MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE

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NAAC Accredited with A++ Grade

Project Report

On

Development Of Transport Management System

A Project report submitted in partial fulfilment of the requirement for the degree of

MASTER IN COMPUTER APPLICATION

in

COMPUTER SCIENCE AND ENGINEERING

Submitted By:

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(0901CA221017)

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DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE

GWALIOR- 474005 (MP) Estd. 1957

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IndVibe Infotech Pvt Ltd

Iso 9001:2015 certified company

INTERNSHIP COMPLETION CERTIFICATE

Date 23-April, 2024

This is to certify that **Mr. Ashish Soni** is a student of MCA specialization in CA from Madhav Institute of Technology and Science, Gwalior (M.P.) has been successfully completed the 04 months (10-january, 2024 to 23-April, 2024) Internship Programme in **Mulesoft with Web Development,** at IndVibe InfoTech Pvt Ltd.

Wishing you a great future in the IT Industry and looking forward to seeing you at IndVibe InfoTech Pvt Ltd.

Warm Regards

Center Head

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CERTIFICATE

This is certified that **Ashish Soni (0901CA221017)** has submitted the project report titled **Transport Management System** under the mentor-ship of **Vishal Verma** in partial fulfillment of the requirement for the award of degree of **Master in Computer Application** in Computer Science and Engineering from **Madhav Institute of Technology and Science, Gwalior.**

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DECLARATION

I hereby declare that the work being presented in this project report, for the partial fulfilment of requirement for the award of the degree of **Master in Computer Application** in Computer Science and Engineering at **Madhav Institute of Technology & Science, Gwalior** is an authenticated and original record of my work under the mentorship of **Vishal Verma Project Guide** (Indivibe Infotech Pvt. Ltd.)

I declare that I have not submitted the matter embodied in this report for the award of any degree or diploma anywhere else.

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ABSTRACT

Transport Management System is an application that represent the transportation details. In this there is all size of vehicles are available at single place, where a customer can find out a vehicle according to their requirement. The customer can happily select the vehicle that they want and book that vehicle, so this application provide the details of driver and vehicle to the customer.

It make customer more satisfied, even the customer or admin both can see the vehicle location because we provide a GPS system, which is user friendly also, so the customer have more reasons to trust our software.

In our Transport management system there is only registered vehicles are available also we have licenced driver, who have good experience of driving a vehicle. So there is no worry about theft of the goods.

In one login id you can use multiple name at multiple transportation time means the end customer who will gonna received the goods at the end you can give their name so this will help our driver to reach the goods at the right person at the right time.

Also the customer will be able to give feedback that enhance our process, that really make us helpful to improve our facilities, features etc.

The customer can pays in two ways either cash on delivery or via using UPI id. The amount of transporting the goods is depend on the distance, while a customer mention their location from here to where they transport the goods then our software generate the amount by itself.

TMS integrates various technologies, including GPS,IOT,Data Analytics to optimize transport operation it encompasses route planning, vehicle tracking ,scheduling and maintainance enabling real-time monitoring and decision making. By harnessing big data and predictive analytics TMS enhances operational efficiency, reduces costs, and minimize Enviromental impact.

Efficient TMS facilities dynamic route optimization , leading to reduce fuel consumption and emissions. It enable better fleet management , ensuring optimal asset utilization and maintenance scheduling. Moreover, TMS enhances safety through real-time monitoring od driver behavior and vehicle condition, mitigating risks and improving compliance with regulation.

In urban areas, TMS promotes sustainable mobility by integrating public transport system cycling lanes, and pedestrian pathways it facilities multimodal transportation, providing seamless connectivity and encouraging the use of alternative modes of transport. Additionally ,TMS support the implementation of congestion pricing and emission regulations, incentivizing sustainable travel behavior.

सार

परिवहन प्रबंधन प्रणाली एक ऐसा एप्लिकेशन है जो परिवहन विवरण प्रस्तुत करता है। इसमें सभी आकार के वाहन एक ही स्थान पर उपलब्ध हैं, जहां ग्राहक अपनी आवश्यकता के अनुसार वाहन ढूंढ सकता है। ग्राहक ख़ुशी-ख़ुशी अपनी पसंद का वाहन चुन सकते हैं और उस वाहन को बुक कर सकते हैं, इसलिए यह एप्लिकेशन ग्राहक को ड्राइवर और वाहन का विवरण प्रदान करता है।

यह ग्राहक को अधिक संतुष्ट बनाता है, यहां तक कि ग्राहक या व्यवस्थापक दोनों वाहन का स्थान देख सकते हैं क्योंकि हम एक जीपीएस सिस्टम प्रदान करते हैं, जो उपयोगकर्ता के अनुकूल भी है, इसलिए ग्राहक के पास हमारे सॉफ़्टवेयर पर भरोसा करने के अधिक कारण हैं।

हमारी परिवहन प्रबंधन प्रणाली में केवल पंजीकृत वाहन ही उपलब्ध हैं, हमारे पास लाइसेंस प्राप्त ड्राइवर भी हैं, जिनके पास वाहन चलाने का अच्छा अनुभव है। इसलिए सामान चोरी होने की कोई चिंता नहीं है.

एक लॉगिन आईडी में आप कई परिवहन समय पर कई नामों का उपयोग कर सकते हैं, इसका मतलब है कि अंतिम ग्राहक जिसे अंत में सामान प्राप्त होगा, आप उसका नाम दे सकते हैं, इससे हमारे ड्राइवर को सही समय पर सही व्यक्ति तक सामान पहुंचाने में मदद मिलेगी।

साथ ही ग्राहक हमारी प्रक्रिया को बेहतर बनाने वाली प्रतिक्रिया देने में सक्षम होंगे, जो वास्तव में हमें हमारी सुविधाओं, सुविधाओं आदि को बेहतर बनाने में मददगार बनाएगी।

ग्राहक दो तरीकों से भुगतान कर सकता है या तो कैश ऑन डिलीवरी या यूपीआई आईडी का उपयोग करके। माल के परिवहन की मात्रा दूरी पर निर्भर करती है, जबकि कोई ग्राहक यहां से अपने स्थान का उल्लेख करता है जहां वे माल का परिवहन करते हैं तो हमारा सॉफ़्टवेयर स्वयं ही राशि उत्पन्न करता है।

टीएमएस परिवहन संचालन को अनुकूलित करने के लिए जीपीएस, आईओटी, डेटा एनालिटिक्स सहित विभिन्न प्रौद्योगिकियों को एकीकृत करता है, इसमें मार्ग योजना, वाहन ट्रैकिंग, शेड्यूलिंग और रखरखाव शामिल है जो वास्तविक समय की निगरानी और निर्णय लेने में सक्षम बनाता है। बड़े डेटा और पूर्वानुमानित विश्लेषण का उपयोग करके टीएमएस परिचालन दक्षता बढ़ाता है, लागत कम करता है और पर्यावरणीय प्रभाव को कम करता है।

कुशल टीएमएस गतिशील मार्ग अनुकूलन की सुविधा देता है, जिससे ईंधन की खपत और उत्सर्जन में कमी आती है। यह बेहतर बेड़े प्रबंधन को सक्षम बनाता है, इष्टतम परिसंपत्ति उपयोग और रखरखाव शेड्यूलिंग सुनिश्चित करता है। इसके अलावा,

टीएमएस ड्राइवर के व्यवहार और वाहन की स्थिति की वास्तविक समय पर निगरानी करके, जोखिमों को कम करके और विनियमन के अनुपालन में सुधार करके सुरक्षा बढ़ाता है।

शहरी क्षेत्रों में, टीएमएस सार्वजनिक परिवहन प्रणाली साइक्लिंग लेन और पैदल यात्री मार्गों को एकीकृत करके टिकाऊ गतिशीलता को बढ़ावा देता है, यह मल्टीमॉडल परिवहन की सुविधा देता है, निर्बाध कनेक्टिविटी प्रदान करता है और परिवहन के वैकल्पिक तरीकों के उपयोग को प्रोत्साहित करता है। इसके अतिरिक्त, टीएमएस स्थायी यात्रा व्यवहार को प्रोत्साहित करते हुए भीड़भाड़ मूल्य निर्धारण और उत्सर्जन नियमों के कार्यान्वयन का समर्थन करता है।

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CHAPTER 1. INTRODUCTION

Transport management System is a logistics platform that uses technology to help businesses plan, execute and optimize the movement of goods, both incoming and outgoing and making sure the shipment is compliant, proper documentation. A Transport Management System (TMS) is a comprehensive software solution designed to streamline and optimize various aspects of transportation operations within an organization. Its primary goal is to efficiently manage the movement of goods and materials from one location to another while minimizing costs and maximizing efficiency.

TMS solutions are being used across various industries, such as manufacturing, retail, distribution, and e-commerce, to optimize transportation operations and drive business growth.

Benefits of Transport management system including cost savings, improved customer service, better resource utilization, reduced transit times, and enhanced decision-making capabilities through data-driven insights.

1.1 Problem Identification:

a. Transport management system can track key performance areas.

b. The transport management system can check every minute details of vehicles to ensure effortless mapping of the order.

c. Transport management system send a tracking link to their customer, while using that they can tracks.

d. Increasing urbanization leads to heavy traffic, causing delays and inefficiencies.

e. Traffic jams result in wasted time, fuel, and increased pollution.

f. Inefficient route planning.

g. Ineffective routes can result in missed delivery deadlines and dissatisfied customers.

h. Difficulty in tracking and managing vehicles leads to underutilization and high maintenance costs.

i. Inefficient fleet management affects productivity and increases operational expenses.

j. Lack of real-time monitoring of driver behavior and vehicle conditions increases the risk of accidents.

1.2 Parent Organization:

Indvibe Infotech Private Limited is a web development and App development organization providing consulting, business services, and IT solution for the help of organization. Indvibe Infotech solution is an IT and IT enabled services organization specialized in providing consulting, business services and technology solution for business science organization.

The organization provide a unique value chain proposition of business, industry through process expertise to improve operational quality and productivity and help by partnering with clients to improve overall compliance and business performance.

Indvibe Infotech solution distinguish itself with in the clinical research landscape through its commitment to innovation and client- entric approach The organization continuous invests in research and development initiatives to stay abreastof emerging trend and technological advancements in the business running and industry growing.

Its core services include:

a. Comprehensive software platform for building software.
b. Software solution for implementing corrective and preventive Action (CAPAs).
c. Develop advance reporting and Analysis tools.
d. Software solution for documenting, investigation and managing deviation from established business procedure and requirements.
e. Tools for managing and tracking changes to business trends, process and documentation in a controlled manner.
f. Software platform designed to facilitate the creation, revision and management of standard operating procedure (SOPs) in business solution.

1.3 Hardware and software specification:

The transport management system is designed and developed using Mulesoft .It is popular technology stack that includes Anypoint studio , Raml ,Designcenter ,Exchange,Connectors and Mysql. The system uses these technologies to provide a scalable , efficient, and user friendly platform for all person or users can easily manage our bills tracking orders .Ensure that your development environment meet these specification and you will be all set to start building your web app using the Mulesoft.

1.3.1 Hardware Specificaion:

a. **Proccesor:** A modern multi-core processor like Intel core i5 or equivalent is recommended. This ensure smooth performance during development and can handle multiple task and servers efficiently.

b. **Memory:** 8GB RAM is the minimum, but 16GB or more is ideal. This allows you to run multiple application and virtual machine without experiencing sluggish performance.

c. **Storage:** A 256 GB solid State Drive (SSD) is the minimum, but a 512 GB SSD or larger is recommended. An SSD significantly reduces loading time for your development environment and tools.

d. **Display:** A monitor with a resolution of at least 1920x1080 is comfortable for coding. Consider a larger display or even a dual-monitor setup to maximize productivity.

e. **Network:** A stable internet connection is necessary for downloading dependencies, updates, and collaborating with team member if applicable.

f. **Operating System:** Choose from windows 10 or 11 (64bit), macOs (latest version), or linux (popular distribution include Ubuntu and Fedora).

1.3.2 Software Specification:

a. **Devlopment Enviroment**: Install Anypoint Studio (latest version), xampp server, and text editor or IDE like visual Studio Code For writing Code.

b. **Dependencies:** use npm or yarn to manage dependencies for the project. This includes packages for mysql,jquery and any other libraries or framework used in your application.

c. **Xampp Server:** This is localhost server and mysql database also include in xampp server serves as the data storage backbone for your mule application.

d. **Browser:** Make sure you have the latest version of modern web browser like Chrome, Firefox,or Edge for testing and debugging frontend component.

e. **Version Control:** git is optimal but recommended for version management. Platform like Github provide collaboration features and make it easier to manage code changes.

f. **Deployment:** Choose a deployment environment compatible with cloudhub and mysql. This could be cloud platform like AWS or Azure, or hosting services like Heroku or DigitalOcean.

1.3.3 Additional Tools:

a. **Postman or Thunder client:** For testing API endpoints during development.

b. **DevTools:** Browser developer tool for debugging your front end code.

c. **API Documentation Tools:** Optionally, you might want to use tools like swagger or Postman for documents your APIs.

CHAPTER 2. SYSTEM ANALYSIS

2.1. Problem Analysis:

Identifying and addressing common problems which can help improve our websites's usability,customer satisfaction, and conversion rates, ultimately leading to increased sales and profitability . Regular monitoring of transport vehicle, driver behavior, exact location, customer feedback, and continuous optimization are essential to address evolving customer needs and preference in the online transportation landscape.

2.1.1. User Management:

a. Ability to view user information, including registration details and login activity.

b. Functionality to delete user accounts, if necessary, with appropriate confirmation Prompts.

2.1.2. Route Planning management:

a. One of the primary challenges faced by transport management systems is optimizing route planning.

b. Sufficient route planning can lead to decrease fuel costs, longer delivery times, and unnecessary wear and tear on vehicles.

2.1.3. Vehicle Utilization:

a. Proper vehicle utilization can result in less operational costs.

b. This includes situations where vehicles are underutilized due to proper scheduling or leading maintainance issues and decreased downtime.

2.1.4. Real-Time Tracking:

a. real-time tracking capabilities, it's challenging to monitor the location and status of vehicles accurately.

b. This can lead to delays in delivery times, difficulty in responding to emergencies, and a lack of visibility into the overall operations.

2.1.5. Inventory Management Challenges:

a. Transport management systems often need to coordinate with inventory management systems to ensure timely delivery of goods.

b. We can track easily of our products by TMS management system.

2.1.6. Feedback Management:

a. Functionality to secure authentication mechanisms for admin access, such as username/password authentication or multifactor authentication.

b. Capability to delete or manage user feedback if requires, ensuring appropriate moderation and response to user input.

2.1.7. Security and Authentication:

a. Implementation of security authentication mechanism for admin access, such as username/password authentication.

b. Ensuring data encryption and protection of sensitive user information with in the admin module.

2.1.8. Reporting and Analytics:

a. Provisioning of analytics tools to track vehicle performance, driver behavior, and feedback trends.

b. Generation of billing report, driver activity, feedback metrics for evaluation and decision making Purpose.

2.1.9. User Interface:

a. Intitive and users friendly interface design for easy navigation and management of exam and user data.

b. Clear and organized presentation of information, with features such as filters, search function, and action buttons for efficient task execution.

2.1.10. Accessibility and Compatibilty:

a. Compatibility with various web browsers and devices to ensure accessibility for admins accessing the system from different platforms.

b. Compliance with accessibility standards to accommodate users with disabilities ansures equal access to system features and functionalities.

2.2. Feasibility Study:

The preliminary investigation focuses on assessing the feasibility of an administrative module within the online mock examination system. This study aims to evaluate the technical, economic, and operational viability of the admin module. By scrutinizing software requirements, financial implications, and practical deployment strategies specific to administrative functions, stakeholders can make informed decisions to ensure the seamless integration and effective management of the system, ultimately enhancing administrative efficiency and user experience.

2.2.1. Technical Feasibility:

a. Hardware Requirements:

S. No.	Component	Specification
1.	Processor (CPU)	Intel Core i5 or AMD Ryzen 5 or higher
2.	Monitor	FHD (1920x1080)
3.	Memory (RAM)	At least 8 GB or above
4.	Storage (SSD)	256 GB
5.	Internet	512 KB (Speed)
6.	Keyboard	USB Wired or Wireless
7.	Mouse	USB Wired or Wireless
8.	Printer	HP Laser MFP 136w

b. Programing Language:

S. No.	Site	Details
1.	Front-End	HTML, CSS, JS6, ReactJs
2.	Back-End	ExpressJs, NodeJs
3.	Database	MongoDB

c.Software Requirements:

S. No.	Component	Minimum Requirement
1.	Operating System	Windows XP, 7 or later, MacOS, Ubuntu
2.	Internet Browser	Chrome, Edge, Mozilla and Similar
3.	IDE	Visual Studio Code, Sublime Text Editor
4.	Dependencies	npm or yarn
5.	Deployment Server	AWS or Azure, or hosting services like Heroku or DigitalOcean.

2.2.2. Economical Feasibility:

a. Personal Expenses:

S.no.	Personnel Expenses	Cost
1.	Front End Developer	3000/-
2.	Backend Developer	3500/-
3.	Hardware Cost	1800/-
4.	Software Cost	2000/-
5.	Database Administrator	2000/-
6.	Miscelleneous Expenses	1500/-
	Total	13800/-

b. Other Expenses:

S. No.	Resource	Cost
1.	Electricity(120 unit × 8rs/unit)	₹960 /-
2.	Stationery	₹600 /-
3.	Workspace facility	₹1800 /-
4.	Internet/Wi-Fi	₹1500 /-
Total		**₹4860 /-**

2.2.3. Behavioral feasibility study:

a. It will help business plan and customers and the best way to ship, use the most efficient carriers based on distance and reduce costs as well.

b. User friendly nature with simple interface.

c. We provide a user-friendly software with GPS system means you can easily track your goods and vehicle and also you can check the route which is followed by driver.

d. When a customer fill their location from here to their they want to transport their goods through our registered vehicle then the total amount will be generated itself, you don't need to calculate it.

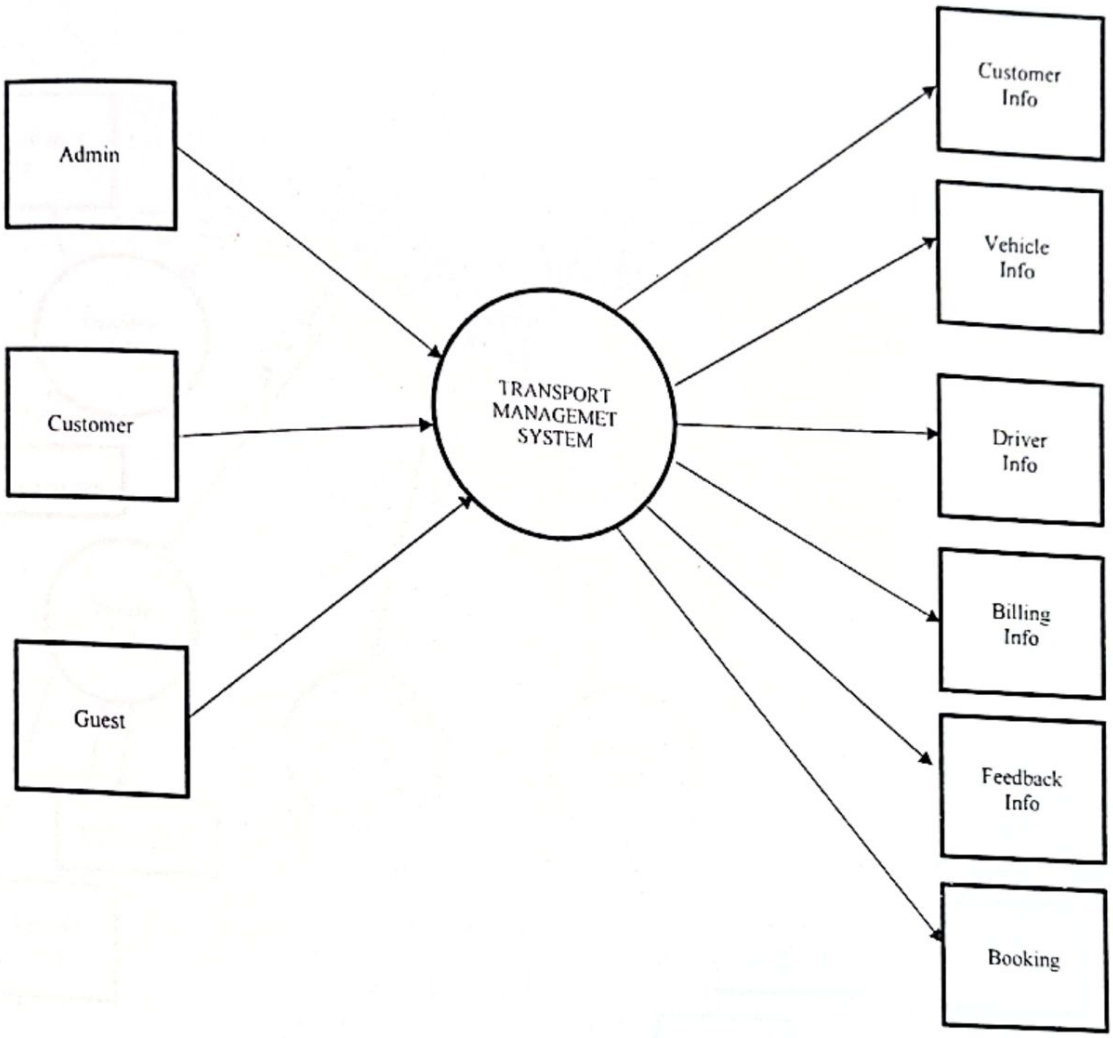
e. There is one more advantage of your software is reliability because we have registered vehicle and authorized and experienced and licensed drivers.

f. Another big advantage is security, because of GPS system we can track the location in real time that will be enhance our security.

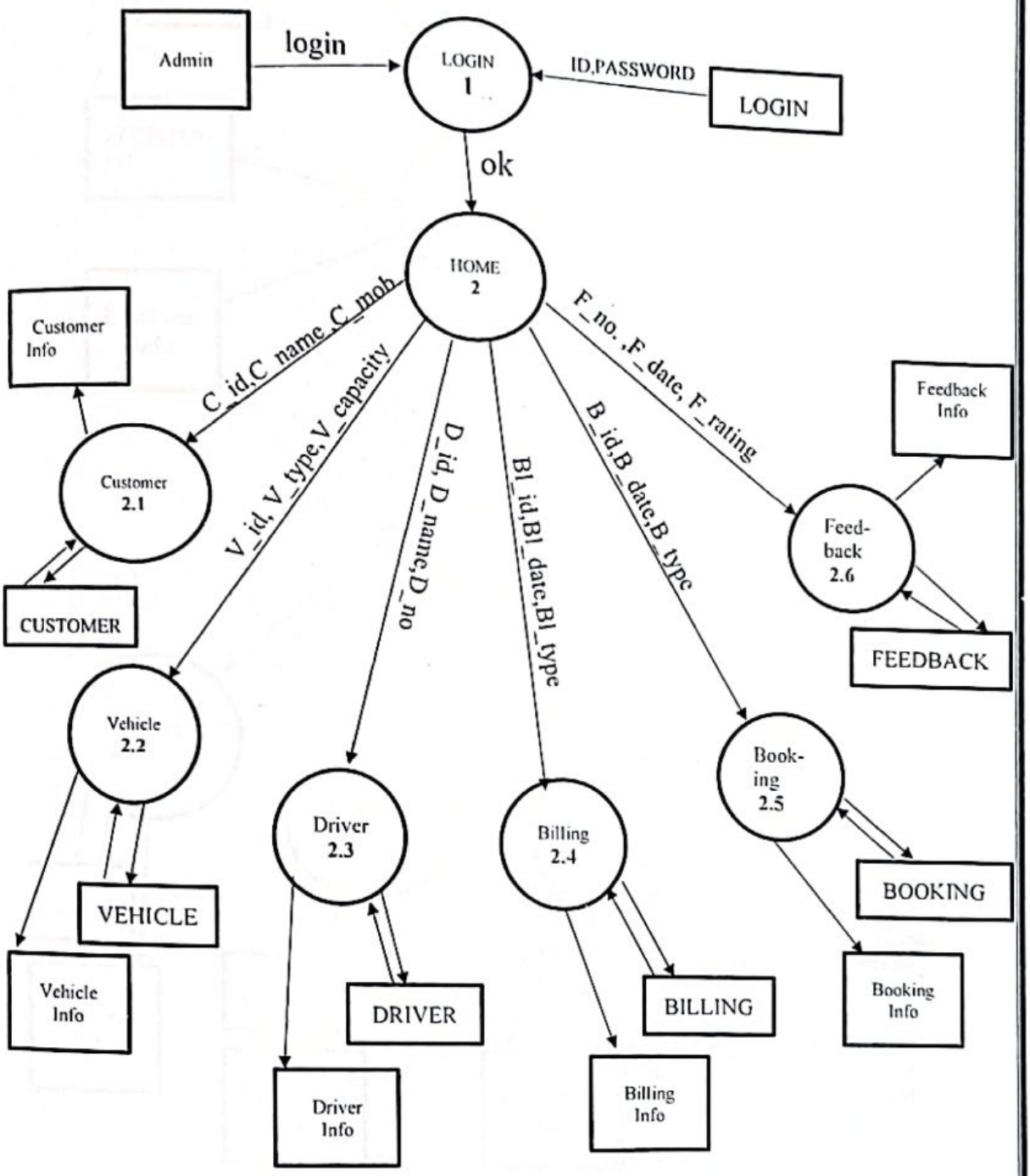
g. We provide you can feedbacks options, according to the customer feedback we can update and enhance our facilities and functionalities.

2.3. Data Flow Diagram:

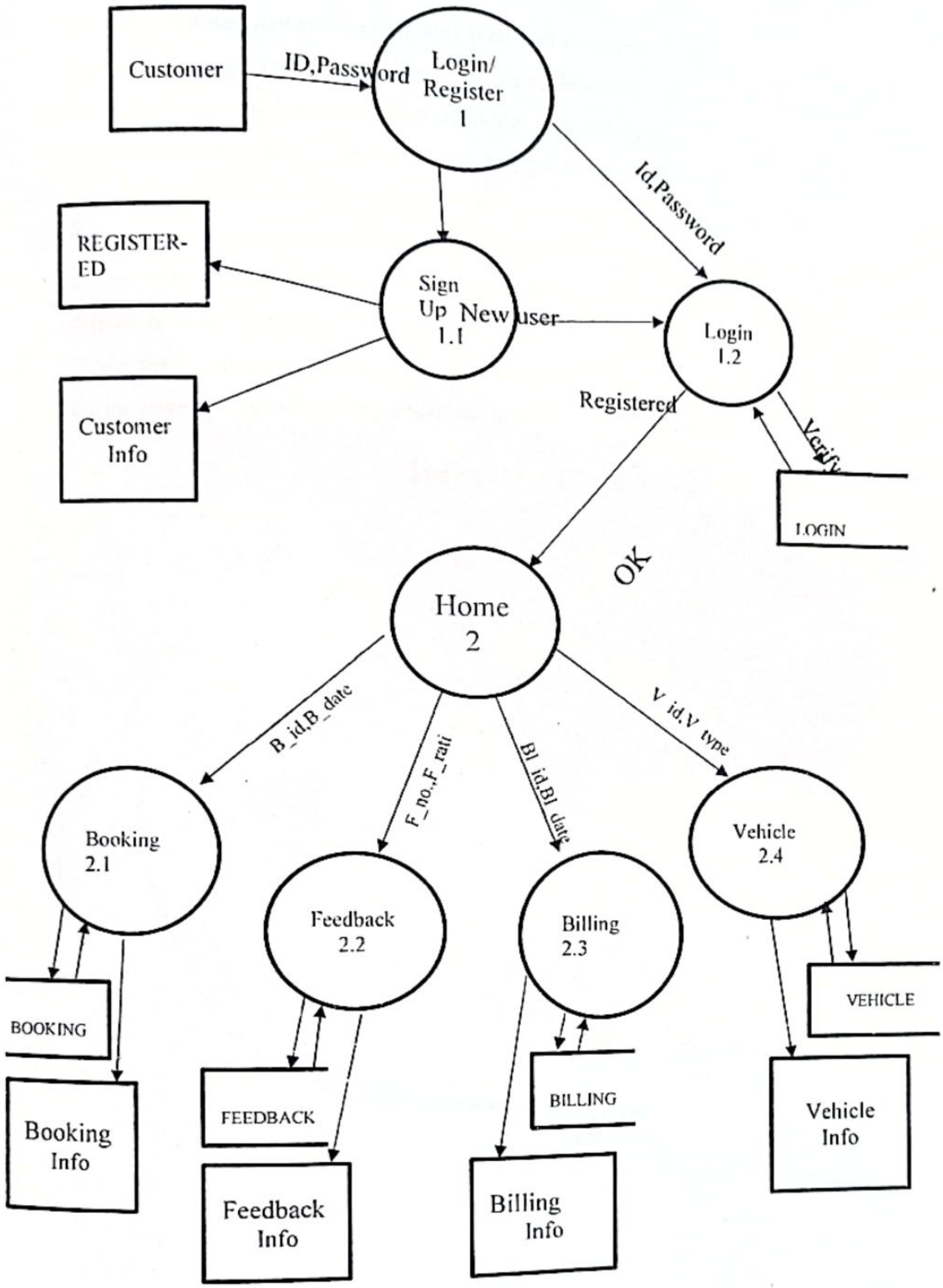
2.3.1 DFD 0



2.3.2 DFD FOR ADMIN



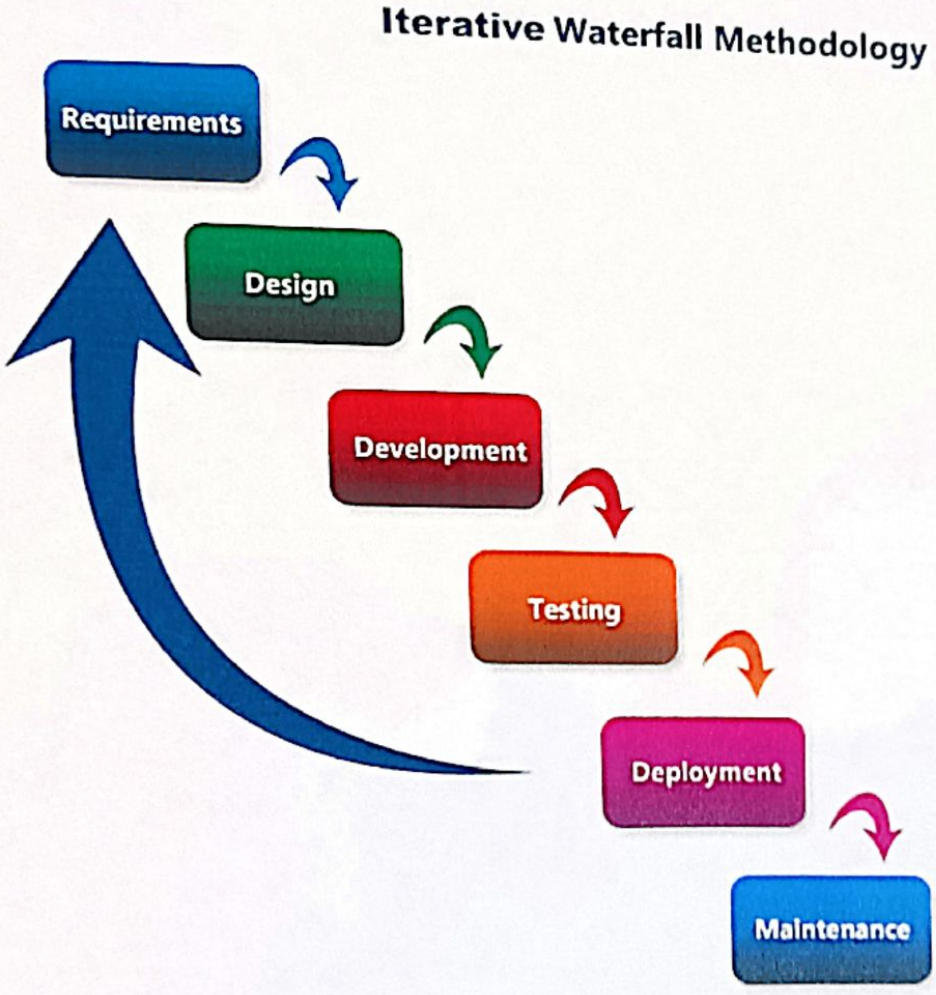
2.3.3 LEVEL - 1 DFD FOR USER



2.4 Software Development Process:

we have used iterative and incremental Waterfall model Methodology in development of Transport Management System. The main reason behind using iterative waterfall model is feedback path. The iterative waterfall model is a software development approach that combines the sequential steps of the traditional waterfall model with the flexibility of iterative design. It allows for improvement and changes to be made at each stage of the development process instead of waiting until the end of the project. The iterative waterfall model provides feedback paths from every phase to its preceding phases, which is main difference from the classical waterfall model.

While the incremental model approach helped us to take advantage of what was learnt during development of earlier parts of the system.



CHAPTER 3: SYSTEM DESIGN

3.1 Table structure:

3.1.1 Vehicle:

TABLE :- VEHICLE			
Description		Record information regarding Leave	
S.no	Field name	Field type	Constraints
1	V_id	Varchar (30)	Primary Key
2	V_type	Varchar (30)	Not Null
3	V_capacity	Number (30)	Not Null

3.1.2 Feedback

TABLE :- FEEDBACK			
Description		Record information regarding Personal	
S.no	Field name	Field type	Constraints
1	F_no.	Varchar (30)	Primary key
2	F_rating	Varchar (20)	Not null
3	F_date	Number (40)	Not null

3.1.3 Customer

TABLE :- CUSTOMER			
Description		Record information regarding Personal	
S.no	Field name	Field type	Constraints
1	C_id	Varchar (30)	Primary key
2	C_name	Varchar (20)	Not null
3	C_address	Varchar (40)	Not null
4	C_email	Varchar (25)	Not null
5	C_Mob	Number (40)	Composite

3.1.4 Booking

TABLE :- BOOKING			
Description		Record information regarding Personal	
S.no	Field name	Field type	Constraints
1	B_id	Varchar (30)	Primary key
2	B_type	Varchar (20)	Not null
3	B_date	Number (40)	Not null
4	B_loc.	Varchar (25)	Not null
5	B_price	Number (40)	Not null

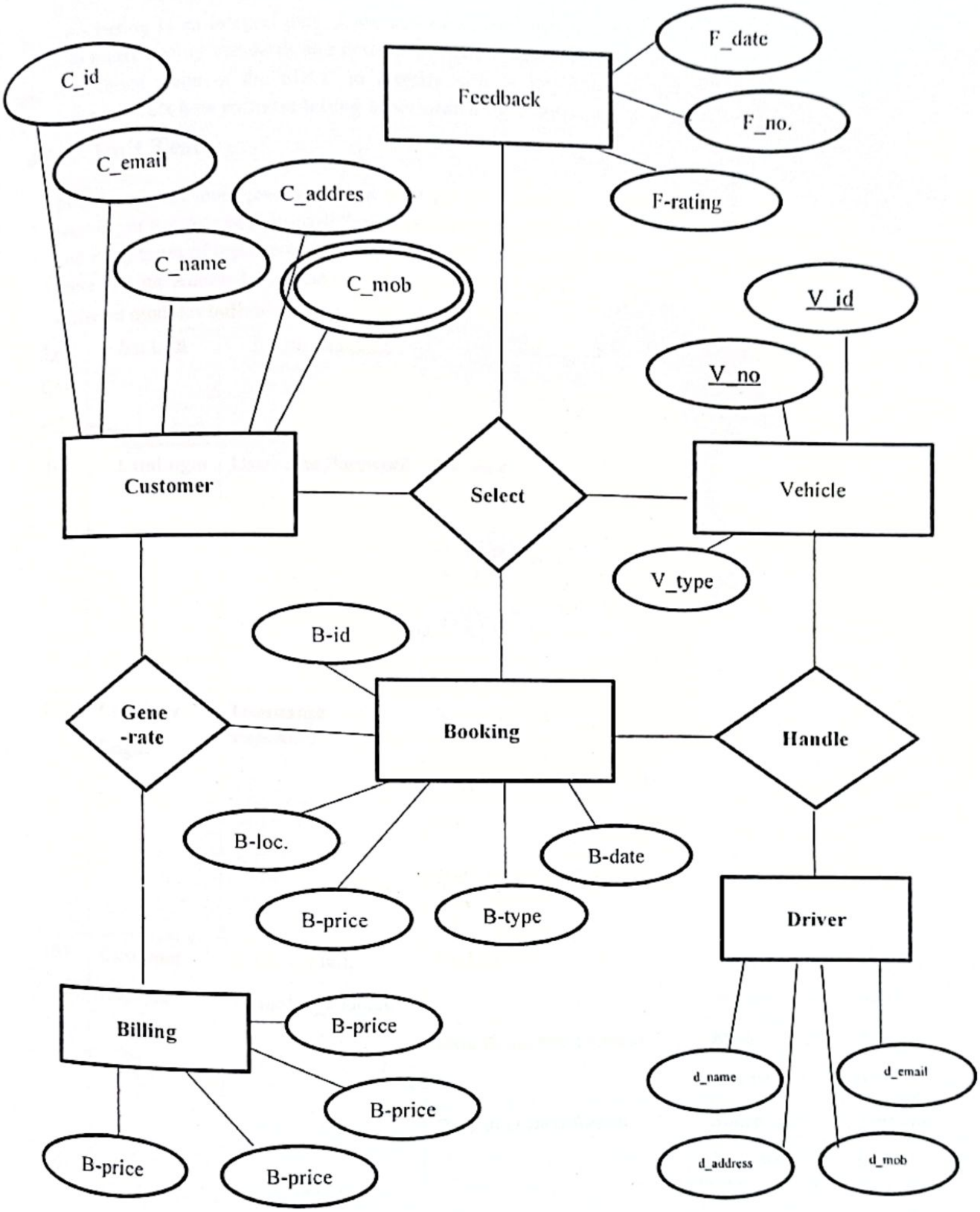
3.1.5 Driver

TABLE :- DRIVER			
Description		Record information regarding Personal	
S.no	Field name	Field type	Constraints
1	D_id	Varchar (30)	Primary key
2	D_name	Varchar (20)	Not null
3	D_number	Number (40)	Composite
4	D_email	Varchar (25)	Not null

3.1.6 Billing

TABLE :- BILLING			
Description		Record information regarding Personal	
S.no	Field name	Field type	Constraints
1	Bl_id	Varchar (30)	Primary key
2	Bl_type	Varchar (20)	Not null
3	B_date	Number (40)	Not null
4	Bl_amount.	Number (25)	Not null

3.2 ER Diagram:



CHAPTER 4: TESTING

Software testing is an integral part of the software Development Life Cycle (SDLC), ensuring that software meets quality standards and performs as expected. It encompasses various activities carried out at different stage of the SDLC to identify defects improve functionality, and enhance user satisfaction. Here's how software testing is performed for audit management Module.

4.1 Unit Testing:

In the transport management system we have performed unit testing to check whether it is working or not. We have used different test data to execute the testing. We have checked each and every types of input to check their respective outputs and its working. We have performed these test on Admin login, customer login, and adding record etc.We have tested the two different modules individually i.e., admin and customer.

Test Case id	Section	Element name	Test data	Expected result	Actual Result
101	AdminLogin	Username,Password	No Data	Please fill out this field.	Test case passed.
			ashish12@gmail.com /*******	Error Occurred.	Test case passed.
			ashish123@gmail.com /*********	Successfully logged in.	Test case passed.
102	Customer Login	Username, Password	No Data	Please fill out this field.	Test case passed.
			vipul321@gmail.com /***	Error Occurred.	Test case passed.
			vipul3215@gmail.com /****	Successfully logged in.	Test case passed.
103	Customer Registration	c_id, c_mail, C_mob,c_address.	No Data	Please fill out this field.	Test case passed.
			Data in incorrect format.	Error Occurred.	Test case passed.
			Data in correct format.	Successfully Registered.	Test case passed.

4.2 Integration Testing:

In this, we have performed the integration testing on the website. For this purpose we have tested and integrated all the individuals test case then we have checked the working of the module with the different test case.

We have already integrated the admin module, customer module and home page functionalities as a complete web apps to test its overall working.

4.3 Verification Testing:

These tests are performed on the final design that validates the ability of the system to operate as specified. We performed these tests to check whether the admin was able to add drivers and vehicles and sign in properly. Also we have checked whether the customer was able to looking up his/her record after login .

Also we have checked whether the admin was able to view driver and vehicles details or not and edit or delete them.

a. **Admin Login** – Admin can login and performed various operations on the website.

b. **Customer(user) Registration** – User can registered themselves and no registered user can re-registered themselves again and again but different user id.

c. **User Login** – Only Pre-registered employee can login to the website only with their correct login credentials.

d. **Add Driver** – Admin can add driver only after logging with the website.

e. **Add Vehicle** - Admin can add vehicle only after logging with the website.

f. **Display Driver** – Admin can view all the drivers data and edit their personal info but driver can't edit his/her data.

g. **Display Vehicle** - Admin can view all the vehicles and edit them, if it is available or not.

4.4 Compatibility testing:

Compatibility testing refers to the process of testing its compatibility across different platforms, devices, browsers, operating system, and network environments. The objective is to ensure that the website functions work properly and consistently for users.

Test Case ID	Element Name	Element Type	Test Condition	Expected Result	Actual Result	Test Result
TC-001	Device Compatibility	Responsiveness on different devices	Checking Responsiveness on devices for e.g., Laptops, tablets, Smartphones	Website will adapt different screen sizes on different devices without any disbalancing	As expected, the website is full responsive and working perfectly	Test case passed
TC-002	Operating System	Checking website behavior on different operating systems	Working on different Operating Systems e.g., Android systems, macOS, iOS, Windows, etc.	There shouldn't be any changes in website Designing, Working, Accessibility and Performance speed, while switching the Operating System	Compatibility As Expected, The Website is working all same even on different Operating System expect Linux operating system	Test case passed
TC-003	End-user Security	Data Security	Testing security measures of users	The logged in user will be able to see his/her own details related information only or correct user-profile is opened for user while logging in	As Expected, Details of login Email is shown, no details of other user are visible to all. Hence Secured	Test case passed

4.5 Functionality Testing:

We check all the features of the Transport Management System are working as expected. For example, verify that admin can browse through different functionality such as view profile, delete user and add vehicle etc.

Verify that admin can successfully login with their credentials. Test login mechanisms to ensure admin can securely access their panel. Test the process which include exam created by admin, including selecting appropriate category, choosing time duration.

Here we also ensure the functionality that is the track will be attempt for fixed time period for the particular goods in which the user satisfied.

CHAPTER 5: IMPLEMENTATION

As we want to implementation in the project so firstly we have to install some IDE softwares for the implementation in our project which are as follows: -

5.1 Visual Studio:

a. Go to official website of the Visual Studio https://code.visualstudio.com/Download

b. Click on the "Download button" for download the Visual Studio version which you want to download.

c. Opt the components that you want to install, like framework, languages and tools as well.

d. Click on the " Install" button for installing the visual stdio code.

e. Follow the process of installation and select the functions that you want to proceed.

5.2 PHP :

a. Go to the official website of PHPs https://www.php.net/downloads.php.

b. Select the version of PHP which is operatable in your OS(Window, macOS,Linux).

c. Click on the "Download" button for start the download.

d. After the downloading, install PHP and follow the installation process and opt the options that you want to proceed.

e. After the complete installation , open a terminal or command prompt and type node-v to check whether the PHP is correctly installed or not. It must display the version of PHP that you recently have installed.

5.3 MYSQL Workbench:-

a. Go to official website of MySQL workbench https://www.mysql.com/products/workbench

b. Select the version of MySQL Workbench for your system.

c. After the complete downloading , run the instlaller. Select the option and complete the installation process.

5.4 ANYPOINTSTUDIO Workbench:-

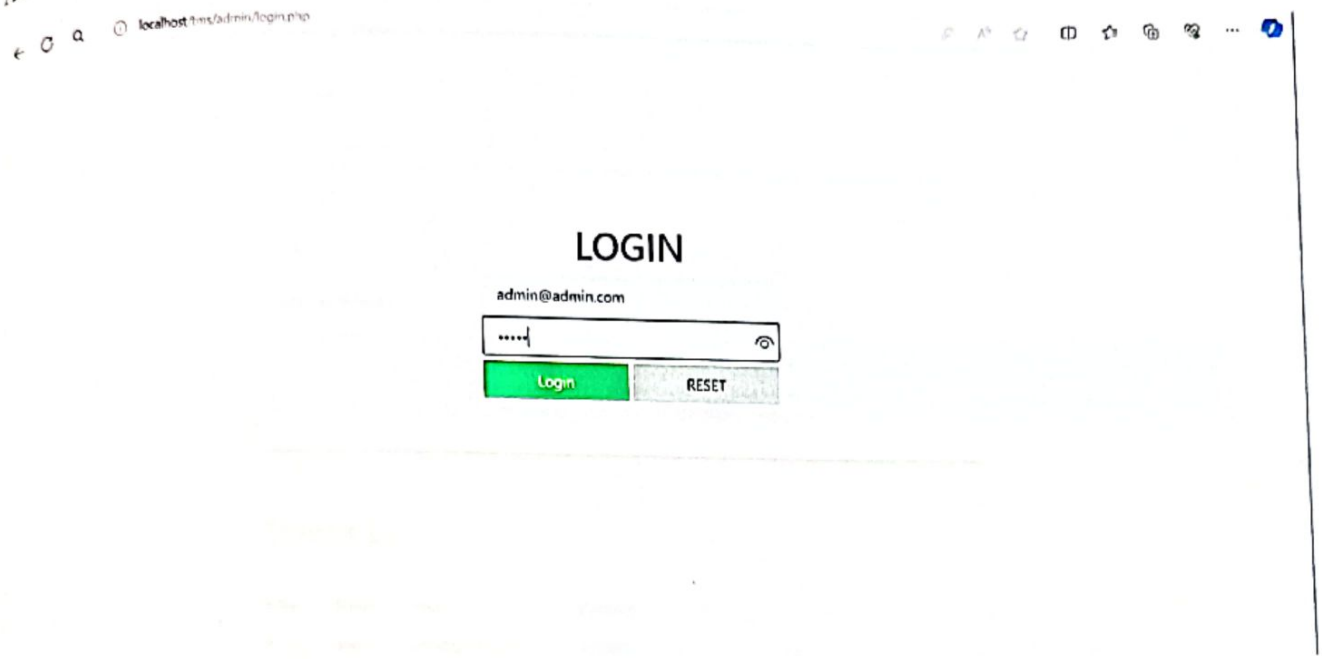
d. Go to official website of Mulesoft anypoint platform and download Anypointstudio workbench https://www.mulesoft.com/anypoint

e. Select the version of Anypointstudio Workbench for your system.

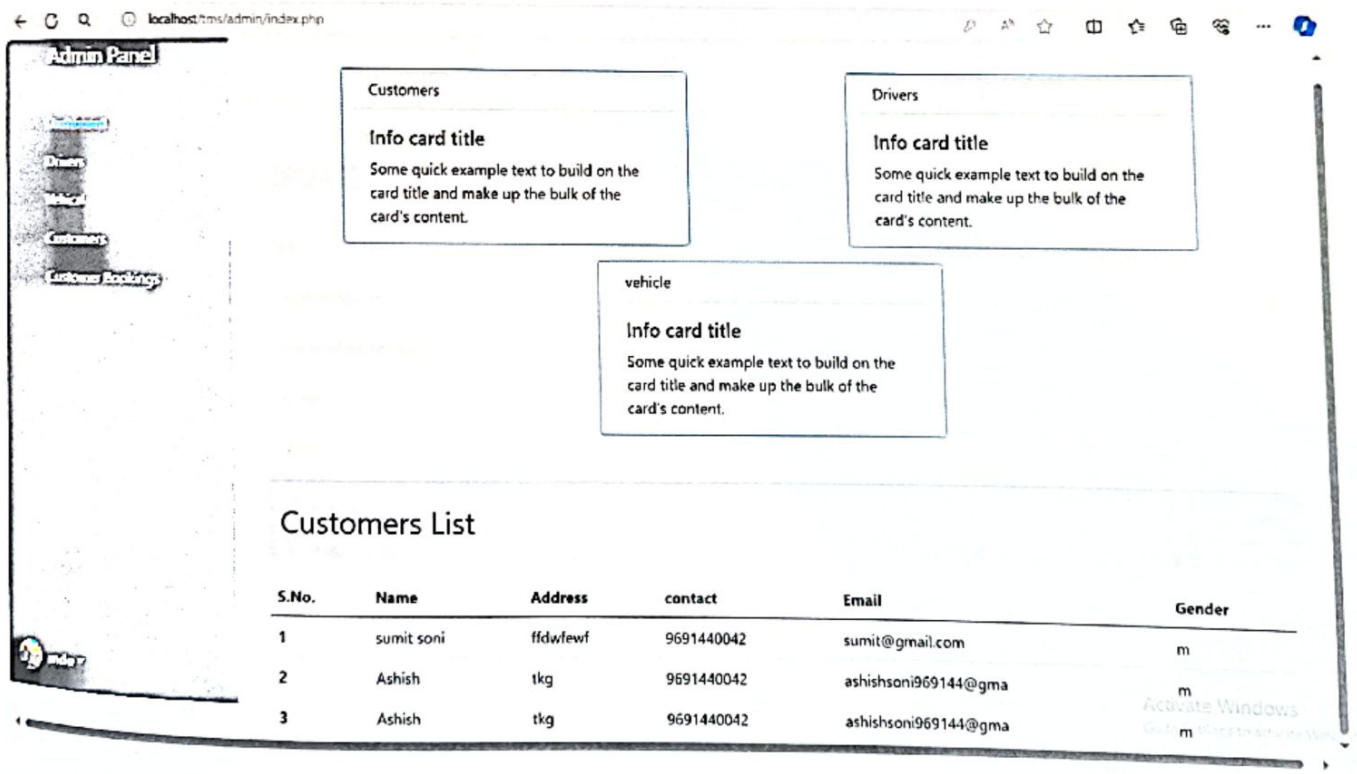
f. After the complete downloading , run the instlaller. Select the option and complete.

CHAPTER 6: SAMPLE FORM AND REPORTS

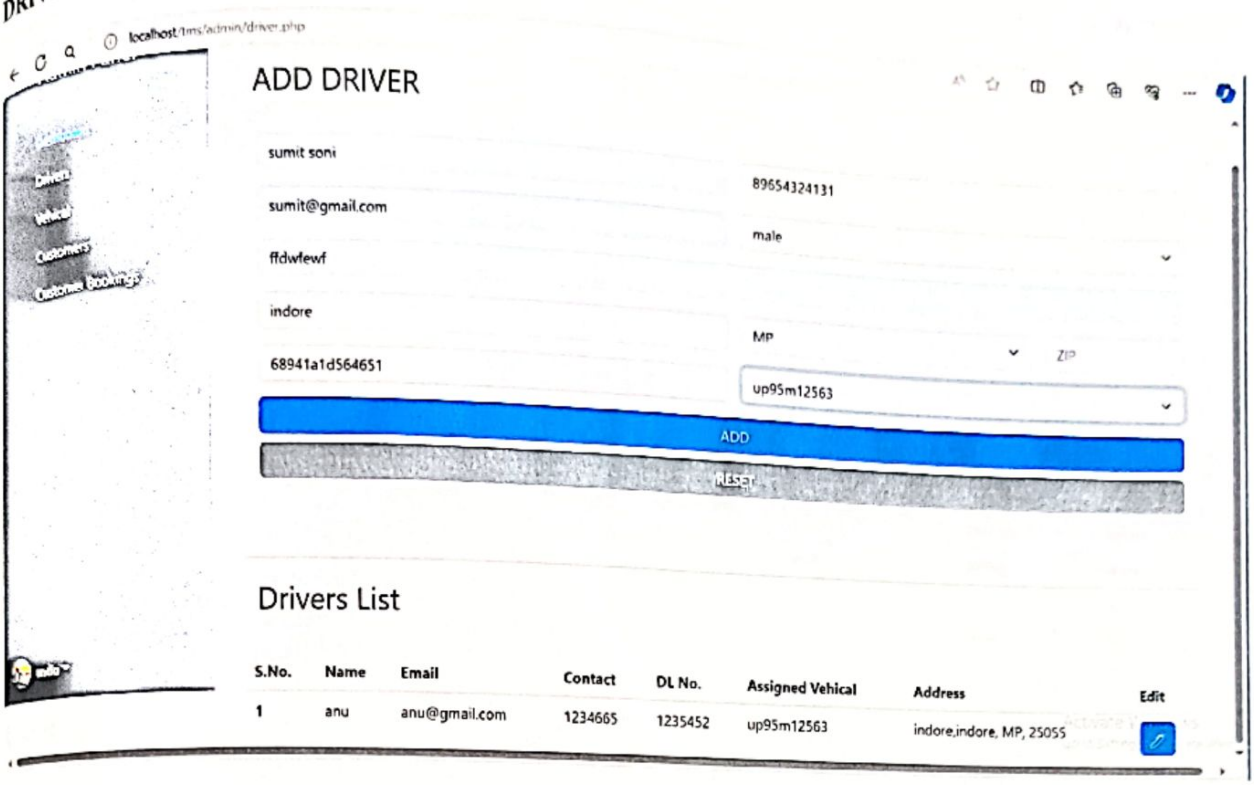
ADMIN LOGIN PAGE



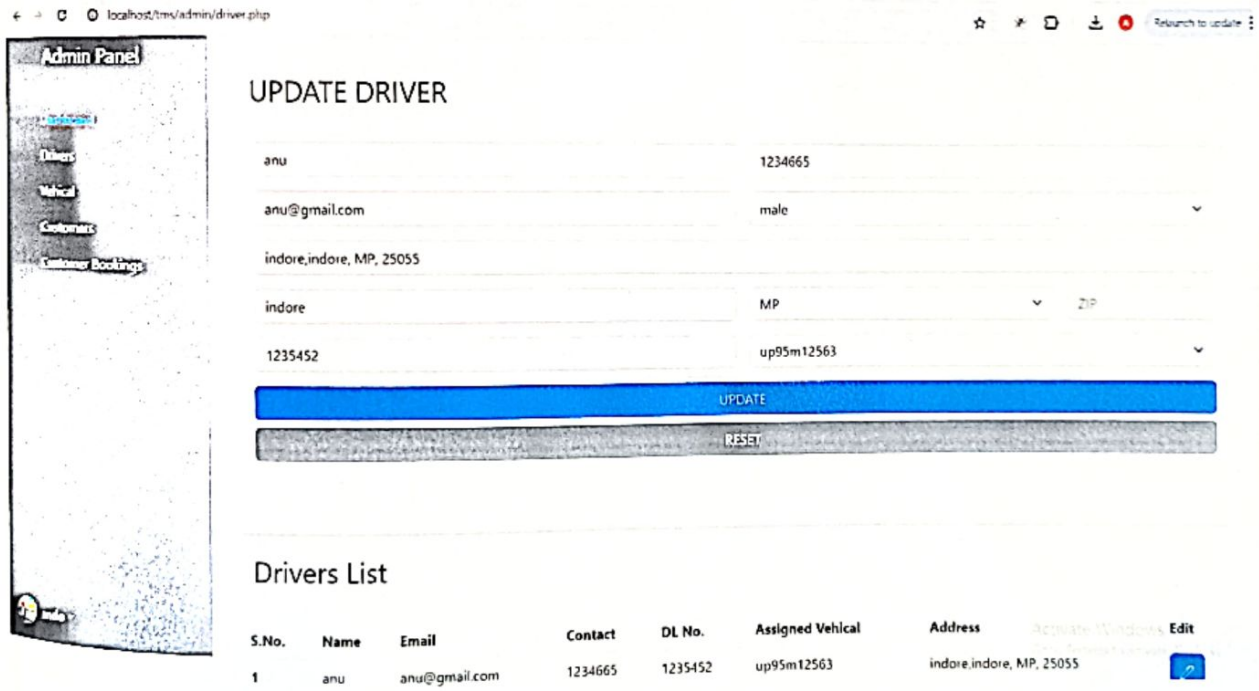
ADMIN PANNEL



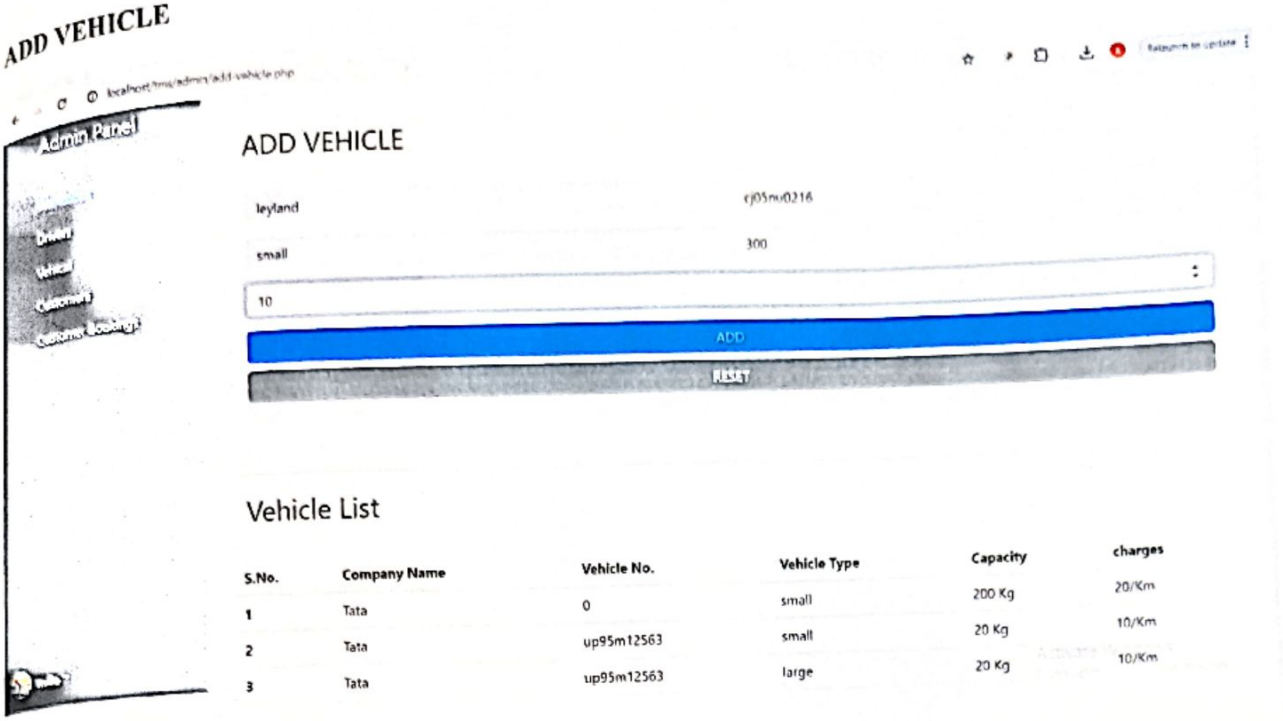
DRIVER



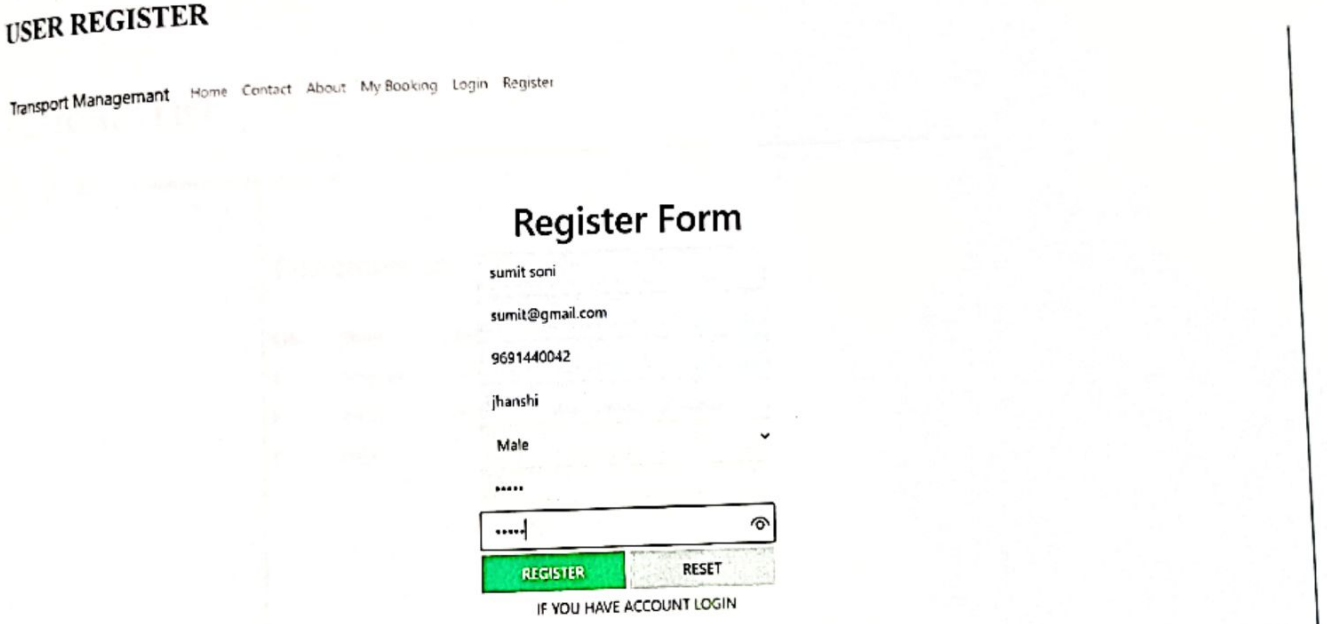
UPDATE DRIVER



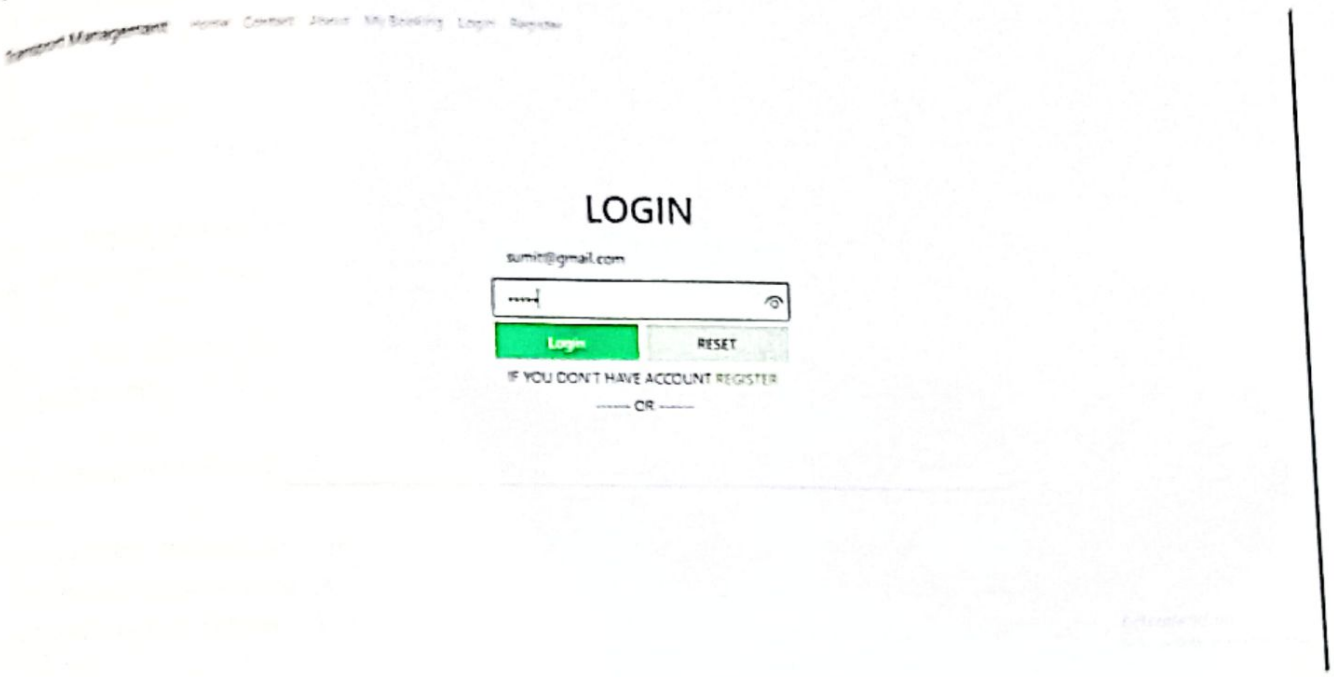
ADD VEHICLE



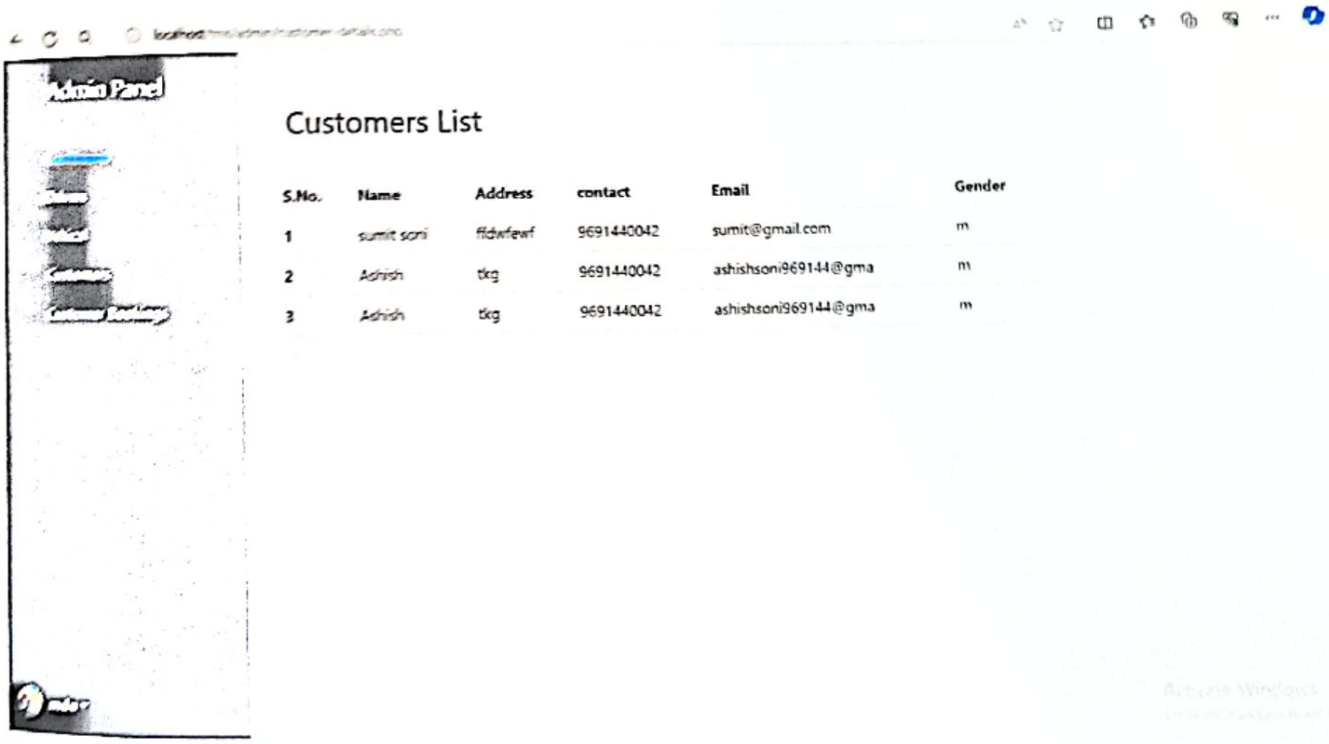
USER REGISTER



LOGIN FROM



CUSTOMER LIST



CHAPTER 7: CONCLUSION AND FUTURE SCOPE

A transport management system is a logistics platform that uses technology to help business plans and execute and optimize the movement of goods, both incoming and outgoing and make sure the goods is delivered properly.

We make this project just to simplify the work load of a user by the time of shifting and have a good maintainability to transport the data from one place to another.

In this project an admin can easily add or delete the information of drivers and vehicles. The admin can also update the user that this particular vehicle is available or not.

By using this software, a admin and the customer can easily track the vehicle in real time, and maintain the salary of every drivers.

The user can be able to fulfill the payment by using cash on delivery or via some online payment mode.

This software reduces the paperwork and maintain the time management as well.
TMS will continue to integrate emerging technologies such as Internet of Things (IoT), artificial intelligence (AI), and blockchain to further enhance visibility, optimize routing, and improve decision-making processes.

Leveraging predictive analytics, TMS will anticipate demand patterns, optimize routes preemptively, and proactively address potential disruptions, leading to more efficient operations and cost savings. With growing emphasis on sustainability, TMS will play a crucial role in optimizing routes to reduce carbon footprint, promoting alternative fuel vehicles, and facilitating eco-friendly transportation practices.

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Criterion	**Poor**	**Average**	**Good**	**Very Good**	**Excellent**
Punctuality/Timely completion of assigned work				✓	
Learning capacity/Knowledge up gradation				✓	
Performance/Quality of work			✓		
Behaviour/Discipline/Team work				✓	
Sincerity/Hard work				✓	
Comment on nature of work done/Area/Topic	Learn HTML Tags and CSS and mulesoft Intigrate				
OVERALL GRADE (Any one)	**POOR/AVERAGE/GOOD/VERY GOOD/EXCELLENT**				
Name of Industry Mentor	VISHAL VERMA				
Signature of Industry Mentor	Vishal				

IndVibe Infotech Pvt. Ltd. Indore

Receiving Date	15/01/24	Name of Faculty Mentor	D.H R.S Jadon	Sign	

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Industry/Organization	Indvibe Infotech Pvt. Ltd		Date/Duration	DD/MM/YR -DD/MM/YR 16/01/24 - 31/01/24	
Criterion	**Poor**	**Average**	**Good**	**Very Good**	**Excellent**
Punctuality/Timely completion of assigned work				✓	
Learning capacity/Knowledge up gradation			✓		✓
Performance/Quality of work				✓	✓
Behaviour/Discipline/Team work			✓		✓
Sincerity/Hard work				✓	✓
Comment on nature of work done/Area/Topic	Learn BootStrap, Advance CSS, Introduction of mulesoft and POSTMAN				
OVERALL GRADE (Any one)	**POOR/AVERAGE/GOOD/VERY GOOD/EXCELLENT**				
Name of Industry Mentor	VISHAL VERMA				
Signature of Industry Mentor	Vishal				

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Criterion	**Poor**	**Average**	**Good**	**Very Good**	**Excellent**
Punctuality/Timely completion of assigned work				✓	
Learning capacity/Knowledge up gradation				✓	✓
Performance/Quality of work				✓	✓
Behaviour/Discipline/Team work				✓	
Sincerity/Hard work			✓		✓
Comment on nature of work done/Area/Topic	Learn mongodb, setup Postman Install node.js and mongodb, SQL XAMPPServer.				
OVERALL GRADE (Any one)	**POOR/AVERAGE/GOOD/VERY GOOD/EXCELLENT**				
Name of Industry Mentor	VISHAL VERMA				
Signature of Industry Mentor	Vishal				

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Performance/Quality of work			✓		✓
Behaviour/Discipline/Team work				✓	
Sincerity/Hard work			✓		✓
Comment on nature of work done/Area/Topic	Learn RAML Language, Deoups XML format and Json				
OVERALL GRADE (Any one)	**POOR/AVERAGE/GOOD/VERY GOOD/EXCELLENT**				
Name of Industry Mentor	VISHAL VERMA				
Signature of Industry Mentor	Vishal				

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Learning capacity/Knowledge up gradation				✓	✓
Performance/Quality of work				✓	
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Sincerity/Hard work				✓	
Comment on nature of work done/Area/Topic	Learn AnyPoint studio, create API's Learn Connectors .				
OVERALL GRADE (Any one)	**POOR/AVERAGE/GOOD/VERY GOOD/EXCELLENT**				
Name of Industry Mentor	VISHAL VERMA				
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OVERALL GRADE (Any one)	**POOR/AVERAGE/GOOD/VERY GOOD/EXCELLENT**				
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Sincerity/Hard work				✓	
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OVERALL GRADE (Any one)	**POOR/AVERAGE/GOOD/VERY GOOD/EXCELLENT**				
Name of Industry Mentor	VISHAL VERMA				
Signature of Industry Mentor	Vishal				

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