An Implementation of Modern Tool for Road-Side Assistance to Help For Emergency service

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ABSTRACT

This Application is designed to enhance the user experience and ensure that users get immediate and hassle-free service in the event of any vehicle breakdown. Our application shall make all possible efforts to locate and direct the nearest service provider to the user's location. The Road Assistance app goes to be expanded to offer emergency street side help offerings spherical the clock to make sure a pleasing and uninterrupted adventure virtually anywhere. The app is designed to decorate the person's revel in and make sure that customers get the immediate and problem-free carrier on the occasion of any automobile breakdown.

Keywords: Roadside assistance, Emergency Services, Mechanical breakdown.

I.   INTRODUCTION

This application helps to find mechanics easily and quickly. It is difficult to find mechanics nearby the area wherever you are traveling. This system helps to overcome this issue by providing mechanic details in one click. Here the locator allows you to search mechanics from different locations. Admin is allowed to access and manage mechanic details. This online mechanic locator reduces work and can easily find the mechanics from various locations. Reduces your time and cost. The main objective is to provide a better service and to make the process easy and finally appointing a mechanic quickly. The project will be accessed by three entities namely, Admin, Mechanic, and User. A mechanic can perform a task such as viewing requests received from users and can also send feedback to the admin. Users can send a request and can appoint a mechanic on respective date-time. The objective is to develop an application that helps to search for a nearby mechanic/garage and it also helps to notify all the nearby mechanic/garage that someone is in need and thus, results in a proper repairing of the vehicle easily. Roadside Assistance goes to be a good answer for the people who searching for assist in a remote place with mechanical issues of their car. Be it a flat tire, electric fault, or a minor mechanical disorder whatever can disrupt you are in any other case easy-care journey. It can beintimidating in case your vehicle breaks down in a surprising territory and that is while Roadside Assistance comes to your rescue. With the assist of this app, you could get the facts approximately the nearest towing and garages. You can name a tow truck or car without delay and speak all the offerings and prices. It Offers a direct towing provider in the

occasion of troubles including a puncher, a vehicle going for walks out of fuel, and different emergencies. Roadside Assistance allows you to get back on the street if your car breaks down. Today maximum of humans person their automobile for travel.

While traveling maximum of drivers are face problems as automobile breakdown at the road. Vehicle breakdown reason to wastethe person valuable time. That is the worst revel in they ought to face. As properly because it reasons to get tired of the journey. Whilst the automobile breakdown at the road, the driver has to look for a mechanic and ought

to see spare-element stores close to their location. At that point, if the driver is not able to search for a good mechanic they ought to ask for assist someone, however that can be now no longer a good technological assist for the driving force. But if the driver has an android phone and using this automobile breakdown assistance, a person can discoveran appropriate mechanic within a few minutes. The maximum gain of this is the person can discover a mechanic foundation on person location. If the person wants an automobile spear-element shop, there is the ability to seek any stores. If a person has a technical problem associated with an automobile they could ask it via chat.

II.   LITERATURE REVIEW

This application doesn't just assure a prompt service in the rare event of a car breakdown, but it also helps with the mechanical breakdown towing, fuel delivery, flat tire change, and car collision, etc. The application helps to find nearby service centers as well as the fuel stations in case of emergencies like insufficient fuel on vehicles and un-avoided incidents like puncture, brake failure, doping, etc. The traveler is provided with more services and support to ensure that they have a good traveling experience. The traveler can have easy access to the services based on the current location using Google Maps Navigation System. This application is developed in android technology.[1]

To identify the reason for vehicle breakdown. To design a web ontology that can identify a suitable mechanic. To build a common platform that connects with mechanics and drivers. The driver can get mechanical help directly and easily. This helps to save user's time while traveling. This helps to improve user's technological knowledge

about the vehicle. This application was developed only for four-wheelers.[2]

The objective of this system will focus on searching the nearest CRSP for the drivers, providing help to people who do not possess any mechanic's number in hand. The business deal is between the CRSP and the driver which is out of the system's control. This car breakdown Service Station Locator System has the advantage of returning the search result of CRSP nearby the user's current location, with different CRSP is forming a network of assistance that functions anytime, anywhere. This application was developed only for four-wheelers and connect to another system to provide the service.[3]

The application is designed to enhance the user experience and ensure that users get immediate and hassle-free service in the event of any vehicle breakdown. This application shall make all possible efforts to locate and direct the nearest service provider to the user's location Secure registration of

users and mechanics. Reduced manual work. Search mechanics based on different locations. The new system is more user-friendly, reliable, and flexible.[4]

This proposed emergency breakdown service provides a user-friendly environment. It is the easiest way to identify the location as well as nearby needed locations. This application provides nearby location information such as petrol pumps, police stations, service stations, and hospital**s.** It is one of the best applications used while emergencies. Easy to use. Provides both location and nearby needs. This application is developed for the search within 2 km.[5]

The main objective of the "Mechanic Finder App" is to develop an application that locates the nearest mechanic. The nearest mechanic in the area is calculated with the built-in feature of Global Positioning System in Smartphones and finding the optimal route from their current location through

Google Maps Application Program Interfaces (API). The system is designed to provide, services provided by mechanics at various places, locations of all the service centers in the vicinity, etc. This system is easy to implement. The models are simple, secure, and scalable. This system does not provide towing system.[6]

It is one of the best applications used while emergencies. Easy to use. Breaking down on a busy highway or street can be dangerous. Having roadside assistance come to the rescue quickly can get you out of a bad situation fast. Provides both location and nearby needs. A roadside assistance cover saves you from out-of-pocket expenses. Also, if you commute to remote places daily, this add-on can be of great help to you.24-hour emergency roadside service available. On-the-spot repair service for minor faults.[7]

III.   PROPOSED SYSTEM

While developing the Android Application there are requirement gathering asprimary data and secondary data. As a first step of the project, there is a need to search if there are any needy of the proposed system for society and the availability of thesystem. As a collecting primary data, there is a Google survey form launched by the researcher as a Market research

for the Android Application. Secondary data collecting means information that someone said or done. As a collecting secondary data, the researcher used to check-up about the similar system through the Internet. Google scholar, IEEE, web sites and the journals on the internet. Search about similar systems and compare each other.
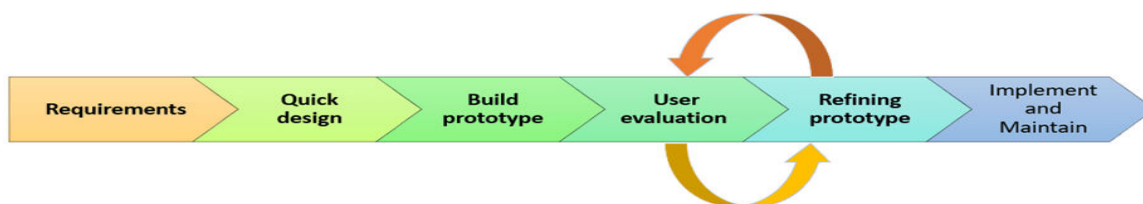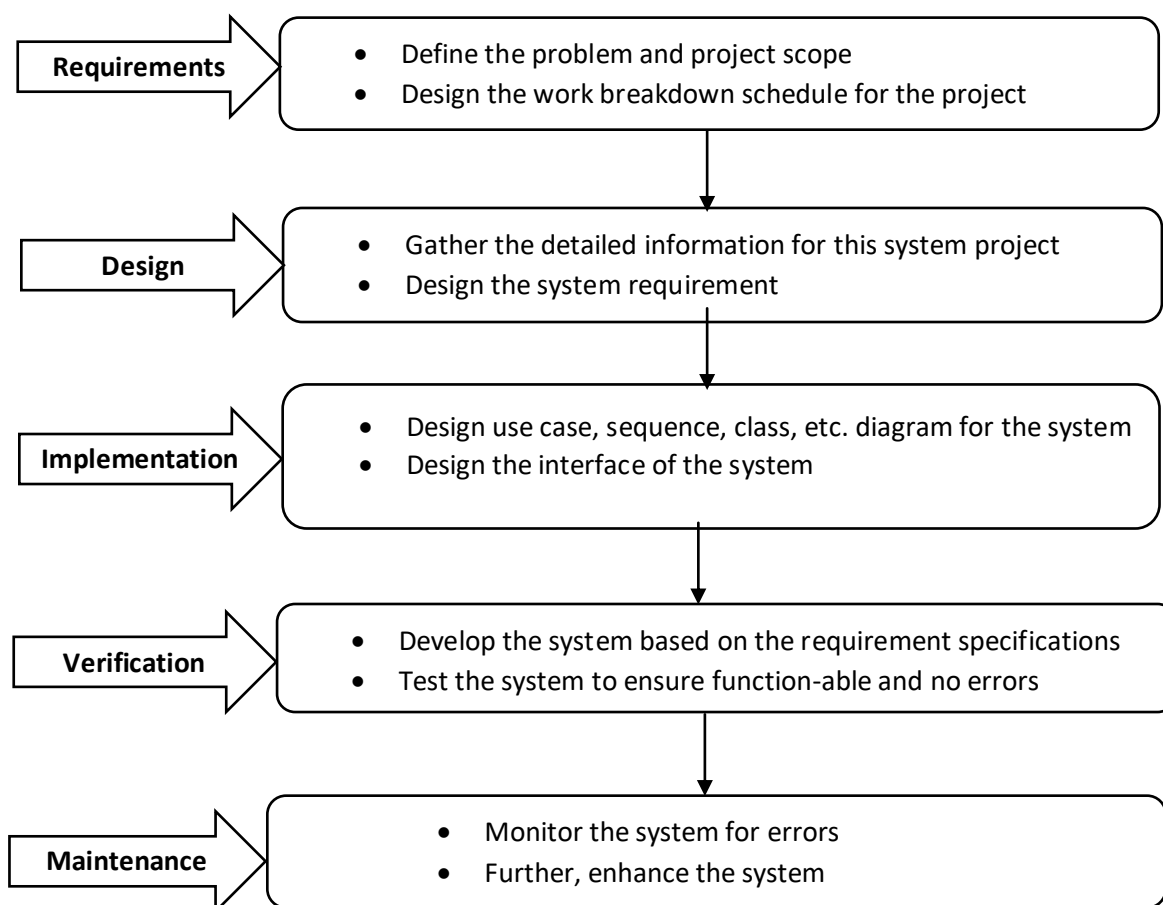

Fig. Prototype Methodology   ng methodology for this android application the researcher used the Prototype Methodology. The prototype is a development

method that does build, test and reworked it until the fulfill the expectation of the project. When using prototype methodology, the developer can get early feedback from the user, and if there is an additional new feature that can be added. If users need any other special functions researcher can be adding and test the project because of the prototype Methodology.Beginning of the app there should gather the requirements for the android app.

First of all, there should search is there any need for that kind of app for society. Therefore the researcher launches the Google form survey. As a result of that, there are most ofthe people who participate in the survey are used android phones. Most of them are like to get a mechanic help while they break down the vehicle. When the requirementgathering, most of the information is gathered through Google Scholar. Some information is gathered through the IEEE.

Requirements
- Define the problem and project scope
- Design the work breakdown schedule for the project

Design
- Gather the detailed information for this system project
- Design the system requirement

Implementation
- Design use case, sequence, class, etc. diagram for the system
- Design the interface of the system

Verification
- Develop the system based on the requirement specifications
- Test the system to ensure function-able and no errors

Maintenance
- Monitor the system for errors
- Further, enhance the system

Fig. waterfall Model.

When the design the project there sh design the project flow. Therefore there are design architectural design and UML diagrams for that. That is help to make get an idea of how should implement the app as user expectation. This also helps to develop the project and can get an idea of how internal development shouldbe done.The user case diagram

relationship that how users and other users interact with each other through the system. It is the simplest way to represent the user interaction with the system. The user case diagram shows the relationship that how users and other users interact with each other through the system. It is the simplest way to represent the user interaction with the system

In this architecture, the diagram shows that how data flow within the system. User searches the data; then mobile network tower sends the user location. That location data connects with the database and checks themechanic around the user location. That data sends back to the user. There is an admin to add the mechanic and see that user detail who registered with the android app.
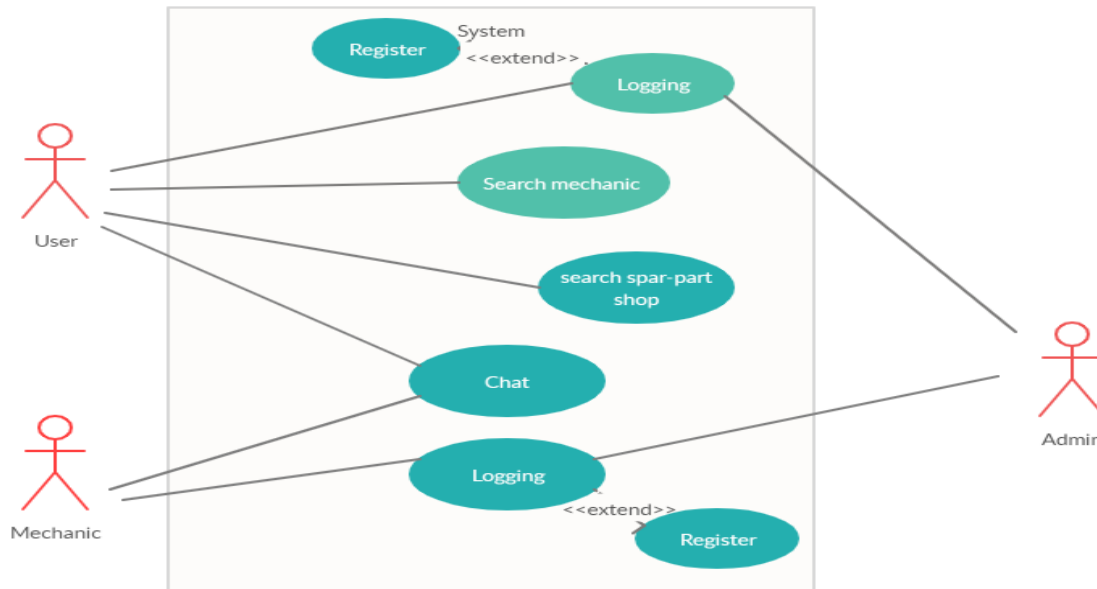

Fig. Use case diagram

IV.   RESULT AND DISCUSSION

When the vehicle breakdown occurs the driver has to see a mechanic or the repair shop. The driver has to ask for help from the people. If the driver using this Roadside Assistance Application user can find a mechanic basis on the user location easily. A driver can get mechanical help directly and easily.

The system comprises 3 major modules with their sub-modules as follows:

1. Admin

➢ Login: Admin needs to log in with valid login credentials.

➢ View Mechanics: Admin can view the registered mechanics with their details and has the access to allow or block a mechanics.

➢ View Users: Admin can view all the registered user details.

➢ View Feedback: Admin can view all the feedback given by the user and Mechanic.

2. User:

➢ Register: Users can register with all their details.

➢ Login: Registered users can log in with their credentials.

➢ Search Mechanics: Users can search for local mechanics based on their locations.

➢ Send Request: On the selection of the mechanics, the user can send the request to the respective mechanic.

➢ Feedback: User can give their feedback accordingly.
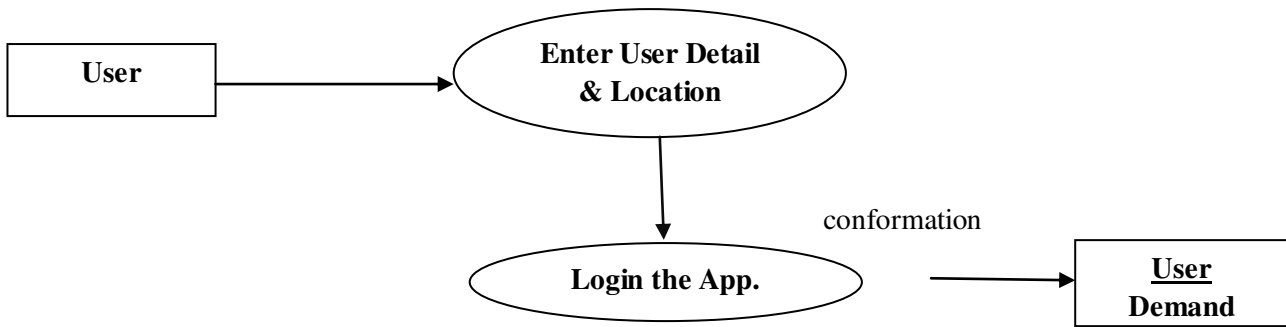
Fig. User Module

1. Mechanic

➢ Register: Mechanics can register with all their information.

➢ Login: Registered mechanics will be provided access to log in only if the Admin will allow or block.

➢ Request: Mechanics can view the request which is sent by the user.

➢ Feedback: Mechanics can provide their feedback.

Fuel Delivery Service:If your vehicle runs out of gas while driving, the required fuel is delivered to your location. While the delivery is free of cost, one has to pay for the fuel charges.
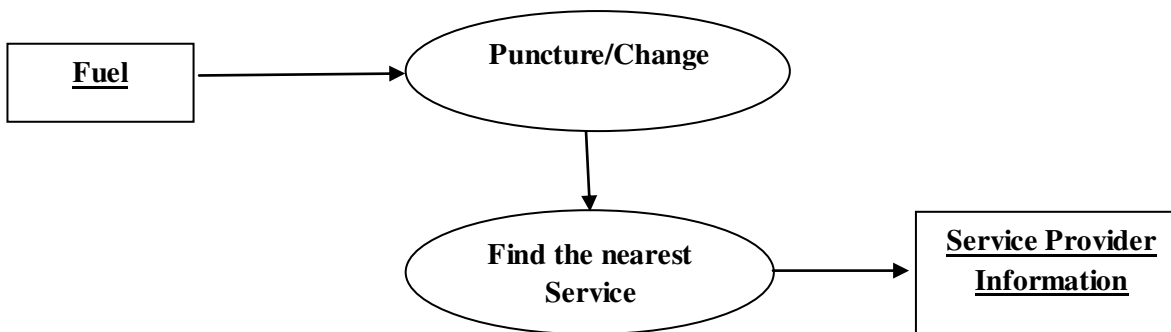

Fig. Fuel Detail

Flat tire Service:Flat tire is something that can happen to anyone at any time. If you do not know how to replace a flat tire or do not have a spare tire in your vehicle, you can use this service. A service professional will come to your location and replace the flat tire.
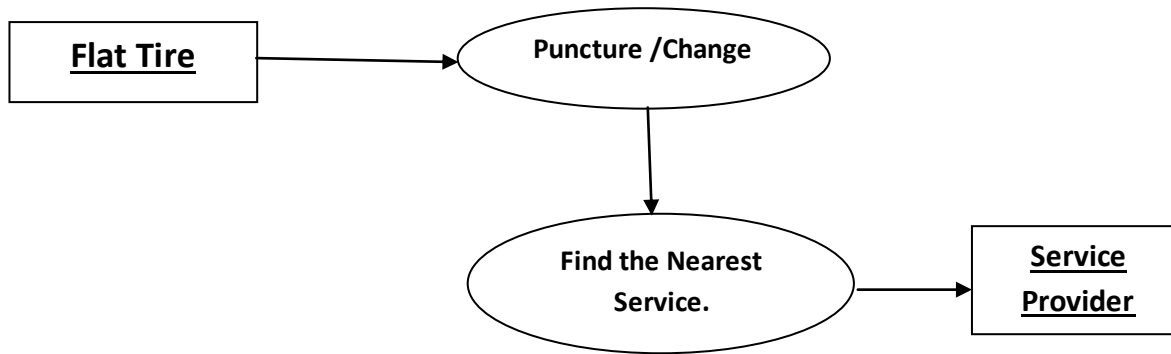
Fig.Flat Tire Service

Towing Service: If the vehicle is immobilized due to an Accident or electrical/mechanical failure, the vehicle is towed free to the nearest garage up to 50km.
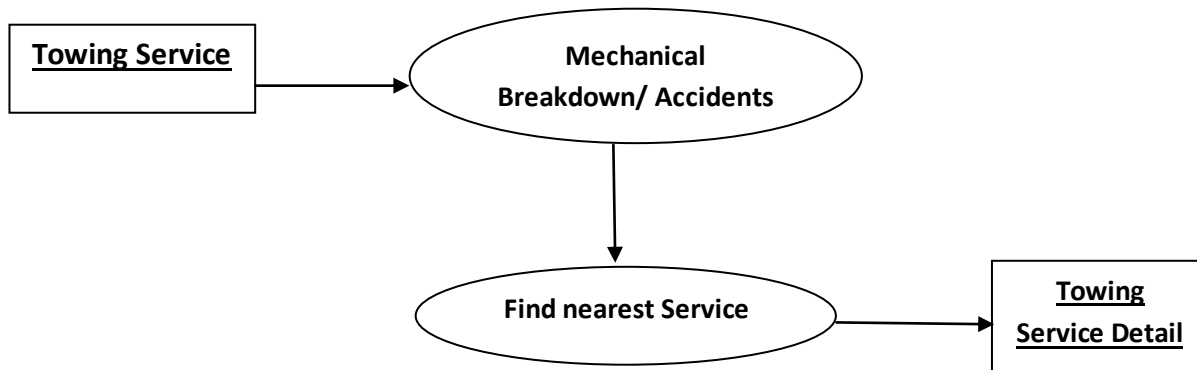

Fig. Towing Service

V.   CONCLUSION

The system is a combination of smartphone and web services and will help tour and life for the user The system provide information query of the Fuel stations,Hospitals, Service station details, and the important services for the travelers like Flat tire service provider details and service provider details based on the user's location. These service details can be accessed from the application, which is stored in the server as part of the broader roadside assistance service. Positioning support (GPS), highlights the user's current position on the map. When the breakdown occurs, user can fix their vehicle immediately. They won't
waste their time on the road. That helps to save their valuable time. That makes comfortable the user. They won't make tired their journey.

At least initially I would not anticipate any differences in how conventional and driverless vehicles would be treated from a lessor perspective. This is because they would be leased through the samedealership channels to the same group of end-users. Along similar lines, the technology will play a

role because essentially all of the driverless systems currently available are retrofit into an existing vehicle platform or architecture. For instance, as driverless systems become better and more powerful there will be less human input per mile driven. This could translate to longer vehicle life or less wear and tear when vehicles are utilized on an autonomous basis primarily as opposed to being driven by a human more often than not. This could result in extended vehicle lifespans and ultimately higher residual values which are good for leasing consumers.

VI.   REFERENCES

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