Vehicle Management System

Rachapudi Keerthi Sowjanya [1], G. Nagavallika[2], Manne Mani Chandana[3], Chintalapudi Kananka Padma Sai Saketh[4], Atragadda Durga Sai Ganesh [5], Modepalli Kireety [6]

[1,3,4,5,6]B. Tech Student, Department of AIML, Sri Vasavi Engineering College(A), Pedatadepalli, Tadepalligudem– 534101.

[2]Assistant Professor, Department of CSE, Sri Vasavi Engineering College(A), Pedatadepalli, Tadepalligudem– 534101.

Abstract:- The main aim of this project is to avoid any damage/unexpected problem that might occur in the future and in unexpected situations which helps the people in reaching their destination without any problem and taking consideration of passenger's safety and security. While travelling most of the people are suffering from the problem that is Vehicle breakdown on the road. There may be many reasons for the breakdown like engineer pair, type punctures, hardware re pairs etc. Sometimes they don't have the spare part of the vehicle and it is also difficult to find the near estmechanic shop. Even though the spare parts are available. If the particular person doesn't have any knowledge on the problem, they feel difficult and take a lot of time to solve. Our website is going to be solution, for the people who seek help in the remote locations in unexpected situation raised by the mechanical issues.

Keywords:- Project, Platform, Webportal, Management System.

I. INTRODUCTION

Our project is a web-related application that provides services to users. In this modern world vehicles are one of the most important requirements needed by the people. People may face different problems while reaching to their destination due to vehicle breakdown on roads. So, we came up with a solution which gives services to people and save their time. Any vehicle user who is facing the breakdown of his/her vehicle can make use of our website to get services provided by the organizations which are associated with our website. This website uses innovative technology that connects you with a service providing organization. Request sent by customers or users are not taken manually so it saves the time. To get services the user must login with the required credentials like username, password, phone number. Then the user must mention problem if known, vehicle details must be provided by the user. When the request is approved It provides safe and secure services.

II. LITERATURE SURVEY

The most important step in the software development process is the literature review. This will describe some preliminary research that was carried out by several authors on this appropriate work and we are going to take some important articles into consideration and further extend our work.

- "VEHICLE SERVICE MANAGEMENT SYSTEM" done by Dr. **C. K. Gomathy, Chandrasekhar, Mallikarjun, Dr. V Geetha** proposed an analysis of Early detection of vehicle concerns is crucial to preventing them from developing into serious difficulties. The study was carried out by the researchers to evaluate the everyday activities and transactions carried out in auto repair facilities. Utilizing the technology to run the company will help car garages expand and improve operational efficiency and solve customer's problem effectively. This predictive model was developed, based on python using Django.

- Sai Chand, Emily Moylan, S. Travis Waller and Vinayak Dixit discussed about what are the reasons for the vehicle breakdown and how many vehicles got broken down in the middle of the road and collected the traffic incident dataset covering 4.5 years in Analysis of Vehicle Breakdown Frequency.

- Akhila V Khana Puri, Anagha Shastri, Gareth D'Souza, Shannon D' Souza surveyed the number of cars on road, number of road accidents and vehicle breakdown cases recorded as well as finding effective ways to solve the problem in on road a car assistant application.

- W. Wang, H. Chen, M.C. Bell proposed an analysis of vehicle breakdown duration on motorways. The distribution of breakdown duration was shown to be statistically significantly different for three categories of vehicle type and were shown to conform to a Weibull distribution. A predictive vehicle breakdown duration model was developed, based on fuzzy logic.

III. EXISTING SYSTEM

In the existing system basically, people have do or to door facilities in which may not be available for all the people sometimes for huge and complex repairs they need more skilled mechanic and which may not be available in their areas. In common days if a customer is facing a trouble in finding a good organization which take care of the problem in a safe and secure.

- **Limited Resources and Limited Mechanics:** In real life when a mechanical problem occurs the availability of mechanics is limited as well as resources are also limited in the particular areas

- **Inefficient Knowledge:** When a Person got stuck in a in unknown area and have no idea about the place. Even though they find a mechanic if the problem is too complex and the mechanic have no knowledge on the problem.

- **Difficulty in finding agarage or repair store shop in unknown locations:** It is difficult forpeople to find a mechanic or repair shop in time in case emergency. In unknown areas it is difficult for people to find repair

shops.
- **No availability of spare parts:** In some areas there is no availability of spare parts for complex problems and the available spare parts are also charged at the higher price.
- **No proper service:** Most of the people face many problems according to the services provided by the organizations. Some may provide a good service and some may not.

IV.   PROPOSEDSYSTEM

Principal features of the proposed work could include:

The purpose of this project is to provide vehicle servicing system more efficiently than the existing system. To deal with the problems in the existing vehicle service management we develop vehicle service management system online is fully customized web application where customer can find vehicle services nearby and company staff can view each customer order and give a solution to those vehicle problems. Thus, our project is proposed to assist customers and fulfill their requirements easily. And

this project provides job opportunities for the mechanics with respect to the requirement of the admin.
- **User Interface:** Our system provides user friendly interface. For interface design we used HTML, CSS and little bit of JavaScript in python and for frame work we used basic boot strap
- **Boot Strap Frame work:** Boot Strap is a framework that allow developers to create a website more quickly. It is a collection of pre written code chunks in CSS, html. Boot strap is used to simplify the development of informative web pages. It is a front end frame work used for easier and faster web development.
- **Django**: Django is a python frame work that makes it easier to create web sites using python Django takes care of the difficult stuff so that you can concentrate on building your web applications. Django emphasizes reusability of components, also referred to as DRY(Don't Repeat Yourself) and comeswith ready-to-use features like login system, database connection and CRUD operations(Create Read Update Delete)
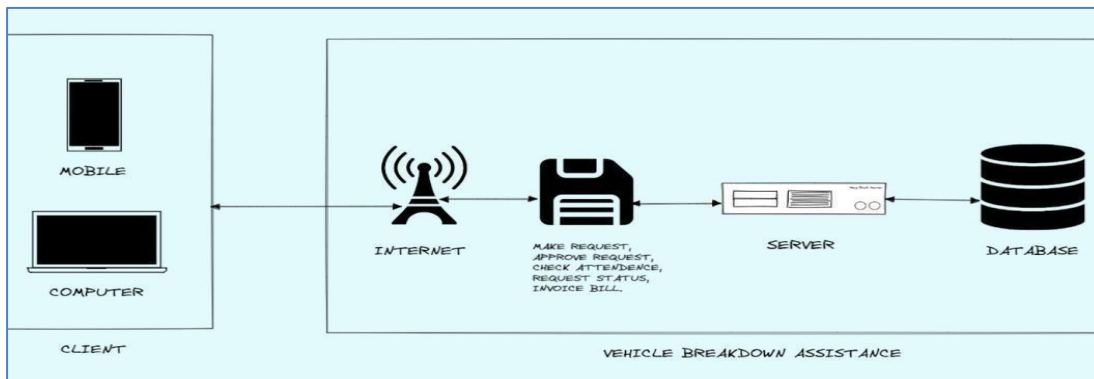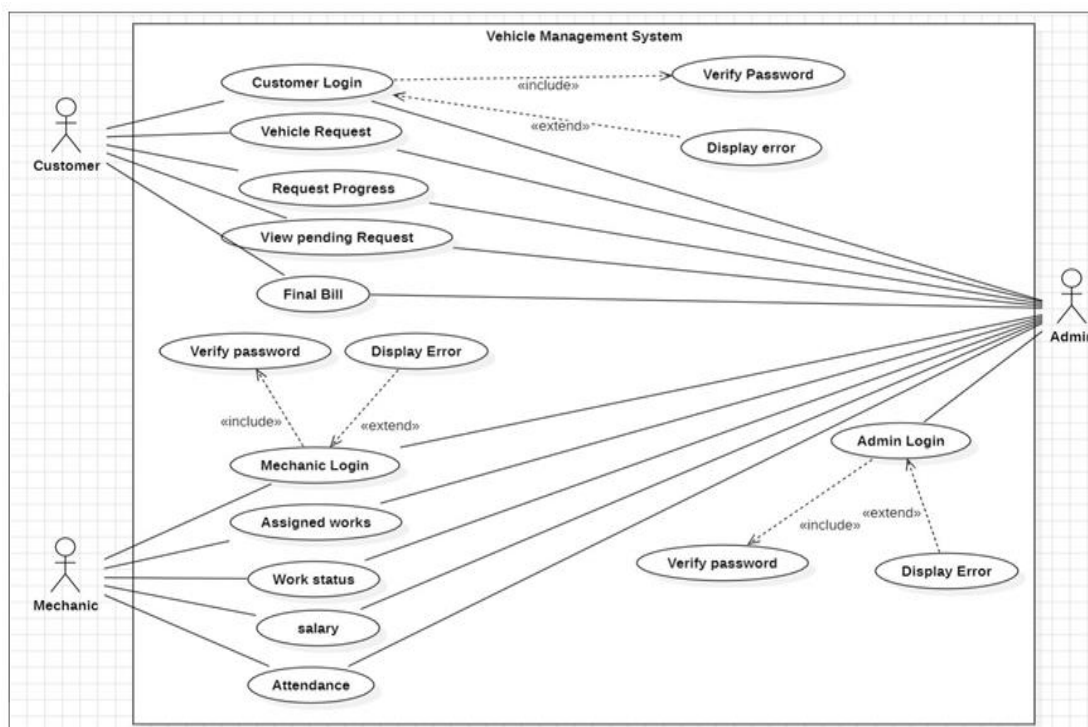

Fig. 1: System Design

Fig. 2: Umlusecase Diagram

Our application contains three modules customer, Mechanic and Admin. The above uml diagram explains the process between all the three modules here the admin can view all the Mechanic as well as Customer details.

V. SEQUENCE DIAGRAM

A sequence diagram in Unified Modelling Language (UML) is a kind of interaction diagram that shows how processes operate with one another and in what order. It is a construct of a Message Sequence Chart. Sequence diagrams are sometimes called event diagrams, event scenarios and timing diagrams. A sequence diagram shows, as parallel verticallines(lifelines), different processes or objects that live simultaneously and as horizontal arrows, the messages exchange between them, in the order in which they occur.

A Sequence diagram is dynamic, and, more importantly, is time ordered. A Collaboration diagrams very similar to a Sequence diagram in the purpose it achieves; in other words, it shows the dynamic interaction of the objects in a system. A distinguishing feature of a Collaboration diagram is that it shows the objects and their association with other objects in the system apart from how they interact with each other.
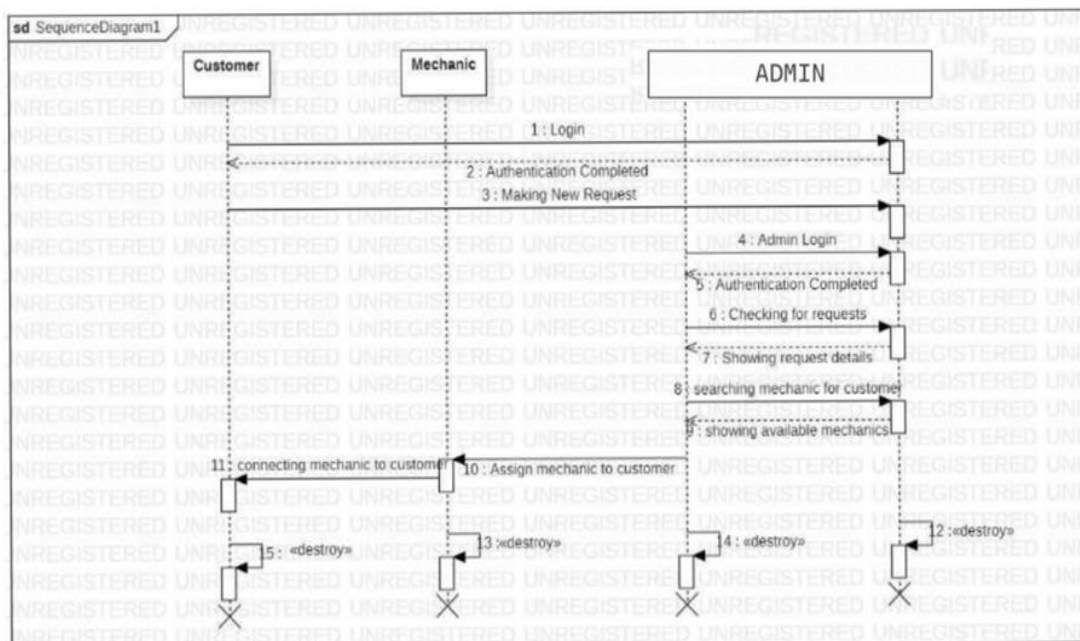
Fig. 3: Sequence Diagram
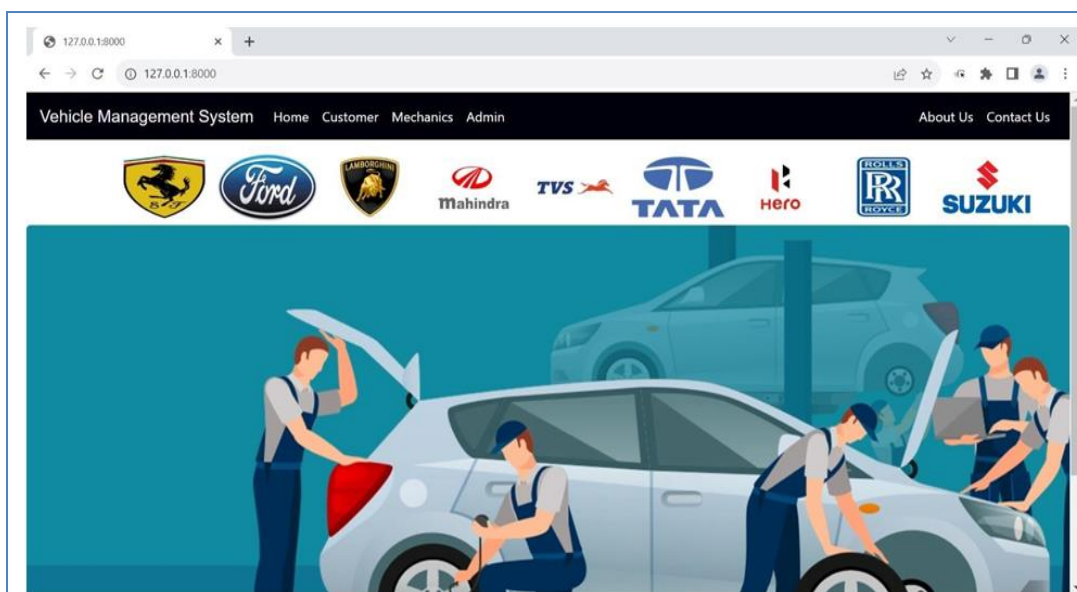
VI. EXPERIMENTAL RESULT

Fig. 4: Home Page

- **Explanation:** The about picture shows the main page of the project containing fields like Home, Customer, Admin, Mechanic, about us and contact us
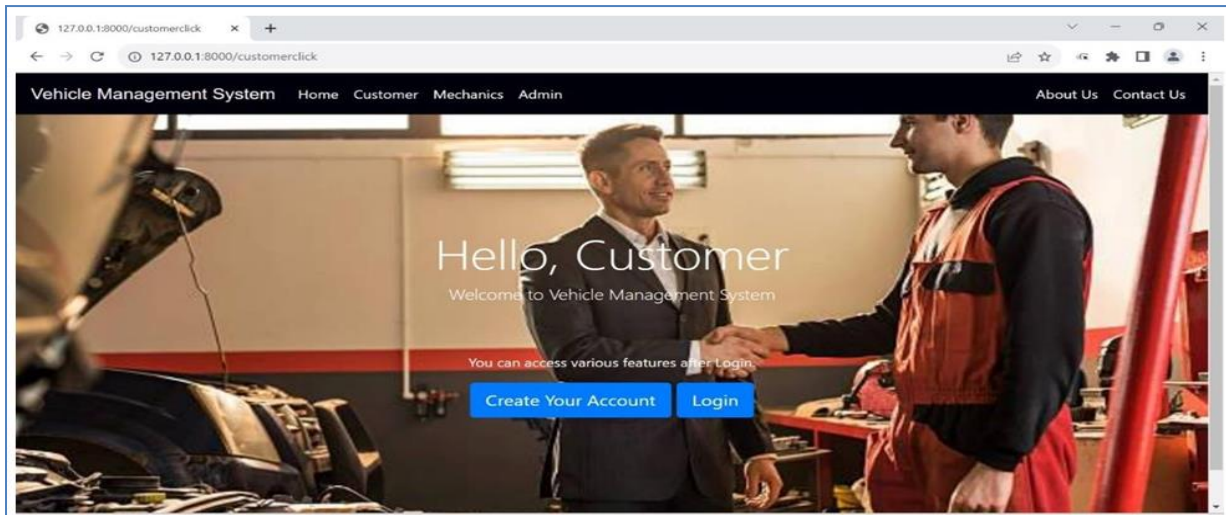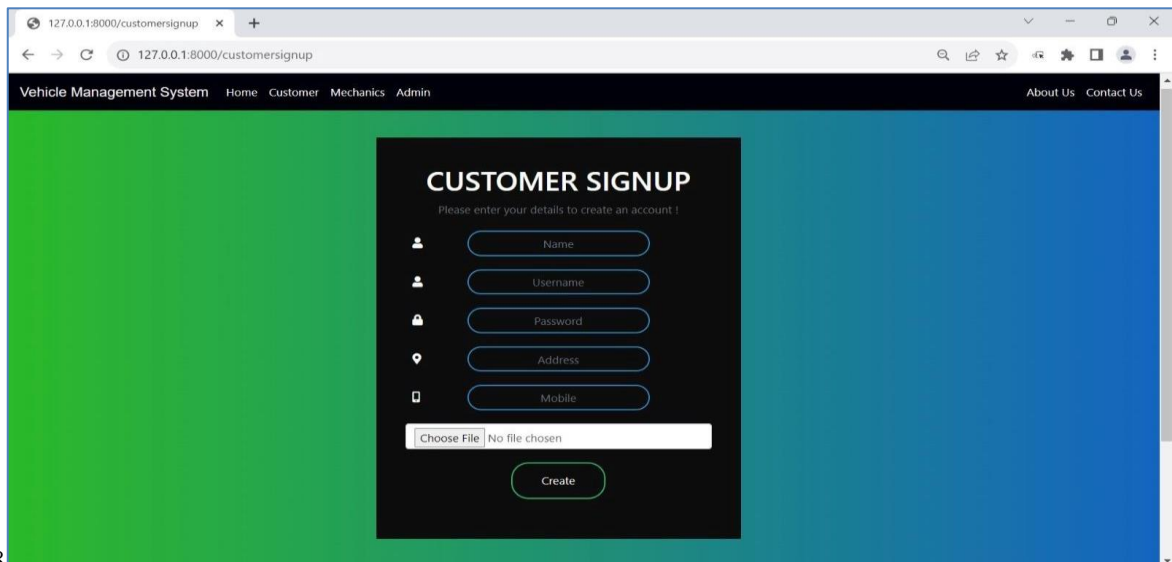
Fig. 5: Customer Page

- **Explanation:** This is the Customer page the new Customer need to create an Account to get the services and login with their credentials.

Fig. 6: Customer signup page

- **Explanation:** This is the Customer login page in which a new customer needs to create their account so their account will be created**.**
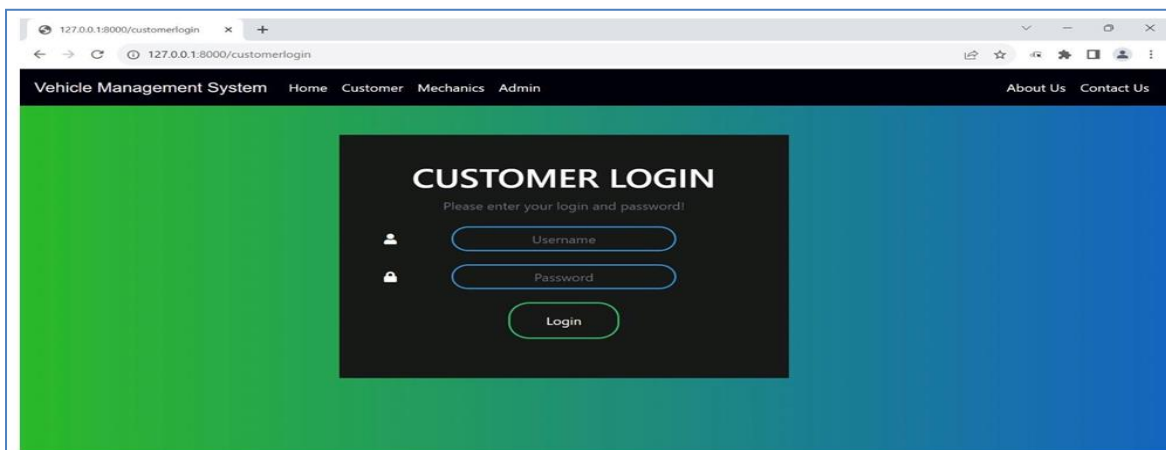
Fig. 7: Customer Login Page

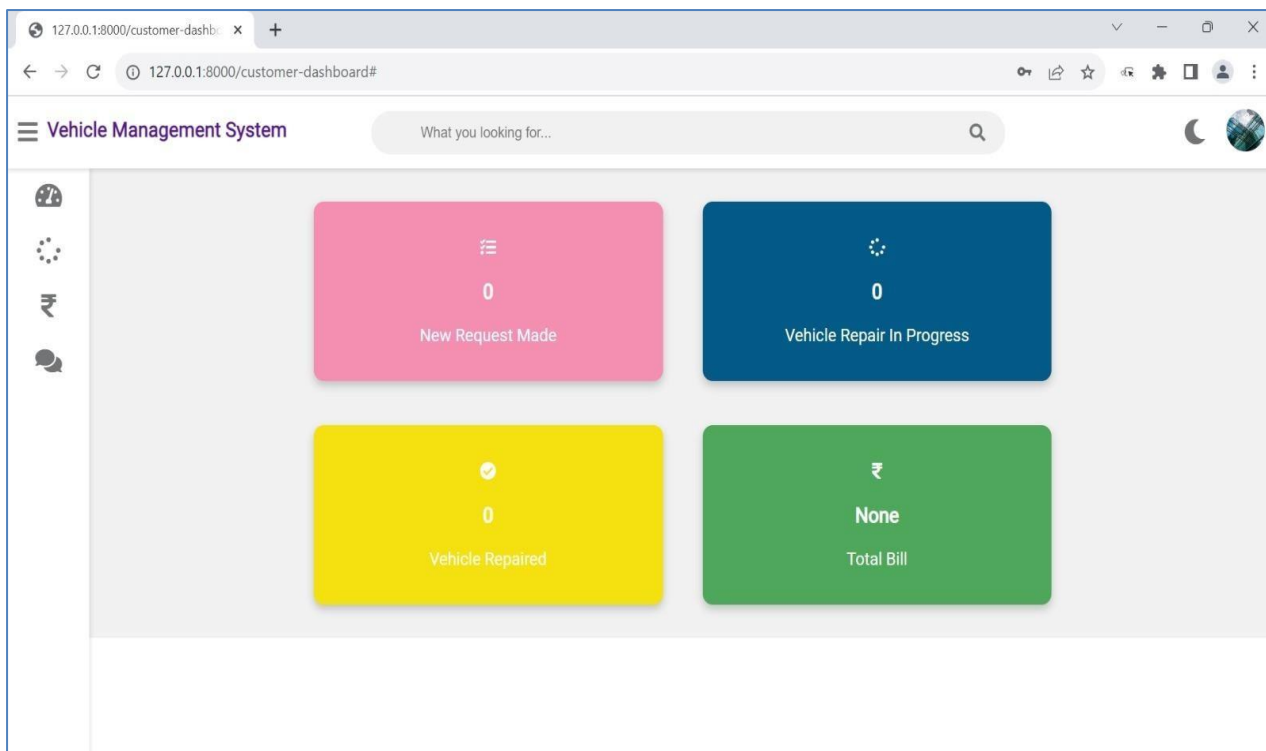- **Explanation**: This is Customer Login page. The customer who created account can Directly login.

Fig. 8: Customer Dasboard Page

- **Explanation**: This is Customer Dashboard. This page contains Three Fields they are New Request, Vehicle Repair in Progress, Vehicle Repaired, Bill this fields contains information about customer and their request details and other related to repair status.
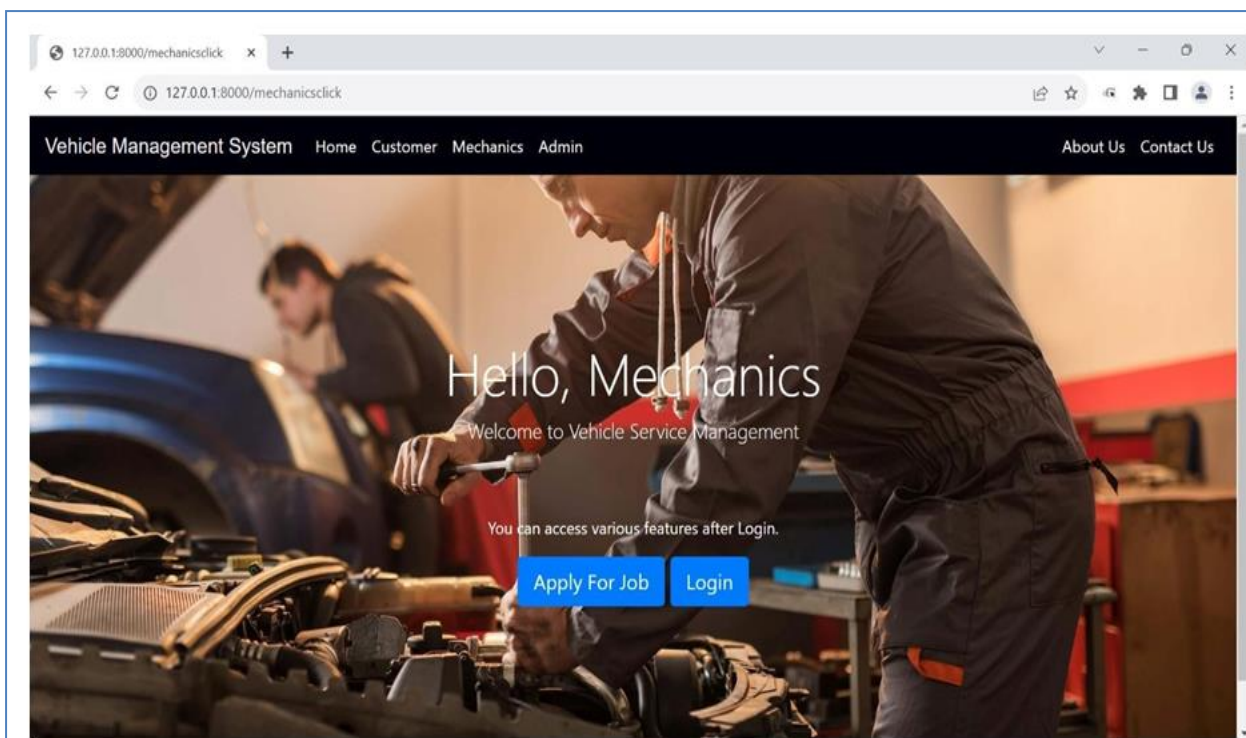

Fig. 9: MECHANIC PAGE

- **Explanation:** This is Mechanic page the Mechanic can Apply for Job and when the mechanic as been hired by the organization the mechanic can login.
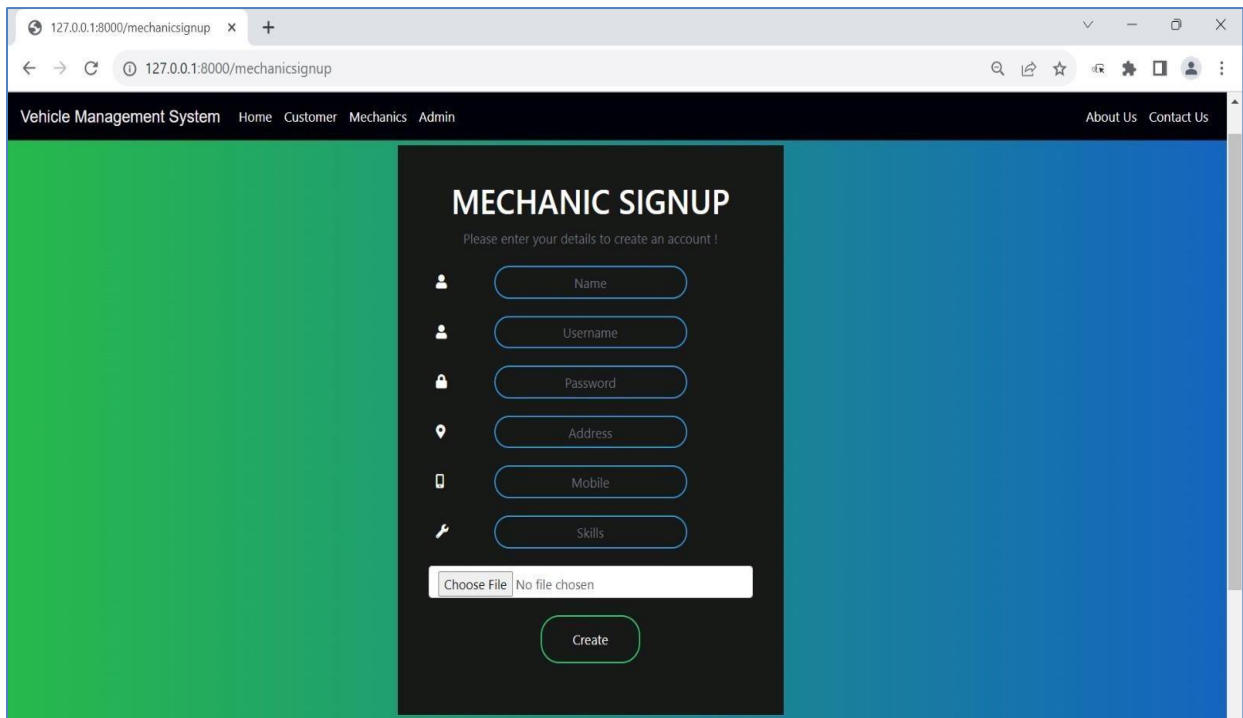
Fig. 10: Mechanic Signup Page

- **Explanation:** This is Mechanic Signup page. The Mechanic need to create their account.
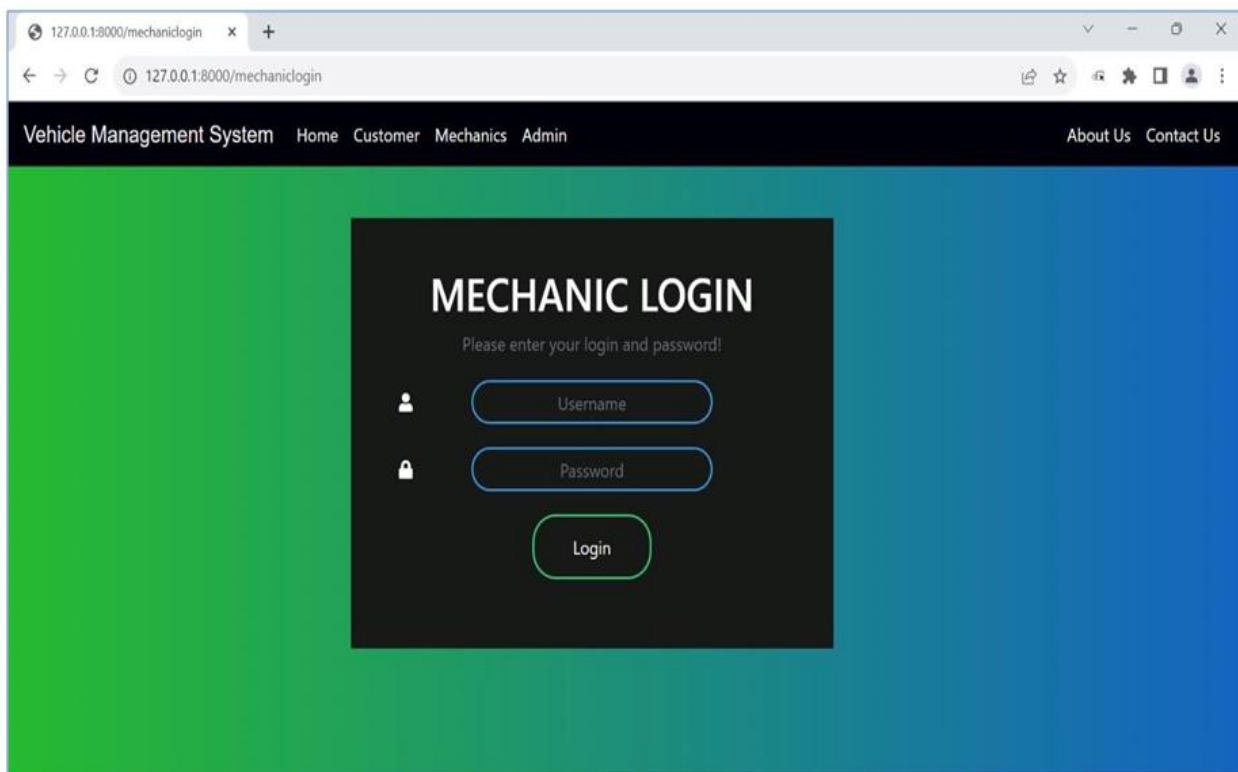

Fig. 11: MECHANIC LOGIN PAGE

- **Explanation:** This is Mechanic Login page. The Mechanic can Login after the mechanic Hired by organization.
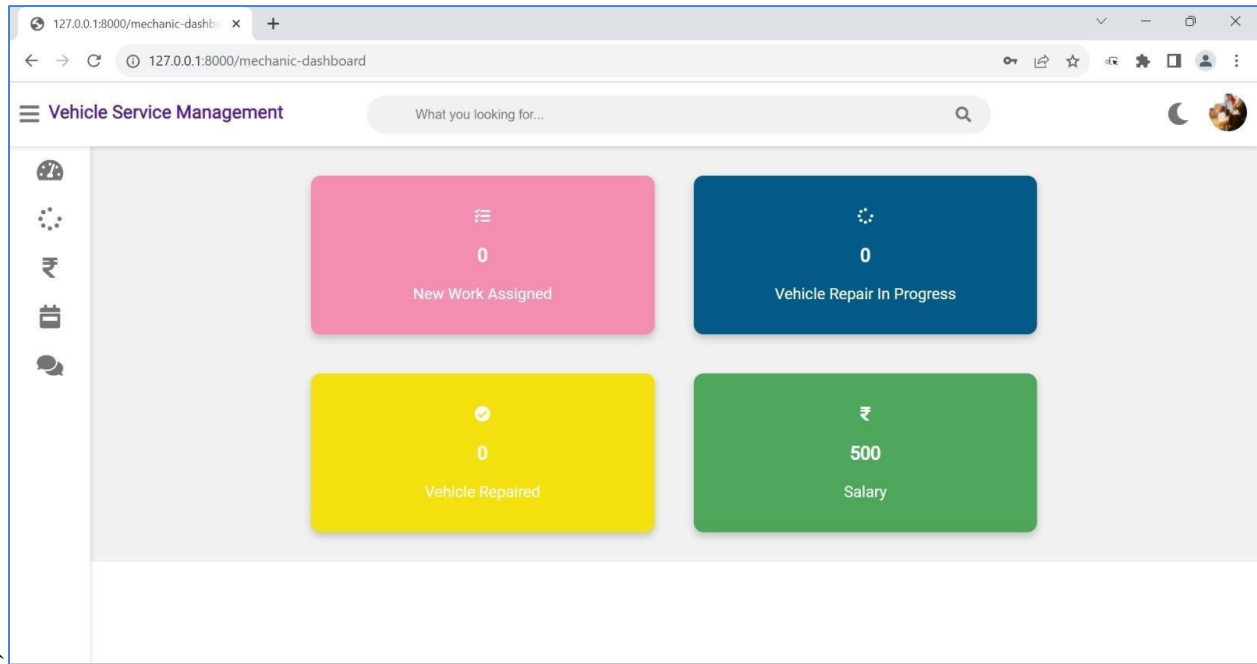
Fig. 12: Mechanic Dashboard

- **Explanation:** This is Mechanic Dashboard. This contains fields like Work assigned, Repair Progress, Vehicles Repaired, Salary
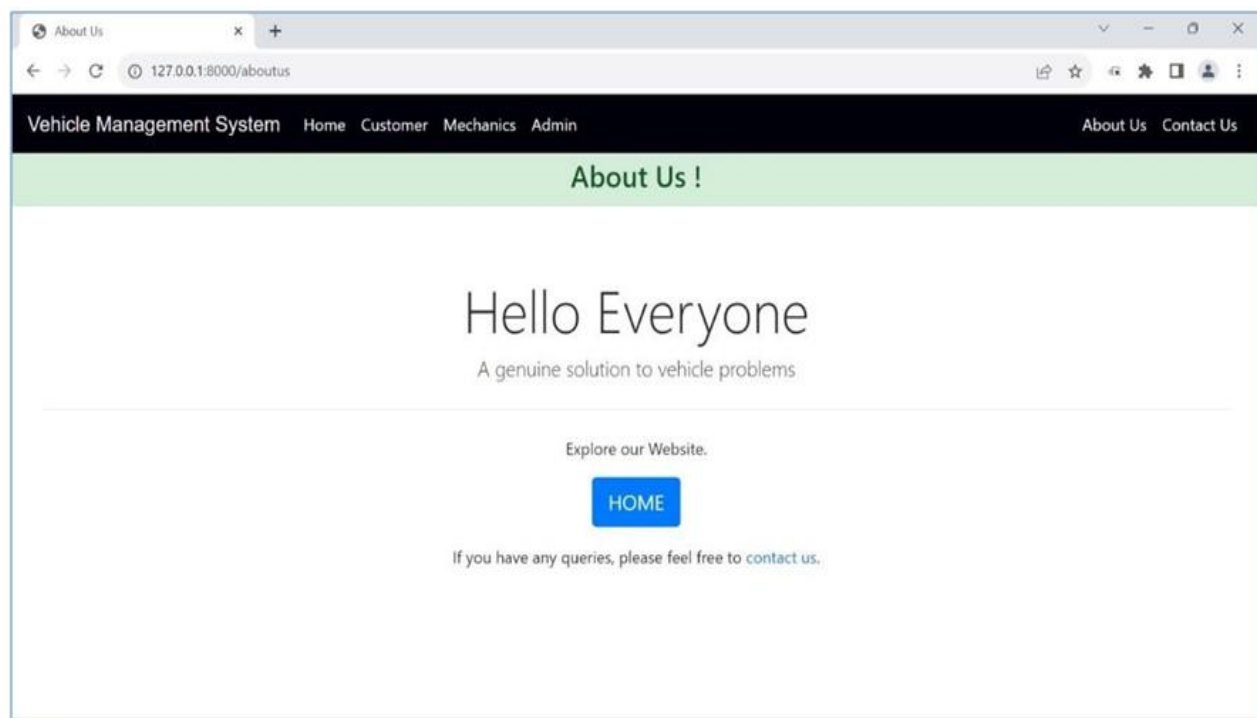

Fig. 13: About uspage

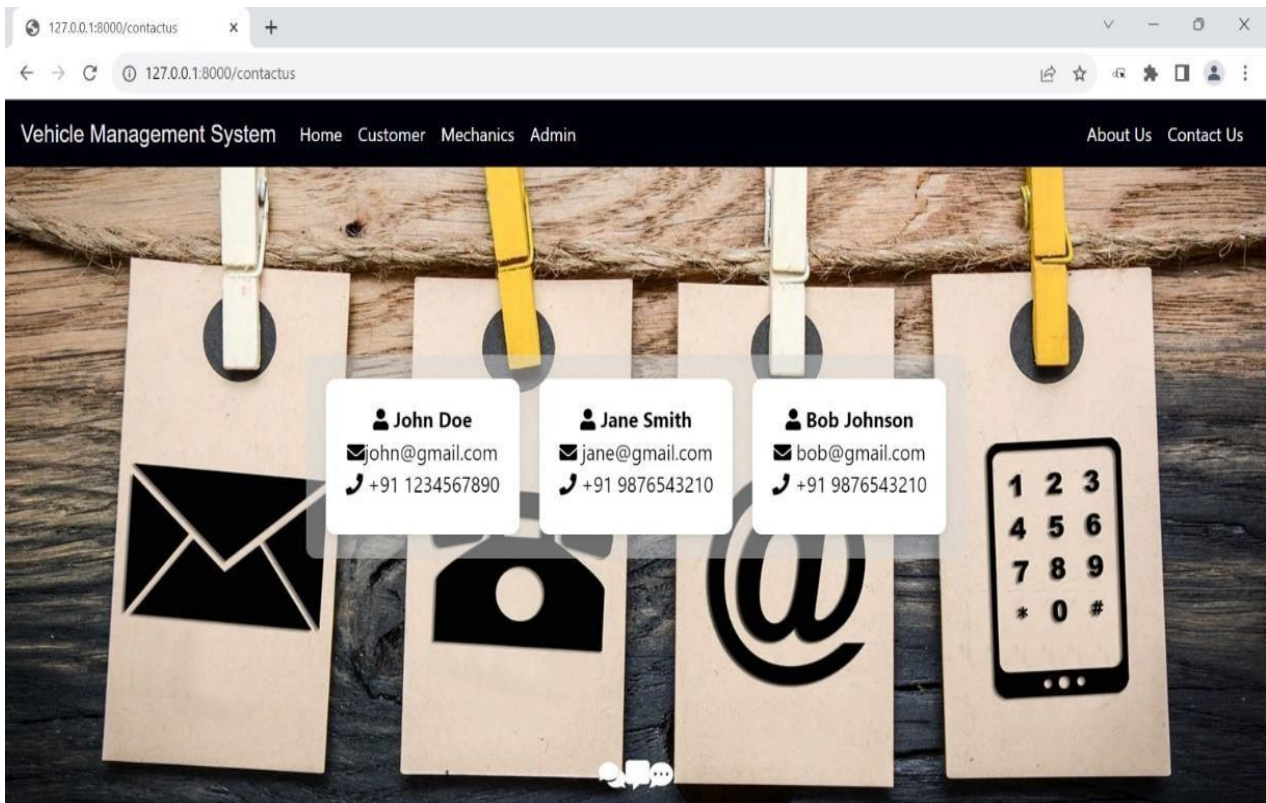- **Explanation:** This About Us which navigates to the homepage.

Fig. 14: CONTACT USPAGE

- **Explanation:** This is Contact Us page this contain contact details of organization coordinators.

VII. CONCLUSION

The web-based platform Vehicle management system provides vehicle related services for the user in remote locations in any type of situation. This is a user friendly and easy to use web platform. It simplifies our life's. Vehicle plays a wide role in our life Basically they became apart in our life. This type of platforms may save customers time and money. When compared to the current system it offers a user-friendly graphical interface. This can be a best solution for this modern and technical generation. This can be further modified by adding more useful extra features to the existing system according to the common problems faced.

VIII. FUTURESCOPE

- We can implement a chat bot where a customer can use the chat bot to contact the service centre to get clarity about their queries.
- We can also display the location of the customer to the assigned mechanic by using maps so that he can find the break down spot easily.
- We can add some extra features like adding renting facility for any type of vehicles.
- We can also add home delivery services like repairing the vehicle at any place and deliver it to customers place if requested.
- We can implement on line payments for the customers easy usage. We can also add another facility which provides OTP for login so it improves security.

REFERENCES

[1]. "Hanamant B.Sale, Dharmendra Bari, Tanay Dalvi, Yash Pandey", "Online Management.
[2]. System for Automobile Services", International Journal of Engineering Science and Computing (IJESC), Volume 8 Issue No.02, March-2018.
[3]. "Prof. Shilpa Chavan Saket Adhav, Rushikesh Gujar, Mayur Jadhav, Tushar Limbore", "Automobile Service Centre Management System", International JournalofScientificandResearchPublications,Volume4,Issue3,March2014.
[4]. "Doctoral Dissertation by Jonas Kuschel", "Vehicle Services", Studiesin Applied Information Technology, September 2009 ISSN1652-490X; 7,ISBN978-91-628-7870-2.
[5]. Abraham Sudharson Ponraj, Shivang Shah, Parimal Abhishek, Deep Shrivastava", "Vehicle Service
[6]. Management and Live Monitoring with Predictive Maintenance System", 2019 International Conference on Vision Towards Emerging Trends in Communication and Networking(ViTECoN).