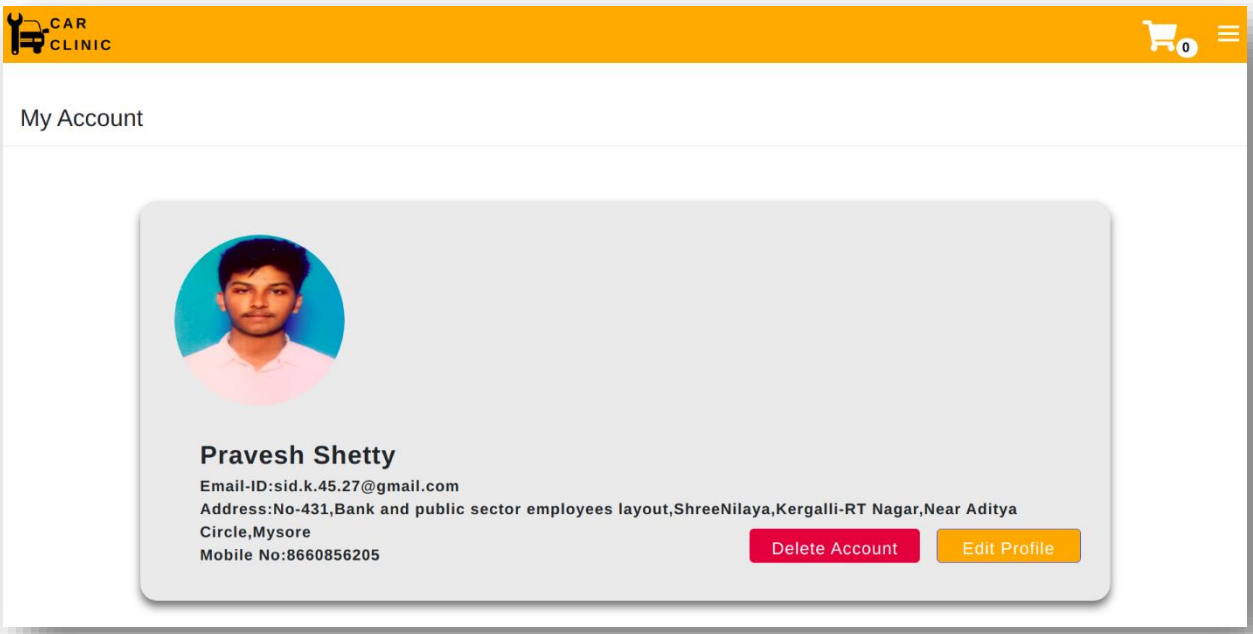


Fig 6.2.5 Screenshot of Account page

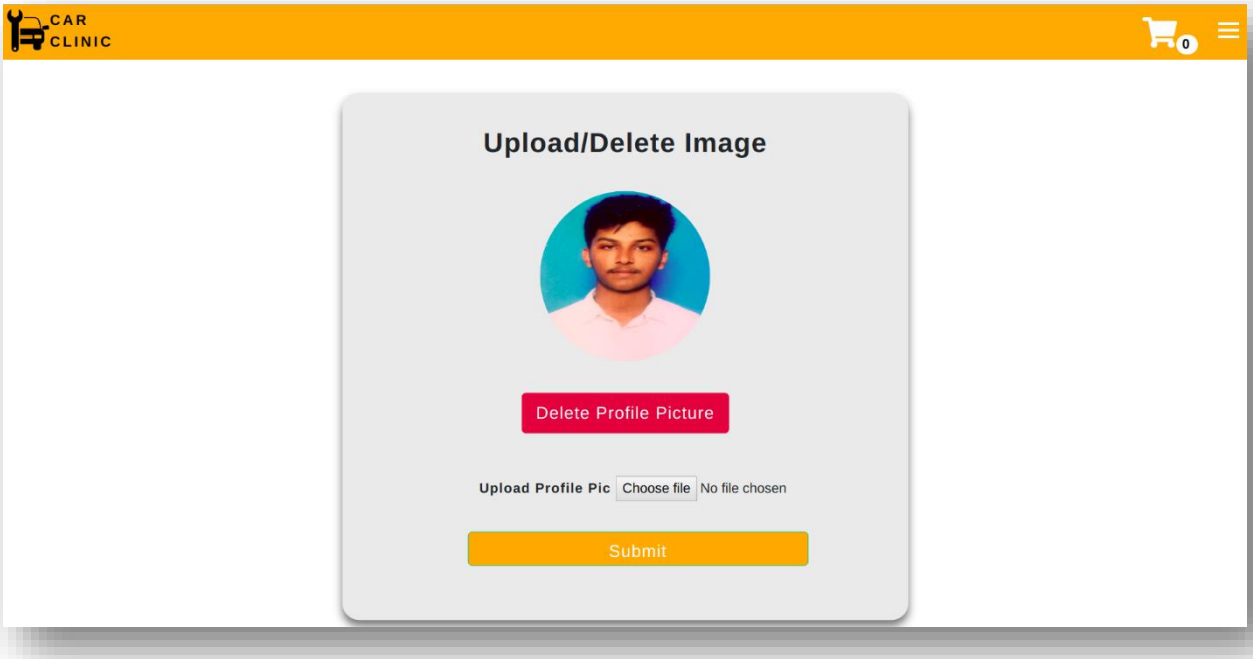


Fig 6.2.6 Screenshot of Upload/Delete Page

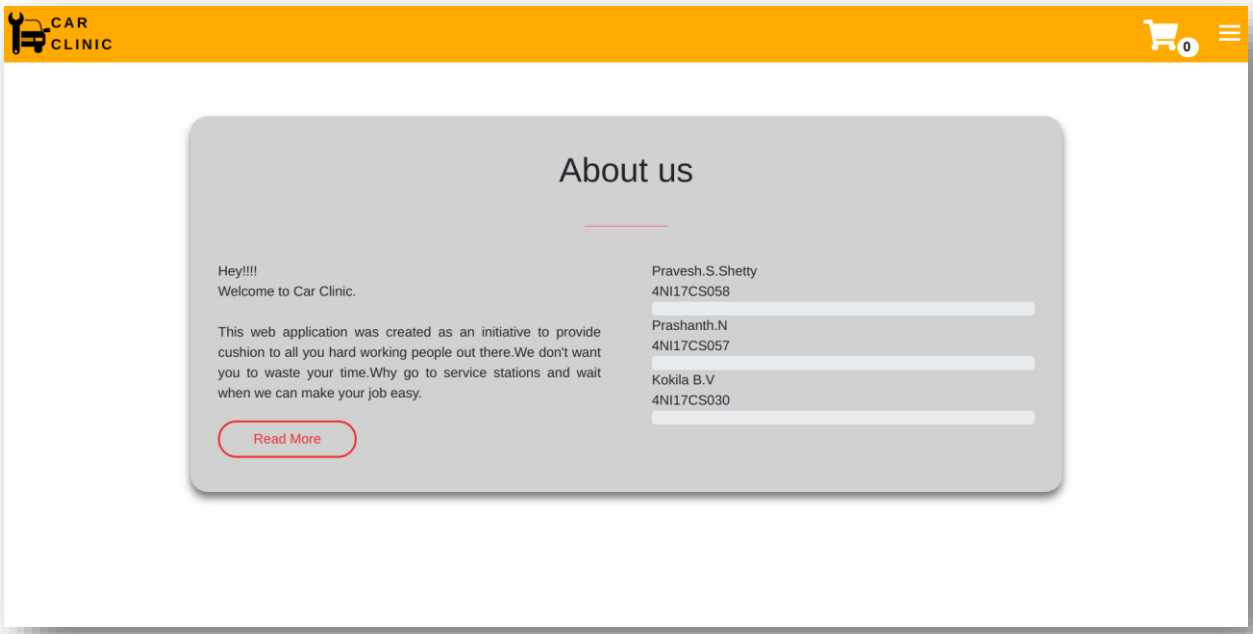


Fig 6.2.7 Screenshot of About Us page

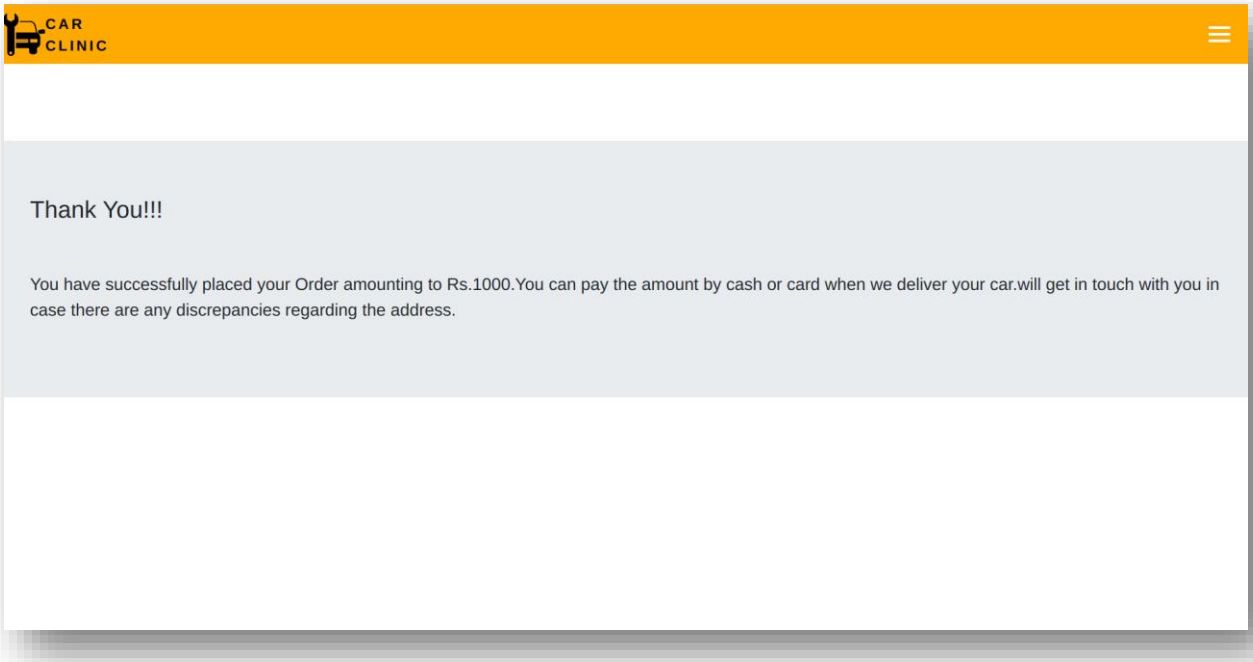


Fig 6.2.8 Screenshot of COD page

CONCLUSION AND FUTURE ENHANCEMENT

The project will be developed successfully, and the performance of the system will be found satisfactorily. The project report entitled “Car Clinic ” is still under construction part of our system has been developed with much care that it is free of errors and at the same time it is efficient and less time consuming. The important thing is that the system is robust. We have tried our level best to make the site as dynamic as possible. Also provision is provided for future developments in the system. The entire system is secured. This online system is made keeping in mind all pros and cons. The internet has become major source in modern business, thus electronic shopping has gained significance not only from the entrepreneur’s but also from the customer’s point of view. For electronic shopping generate new business opportunities and for the customer, it makes comparative shopping possible. As per the survey, most consumers of online stores are impulsive and usually make a decision to stay on a site within the first few seconds. We have designed the project to provide the user with easy navigation, retrieval of data and necessary feedback as much possible. A good design must be accompanied with a user-friendly application logic. It should be convenient for the customer to view the contents of their page and to be able to update information in their interface. The features are designed for the customer to make them more comfortable. This project helps in understanding the creation of an interactive web page and the technologies used to implement it. The building of the project has given us the idea and a precise knowledge about how the application can be developed , how it connects to the database and how the data and web pages are modified as required .The main motive for the project was to provide efficient car services for the customers online to help customers in every possible way and provide them a stable platform where they can perform every transaction with ease.

With all the information stored in database we can generate reports. The report will include all the information about the transaction and also what all services have been done and what and all spare parts have been sold. This analysis will be very useful for future use.

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