



Dharmsinh Desai University, Nadiad

**Faculty of Technology, Department of Computer
Engineering**

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Project Title:

“CarCREW”

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CERTIFICATE

This is to certify that **Advanced Technologies** project entitled "**CarCREW**" is the bonofied report of work carried out by **Krupal Shah(18CEUOD005)** and **Akash Suvagiya(18CEUOD006)** of Computer Engineering, Semester V, academic year 2019-2020, under our supervision and guidance.

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1

Abstratct

Abstract

CarCrew is an online web application which is built for managing and handling the vehicles which came for the servicing in garage. CarCrew is developed on a MEAN stack technologies (MongoDB, Express, Angular, NodeJs).

CarCrew provides major functionalities like it can add car service, remove car service, generate customer bills, communicate with customers through sending emails and user can also add their custom service they want to add through user portal. Basically it includes two panels Admin Panel and Customer Panel, Admin manages all the Services in the garage their bills and all other operations. Customer Panel allows customer to show their previous services, bills, etc.

CarCrew is a application which provides an digitalized view of any garage which can handle the services of vehicles, handle customers and all related functions to garage.

2

Introduction Of Project

2. Project Introduction

2.1 Brief Introduction

Project Name:	CarCrew
Project Definition/Aim:	The main aim of project is to provide better and efficient environment to the vehicle garages and it can manage all through this web application.
Develop For :	Managing Vehicle Garages
Front End :	Angular
Back End :	NodeJs,ExpressJs,MongoDB
Other Technologies :	> HTML 5.0 > CSS3 > JQuery
Documentation tools:	MS Word
Submitted To:	Any Vehicle Service Station
IDE:	Visual Studio Code MongoDB Compass

2.2 Tools and Technology Used



The term MEAN stack refers to a collection of JavaScript based technologies used to develop web applications. MEAN is an acronym for MongoDB, ExpressJS, AngularJS and Node.js. From client to server to database, MEAN is full stack JavaScript. This article explores the basics of the MEAN stack and shows how to create a simple bucket list application.

3

Software Requirements Specification

3.1 Scope

Our System is helpful for the people working in the garage or who are associated with the garage as they can easily manipulate their service related to their vehicle and it is also very helpful for the customers as they can easily check their vehicle status through this application.

3.2 System Functional Requirements

R1. Authentication

Description : In this Module, User can Register for new Account or login with right Credentials. If user login successfully then Auth_Page will Redirect to Home page.

R1.1 : Sign in

INPUT : Credentials

OUTPUT : DashBoard / Message

PROCESS : Verifying Credentials

R1.2 : Sign up

INPUT : Credentials

OUTPUT : DashBoard / Message

PROCESS : Data [Credentials] insertion in database

R2. Manage User

Description: In this function, Admin can manipulate the customer's data and customer can also manipulate some of its own data.

R2.1: Fetch Customer Data

INPUT : Customer Data

OUTPUT: Customer Info

PROCESS : Fetching Customer Data

R2.2: Add New Customer

INPUT: Customer Detail

OUTPUT: Customer Id

PROCESS: Generate Customer Account

R3.3: Update Customer

INPUT: Customer Detail

OUTPUT: Updated Customer Info

PROCESS: Update Customer Account

R3.4: Remove Customer

INPUT: Customer Id

OUTPUT: Customer Removed

PROCESS: Remove Unwanted Customers

R3. Services

Description: In this function, Customer can add the service they want to include in their vehicle and admin can manipulate all the data related to services.

R3.1: Fetch Service Data

INPUT : Service Id

OUTPUT: Service Info

PROCESS : Fetching Service Data

R3.2: Add New Service

INPUT: Service Detail

OUTPUT: Service Id

PROCESS: Generate New Service

R3.3: Update Service

INPUT: Service Detail

OUTPUT: Updated Service Info

PROCESS: Service will be updated

R3.4: Remove Service

INPUT: Service Id

OUTPUT: Service Removed

PROCESS: Remove Unwanted Services

R4. Bills

Description: In this function, the customer can view their bills from the customer panel and admin can generate bills for the customer.

R4.1: Generate Bill

INPUT: Customer and service info

OUTPUT: Generated Bill

PROCESS: Bill Generation

R4.2: Delete Bill

INPUT: Bill Id

OUTPUT: Bill Deleted

PROCESS: Delete Bill

3.3 Other Non- Functional Requirements

1 Performance

Performance The system must be interactive and the delays involved must be less. So in every action-response of the system, there are no immediate delays. In case of opening App components, of popping error messages and saving the settings or sessions there is delay much below 3 seconds.

2 Safety

User details should be securely stored to the server. The main security concern is for user account hence proper login mechanism should be used to avoid hacking.

3 Reliability

As the system provide the right tools for discussion, problem solving it must be made sure that the system is reliable in its operations and for securing the sensitive details.

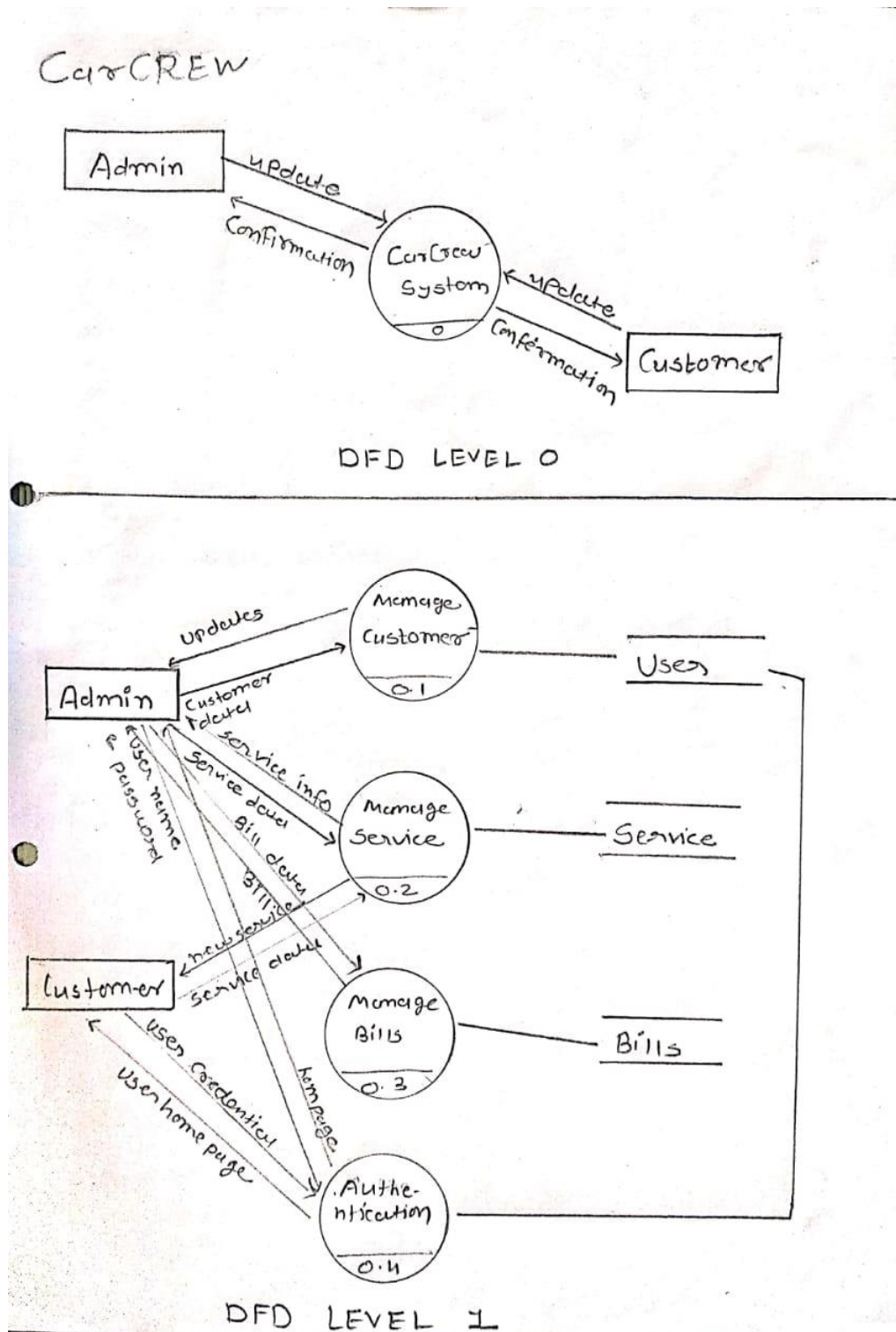
4 Database

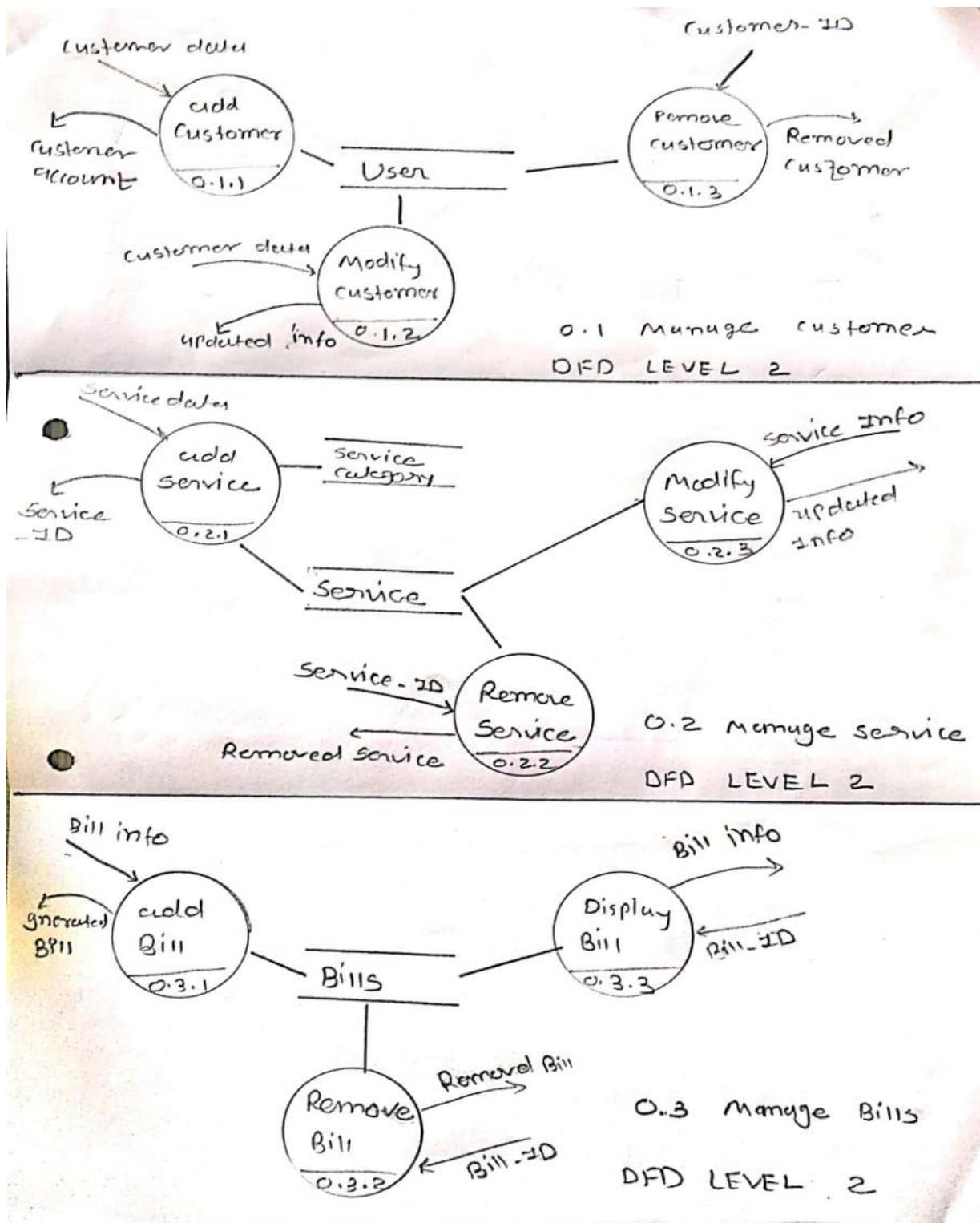
System requires to access users data fastly to maintain the performance.

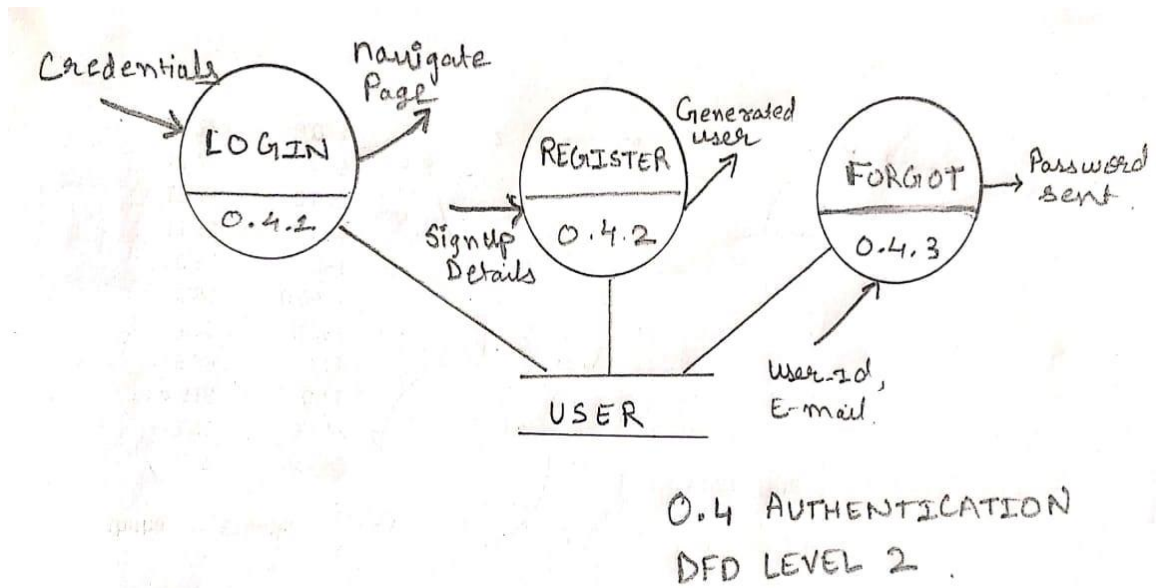
4

Design

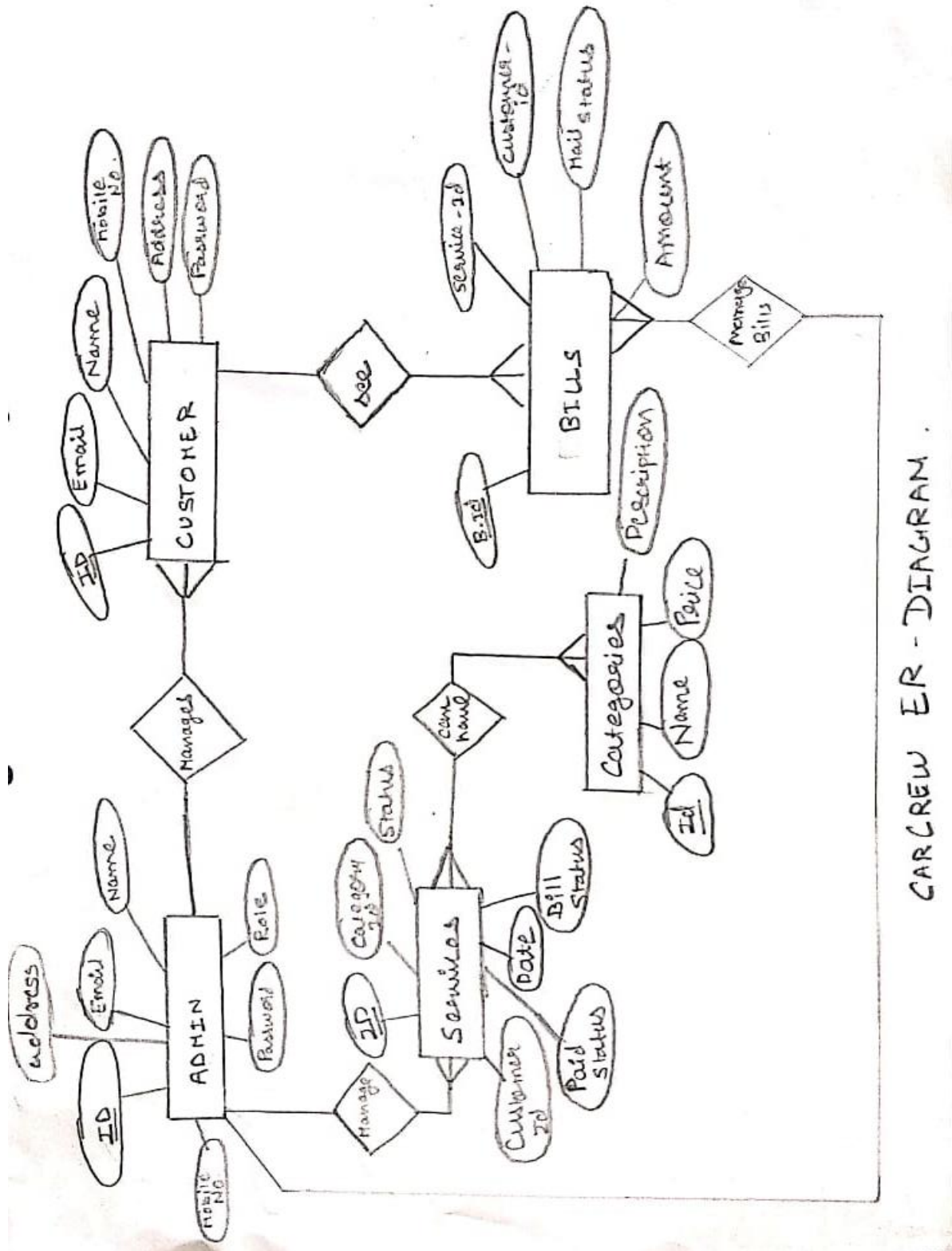
4.1 Data Flow Diagram







4.2 E-R Diagram



4.3 Data Dictionary

User's Table (Customer/Admin):-

No	Field Name	Data Type	Require	Unique	PK/FK	Referenced table name
1	UId	Varchar(10)	YES	YES	PK	
2	Email	Email	YES	YES		
3	Name	Varchar(30)	YES	-		
4	Mobile No	Number(10)	YES	-		
5	Address	Varchar(50)	YES	-		
6	Password	Varchar(10)	YES	-		
7	Role	Varchar(5)	YES	-		

Service_Category Table:-

No	Field Name	Data Type	Require	Unique	PK/FK	Referenced table name
1	SCId	Varchar(10)	YES	YES	PK	
2	Name	Varchar(50)	YES	YES		
3	Price	Varchar(30)	YES	-		
4	Description	Varchar(100)	YES	-		

Service Table :-

N o	Field Name	Data Type	Require	Unique	PK/FK	Referenced table name
1	SId	Varchar(10)	YES	YES	PK	
2	Category_ID	Varchar(10)	YES	-	FK	Service Category
3	Status	Boolean	YES	-		
4	Customer_ID	Number(10)	YES	-	FK	User
5	Paid_Status	Varchar(50)	YES	-		
6	Date	Varchar(10)	YES	-		
7	Bill_Status	Boolean	YES	-		

Bill Table:-

N o	Field Name	Data Type	Require	Unique	PK/FK	Referenced table name
1	BId	Varchar(10)	YES	YES	PK	
2	Service_ID	Varchar(50)	YES	-	FK	Service
3	Customer_ID	Varchar(30)	YES	-	FK	User
4	MailSataus	Boolean		-		
5	Amount	Number	YES	-		

5

Implementation Details

5.1 Modules Description

Admin Module:- It is the main module which is included in the CarCrew which handles and manage all the manipulations of the system like to include user,add services,remove services,generate bill,show current vehicle status,send bills through e-mail to customers,etc.

Customer Module:-The Customer module is for the customer who give their vehicles for servicing and after that they get registered through CarCrew by signing up and they can add their service,remove service,can also add service category,view previous bills,update their profile etc.

Through this system the work of the garages is became very easy and they do not have to make the record of services manually.All the services are being managed centrally through this web application.

6

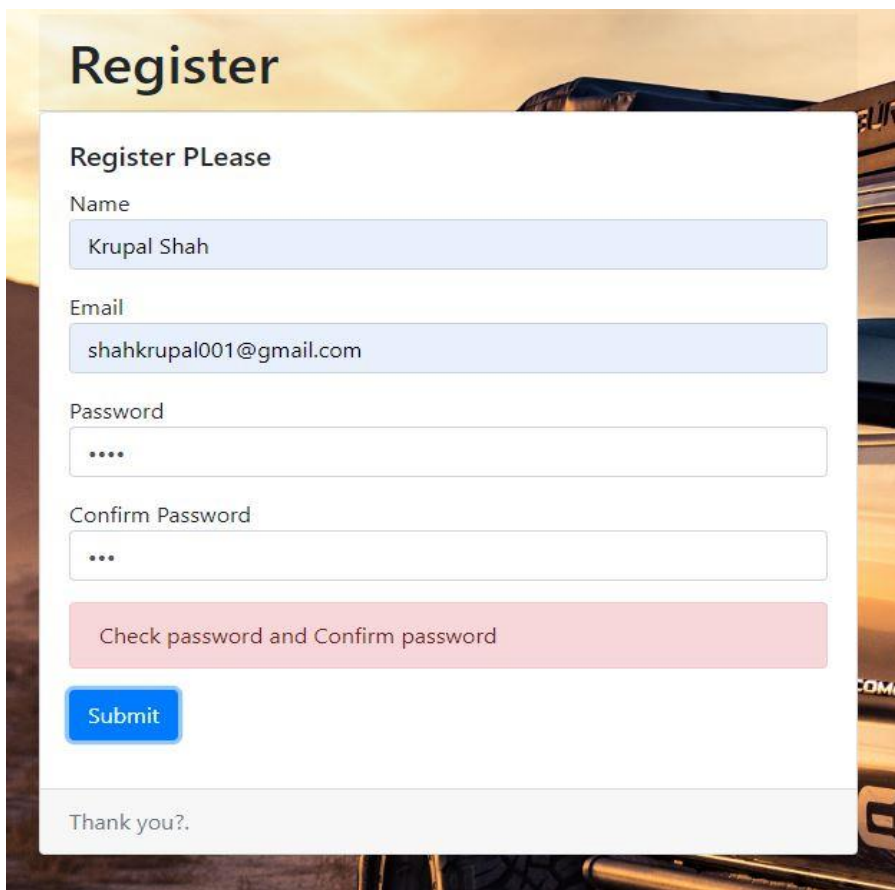
Testing

Testing Method:-

We have Performed Black-Box testing for testing purpose.

Testing Cases:-

For Signing Up:-

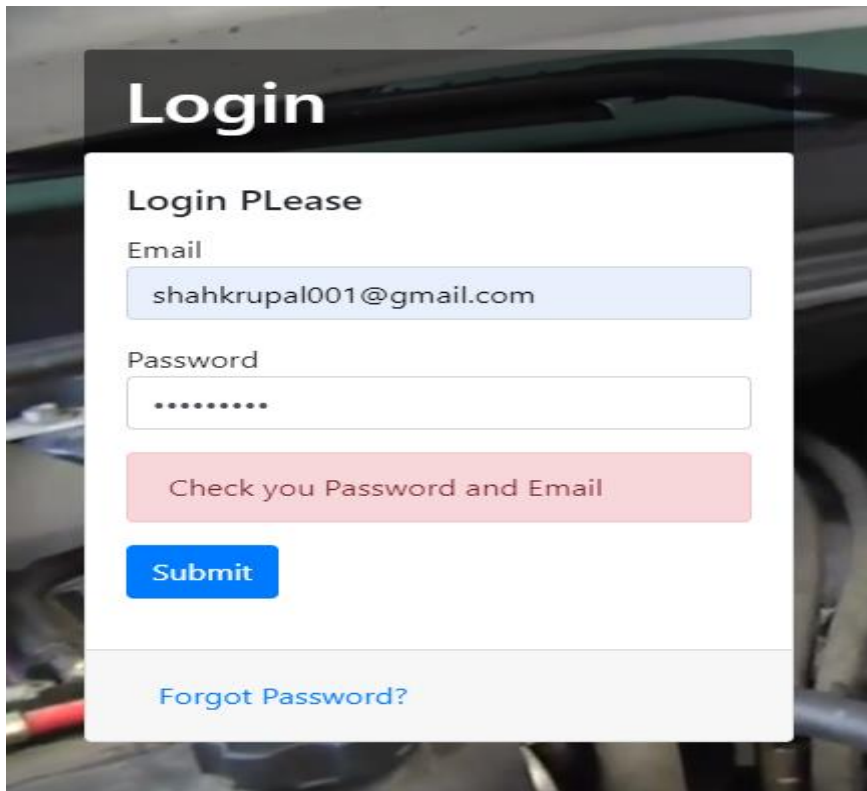


The screenshot shows a web registration form titled "Register". The form is titled "Register PLease" and contains the following fields and elements:

- Name:** A text input field containing "Krupal Shah".
- Email:** A text input field containing "shahkrupal001@gmail.com".
- Password:** A text input field with masked characters "....".
- Confirm Password:** A text input field with masked characters "...".
- Validation Message:** A pink rectangular box containing the text "Check password and Confirm password".
- Submit Button:** A blue button with the text "Submit".
- Footer:** A light gray box at the bottom containing the text "Thank you?."

Whenever customer sign up it will check for password and confirm password and will also check for valid email.

For Login:-



Login

Login PLease

Email

shahkrupal001@gmail.com

Password

.....

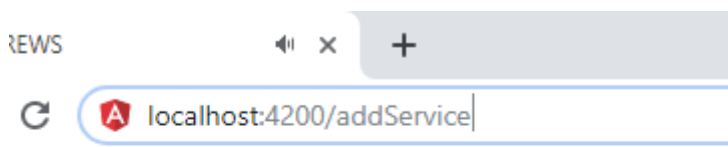
Check you Password and Email

Submit

[Forgot Password?](#)

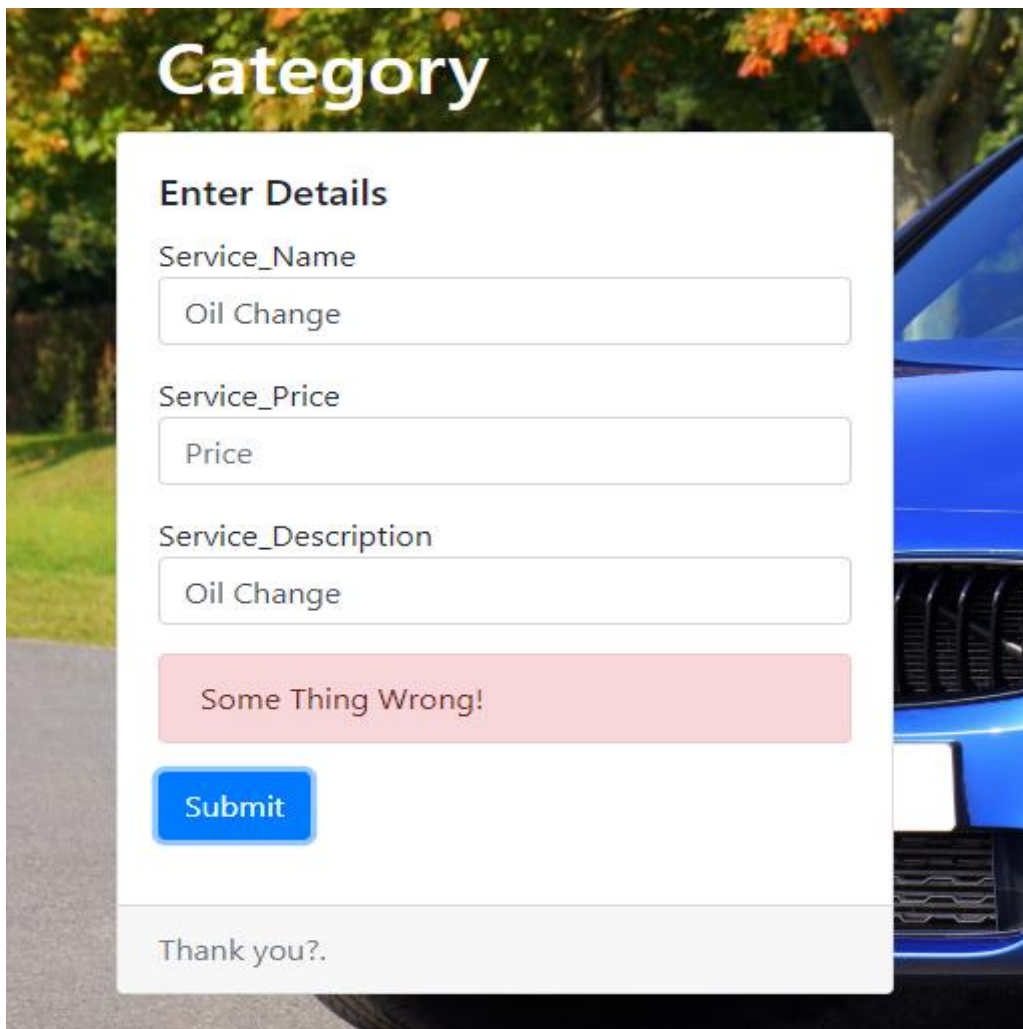
Whenever User enters wrong credentials it will not allow to login.

Redirect To Login:-



Whenever user access direct URL it will not allow and redirect to Login Page.

Something Wrong Message:-



The screenshot shows a web form titled "Category" with a background image of a blue car. The form has a section titled "Enter Details" with three input fields: "Service_Name" (containing "Oil Change"), "Service_Price" (containing "Price"), and "Service_Description" (containing "Oil Change"). Below these fields is a red error message box that says "Some Thing Wrong!". At the bottom of the form is a blue "Submit" button and a grey footer area that says "Thank you?."

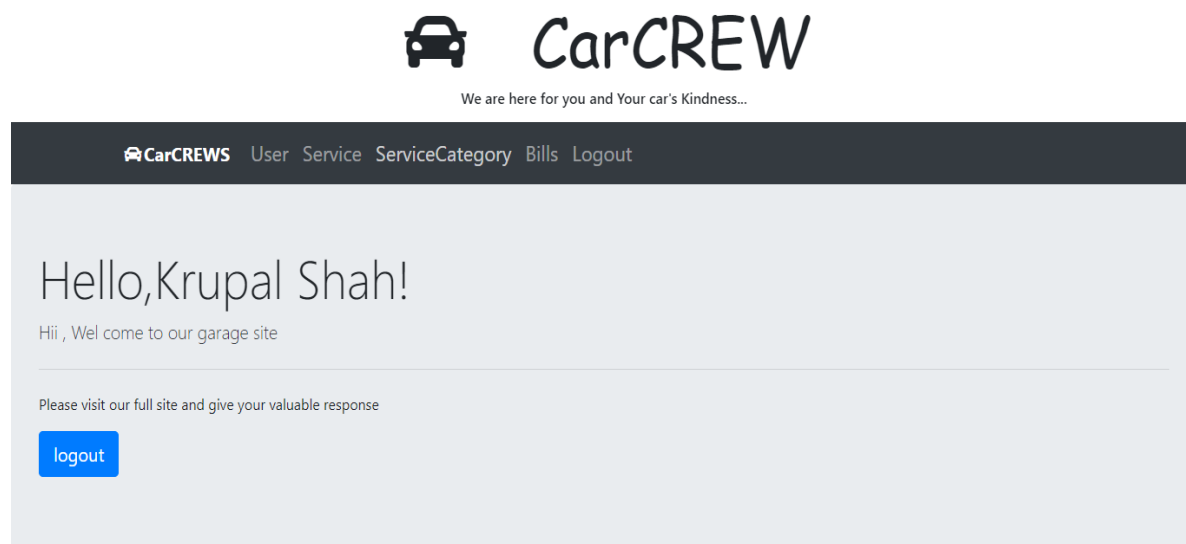
Whenever User enters the wrong or invalid data it will display the error

7.

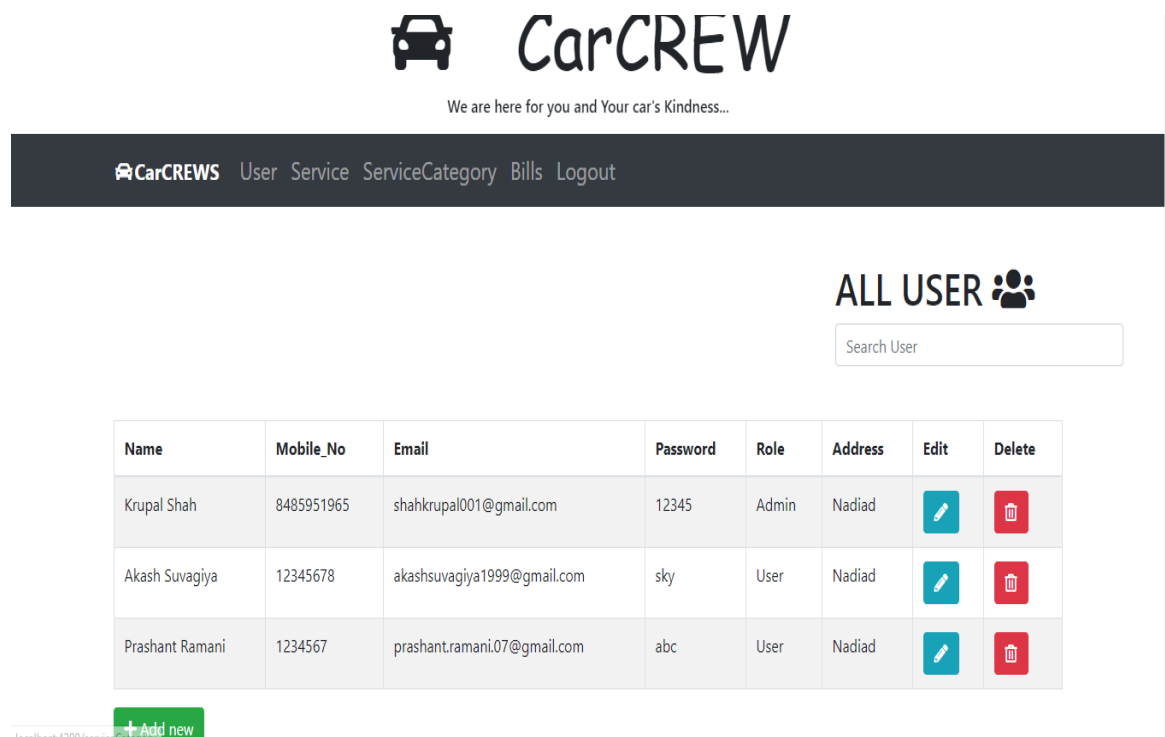
Screenshots

7.1 Screenshots Of the Major Functionalities

Home page



List of User and User CRUD



Add Bills

Add Bills


Enter Details

Select Customer

Akash Suvagiya

Submit

Thank you?



SERVICE 

Search service

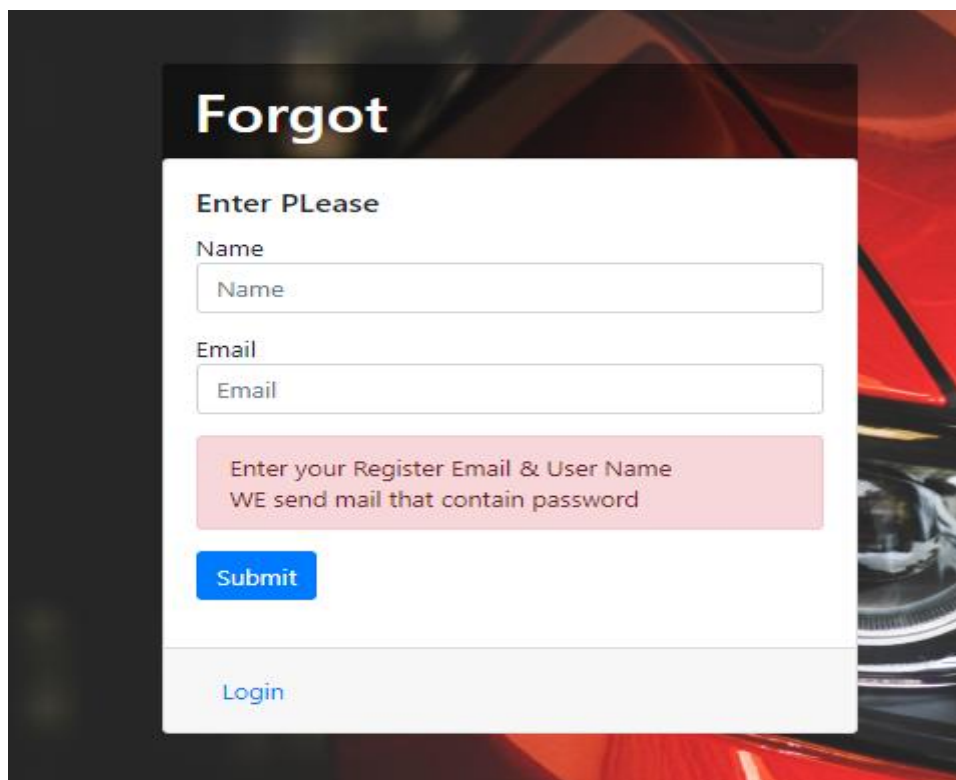
Service_Category	Status	Car_No	Paid_Status	Date	Customer
Washing and Greasing	complete	1234	false	2019-10-23T06:58:56.478Z	Akash Suvagiya

+ Add new

Send Bill Through E-mail and Delete Bills

	Customer_Name	Customer_ID	Services						Email	Delete
335a9a	Akash Suvagiya	5daebac9cbc67d41d8d35ebd	Service_ID	Customer_ID	Service_Name	Service_Price	Service_Description	Service_Paid_Status		
			5daffa30ae9c5d2208835a99	5daebac9cbc67d41d8d35ebd	Washing and Greasing	600	Washing and Greasing	false		

Forgot Password

A screenshot of a 'Forgot Password' form overlay. The form is white with a dark background. It has a title 'Forgot' in large white font. Below it, the text 'Enter PLease' is in bold. There are two input fields: 'Name' and 'Email', both with placeholder text. A pink box contains the text 'Enter your Register Email & User Name WE send mail that contain password'. Below this is a blue 'Submit' button. At the bottom of the form is a 'Login' link.

Forgot

Enter PLease

Name

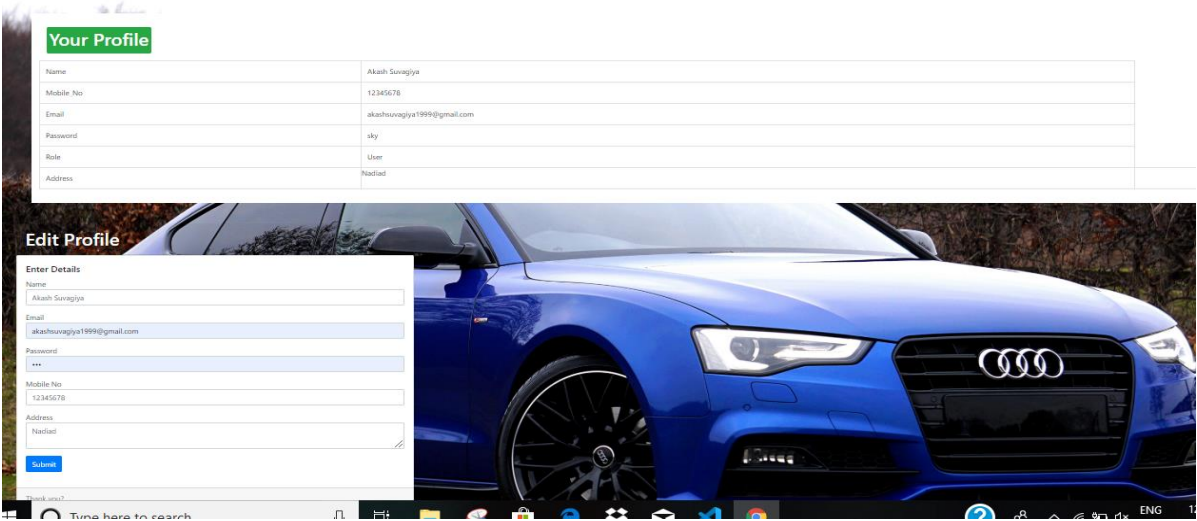
Email

Enter your Register Email & User Name
WE send mail that contain password

Submit

Login

Customer Update Profile



8

Conclusion

8.1 Conclusion

The Functionality implemented in the system was done after understanding all the system modules according to the requirements.

Functionalities that are successfully implemented are:-

User Registration

Login

Forgot Password

Generate Bill

Add Customer

Update Customer

Delete Customer

Send Emails

Show Various Services

Add Services

Update Services

Delete Services

Edit Profile Of Customer

After the implementation and coding of system, comprehensive testing was performed on the system to determine the loopholes and possible flaws in the system.

9

Limitations And Future Extension

9.1 Limitations and Future Extension

Limitations:-

Internet Connectivity is Required

Admin is required to handle the app

Admin should have basic knowledge of handling app

Application is only for management of garages

Future Extensions:-

Payment Gateway Can be added

Communicate through SMS

Selling and Buying Cars can also be added

10

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10.1 Bibliography

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4. <https://stackoverflow.com> -For Solving problems.