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High-tech Advanced Roadside Vehicle Breakdown and Accidental Service System

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Abstract: *The High-tech Advanced Roadside Vehicle Breakdown and Accidental Service System is an innovative solution designed to enhance the efficiency and effectiveness of roadside assistance and accident response services. High-tech advanced Roadside Vehicle Breakdown And Accidental service system Application is a mobile app designed to provide quick and efficient roadside assistance to users experiencing vehicle breakdowns. The application will be built using Android Studio with Java as the primary programming language, and it will leverage Firebase Database for real-time data storage and retrieval. Additionally, a user-friendly mobile application allows users to request assistance, track progress, and access relevant information. With a built-in data analytic module, the system collects and analyzes data to optimize performance. the High-tech Advanced Roadside Vehicle Breakdown and Accidental Service System aims to revolutionize the industry by providing faster, more efficient, and customer -centric service.*

Keywords: user, vehicle, registration, login, etc

I. INTRODUCTION

Introduction to an High-tech Advanced Roadside Vehicle Breakdown And Accidental Service System Project using Android Studio, Java, and Firebase Database. In the modern world, the need for efficient and timely assistance.An High-tech advanced Roadside Vehicle Breakdown And Accidental service system aims to provide a solution to this problem by creating a mobile application that connects distressed This project utilizes Android Studio, Java, and Firebase Database to offer a user-friendly and effective solution.Today most of people use their own vehicle for travel. While travelling most of us are troubling with breakdown of our vehicle on the road. This is a worst experience that they have to face. When our vehicle suddenly breakdown on the road, the user have to search for mechanic and have to see a spare-part shops near to their location.At that time we can't able to search for a good mechanic and we have to arrange some other transportation. By using this app the user can find suitable mechanic. The most advantage is the user can find a mechanic based on their user location. This project will show the name and address or location of all mechanic. This will show the user location and direct the nearest service provider to user and the chat platform where the user can ask some relevant questions to the mechanic. It expects that through some research, the statistics of car breakdowns can be obtained to see if this project is helpful to those in need. Everyone can access this app. This website will help to reduce wasting user time for found a proper mechanic. app shows the user locating and direct the nearest service provider to user. When the user searching mechanic application will show mechanic by his specialty, contact details, image, and rating. After job completed user can rate and give feedback to the relevant mechanic. User requests included user location, required service type, vehicle details, and description. Admin can view all registered user and mechanic details. Introduction chapter is discussing about background of the project and it describe the aim, objectives and artifacts of the project. That is introduce of the project to others.

1.1 PROBLEM STATEMENT

The problem identified for the High-tech Advanced Roadside Vehicle Breakdown and Accidental Service System is the lack of efficient and effective roadside assistance services for vehicle breakdowns and accidents. This problem stems

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from various issues such as delays in response time, limited availability of service providers, improper coordination between parties involved, and insufficient technological advancements in the existing roadside service systems. Overall, the problem identified for the High-tech Advanced Roadside Vehicle Breakdown and Accidental Service System is the need to address the issues of response time delays, limited availability of service providers, improper coordination, and insufficient technological advancements. A comprehensive literature review will provide insights into existing studies, solutions, and best practices that can inform the development of an advanced roadside service system to tackle these challenges effectively.

II. LITERATURE SURVEY

PAPER 1- A car breakdown service station locator system Findings- The On-Road Vehicle Breakdown Assistance is like a car breakdown service station locator. But there is a chat platformto discuss the type of breakdown and exchange ideas about vehicle breakdown. At this point, the Car Breakdown Service Station Locator. System will be developed on Android platform due to the time constraint and a lot of research need to be done to develop the system.

PAPER 2 - Geo Location Tracking System and Method Findings -Geo Location Tracking System and Method is Geo tracking routing from point to point in geographical location. In "Help Me there is a location tracking based on user location. User can search the spare parts shops based on their location. With recent technological advancement of modern science people are now expecting the information about the location of any object for tracking purposes. Presently, we want more location-based services for being advanced and to save time and money also. GPS is a system which is already implemented and everyone can access it without any restriction. Having the facility of GPS to develop this system we need a GPS device to calculate the location from the information taken from GPS.

PAPER 3 VEHICLE BREAKDOWN ASSISTANCE This application is used to find nearby area mechanics while we suddenly stranded on the remote locations with mechanical issues of our vehicle. It is a good solution for the people who seek help in the remote locations. In this, the approved mechanics are enlisted in this application. Also they are under monitored by this system for not charging any extra service fee from the users. This can be monitored by the admin through the user feedback based on their service. The registered users can access this application. This application will help to reduce wasting user time to found a proper mechanic. This application will allow user to make payment for a vehicle repair in a reasonable price.

The recent technological advancement in the field of mobility has impressed the current society tremendously. (Haridas, Baharudin, & karkonasasi ,2016) Based on AAM annual report, statistic shows that around 70% of service is resolved immediately which is classified as minor failure breakdown issue. Minor failure breakdown has segregated into several categories like engine failure start up, engine failure heat, lockout, and others. This statistic is only from single organization apart from the other services available nationwide. This clearly shows that the number of vehicles encountering such emergency situation requires the service to be available.(Haridas, Baharudin, & karkonasasi ,2016) Firstly, theexisting manual process is not able to address the transaction request effectively. The manual process is holding back staff as they are unable to provide quick response due to lack of streamlined system with sufficient information available. Secondly, quick responses features are insufficient in the existing products. This limits a quick response for the consumer when there is an emergency request. In the existing products, the emergency request is being handled by the call center hotline as an interim person before reaching the vendors. This causes the consumers to experience slow responses due to long waiting hours at the call center. (Kumaar.D,Balakrishna, Subha, Harin. K, 2019) Akhila V Khanapuri et al (2015) proposed that there has been an exponential increase in the number of cars on road, number of road accidents and vehicle breakdown cases recorded. Finding effective ways to achieve maximum fuel efficiency.

III. PROPOSED WORK

In an proposed Here the users of High-tech Advanced On Road Vehicle Breakdown Accidental service system can search for list of mechanic at any location or the nearby locations which will help them in an unexpected situations raised by the mechanical issues of their vehicles. When the vehicle breakdown occurs the driver have to see a mechanic or the repair shop. The driver has to ask for help from the people.

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1. Market Research:
Conduct market research to understand the competitive landscape and identify potential gaps in the market. Determine the unique selling points and value propositions of your application.

2. User Stories and Requirements:
Create detailed user stories and requirements for the application. Define use cases and functionality based on user needs.

3. Architecture and Design:
Design the application's architecture, including the database schema and system components.
Create wire frames and mock ups for the user interface.

4. Technology Stack Selection:
Choose the appropriate technologies and tools for Android development (e.g., Android Studio, Java) and back end development (Firebase).

3.1 PROPOSED STATEMENT

Admin Module

Admin first registers and login himself on the application
Admin panel to monitor and manage users and service providers. To store a database user and mechanical. Its include for admin module in all services, business.

User Module

First Registers in the application, to add the information for user. after registration process.

Mechanic Modulee

Mechanic First Registers in the application, to add the information for detail in business. after registration process Then login page to login the mechanic after to fill information of garage and current location.
The problem identified for the High-tech Advanced Roadside Vehicle Breakdown and Accidental Service System is the lack of efficient and effective roadside assistance services for vehicle breakdowns and accidents. This problem stems from various issues such as delays in response time, limited availability of service providers, improper coordination between parties involved, and insufficient technological advancements in the existing roadside service systems. Overall, the problem identified for the High-tech Advanced Roadside Vehicle Breakdown and Accidental Service System is the need to address the issues of response time delays, limited availability of service providers, improper coordination, and insufficient technological advancements. A comprehensive literature review will provide insights into existing studies, solutions, and best practices that can inform the development of an advanced roadside service system to tackle these challenges effectively.

3.2. METHODOLOGY

This chapter gives elaboration on the proposed approach. The discussion starts with the block schematic representation of the proposed approach, followed by the detailed discussion on the process to of Research Methodology for an High-tech advanced Roadside Vehicle Breakdown And Accidental service system Project the applicants is as shown in. geolocation functionality for precise location monitoring.

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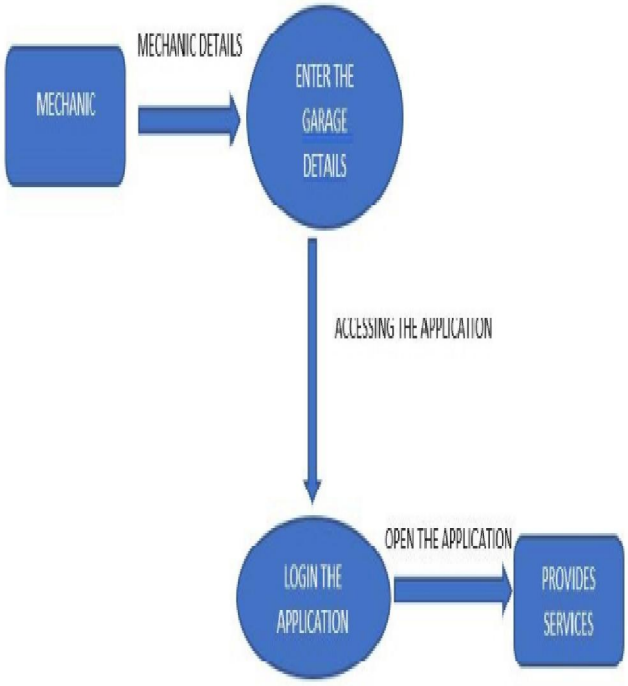
A. MECHANICAL MODULE



IV. RESULT ANALYSIS

The Android based application Designed High tech Advanced Roadside Vehicle Breakdown And Accidental Service System for intendeds to offer people suffering for car breakdowns quick and trustworthy support. It is service system for friendly forms for user input Geolocation functionality for precise location monitoring. It is high security for protecting data. Directly access to the location for user. It is Firebase database to store the information users, and mechanical.

V. CONCLUSION

Picture Thus, our high tech advanced roadside vehicle breakdown and accidental service system give better location result. it's easily identifying the nearby location which is incredibly useful to the user who uses it in emergency needs. the applying provides navigation to the closest emergency service as selected by the user. It also provides contact information of those services. This approach makes the user experience very easy and performs better than the present system in crucial times like this. Our application shall make all possible efforts to locate and direct the closest service provider to user’ s location It helps us the user for mechanical breakdown towing, fuel delivery, flare tire change and vehicle collision etc. Service details will be accessed from the applying, which is stored within the server as a part of the broader high tech advanced roadside vehicle breakdown service system.

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