



## E-Mechanic Service using Android Programming and Messaging Service

Sarita Choudhury, I. Indira, G. Rakesh, T. Rakesh

Dept. of CSE, MLR Institute of Technology,

Hyderabad, India

**Abstract:** *In our daily life we don't know when and where we get stuck on the road and we don't know where we are and we also won't be able to find the nearest mechanic location. This project targets to develop an android application that will help the user to register through installing the application and can get access to the nearest mechanics location and contact him personally this uses the internet and messages permissions to go on with the application. Usually when we stuck on the road we need to ask some people to find the nearest mechanic location and then walk across the road and find it and then go to the place where we got stuck and then we need to get the repair done. This application is an android app which can be run on any android compatible tablets and mobile phones. The app will enable any car user to search and communicate with any car service center in the vicinity. Now with this day by day advancing technology we get access to the mechanic and mechanic gets access to the location user through the GPS location send to him and them both will save a lot of time and that's how it is done and this can be used anywhere and at anytime. Thus we are developing an application which goes hand in hand with the new age technology and characterizes – user friendliness, informativeness and time saving.*

**Keywords:** *android application, server, mobile phones, android tablets, notifications, push messages, database, GPS.*

### I. INTRODUCTION

Internet tends to be the backbone of all the technologies. “e-mechanic care - providing nearest service centers or mechanic locations to the user using an android application” is designed to ease the access of the nearest mechanic locations who have registered through us .If one of the innovative features of this app is that it can get the GPS location of the user and sends to the particular mechanic is chosen then that mechanic can get the exact position of the user anywhere and at anytime. Any car user can make use of such app to locate and communicate with the service centers in the vicinity. The proposed system can be used by any automobile user.

### II. LITERATURE REVIEW

The survey regarding this application includes information gathering from various sources. These sources include some of the car showrooms and service centers, various related web sites and similar projects developed previously. IEEE papers are used for clearing the concepts and algorithms included in this project. E.g Google cloud messaging paper for push message services,

Dijkstra's Algorithm for finding shortest path algorithm, etc.

This app consisted of features like giving user car info , locating and mapping of service centers, etc. References of above applications and additions of some extra features are made in the proposed system. Extra features include-

- (1) Navigation to the service center and mechanic shops using GPS services.
- (2) Accessories chart.
- (3) Spare part sales
- (4) Towing Service

### III. PROPOSED SYSTEM

#### Purpose

The purpose of this project is to provide car or any other automobile servicing and nearby mechanic shops more effectively than the existing system. There are some disadvantages of the existing service center finding systems. These disadvantages are overcome by the E-mechanic servicing And it can be made handily available to every person. Previously people could not get help or locate the service centers conveniently in case of their car break-down or any other emergencies. Thus EMS is proposed to assist people and fulfill their requirements easily.

## Architecture

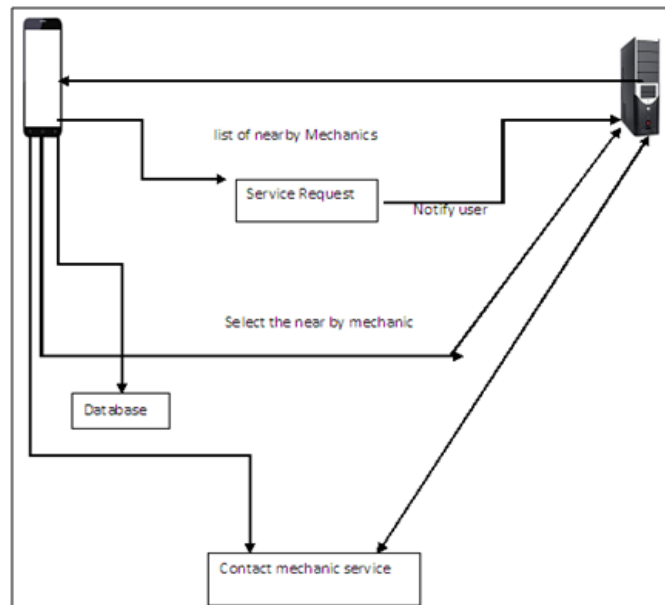


Fig. 1 Architecture E-Mechanic Service

## IV. FEASIBILITY STUDY

The objectives of the feasibility study are to find out that project can be done and to suggest possible alternate solutions. Feasibility Study is done to check whether the proposed system will be able to work within available resources (hardware, software, other equipment), it is also used to determine whether there is enough financial budget to develop and implement the proposed system, and whether the proposed system will work as per the expectation of the user or not.

### Technical Feasibility:

Technical feasibility is necessary to check whether the system which is to be developed is technically feasible or not. I.e. whether the technology used to develop the system is feasible. Our application requires internet connection. The technologies which can help out to develop such an application are Java, MySQL, PHP and Android Environment. The supporting tools for above technologies are Android Studio, MySQL and Android phone. All the above technologies are available. Although few of above require training for some amount of time, but it is feasible enough to cope-up with the time allotted for the project. So it is technically feasible.

### Operational Feasibility:

Once the system will be deployed whether the System or application will work in the environment of the Client? Or will it be User-Friendly? Or will it adjust according to Operating System and other resources of the Client? Etc., questions are needed to be checked. The systems should hold good GUI facilities which will attract the user to use the system. The system will be developed using version of android that is very easily available in all android mobiles.

### Economic Feasibility:

**Development costs:** Care is taken by us to make sure that our system is developed using all available technology and resources.

**Operational costs:** Our system is developed in such a way that user of the system requires only interaction with system to totally understand and use it flexibly.

**Maintenance and support costs:** The user of the application only needs a good internet connection (if possible, than 3G internet connection) to work with the application.

### Time Feasibility:

The Proposed System is a mobile application so it will take some duration of time to satisfy the objective of completing the system (Application). The duration that is allotted to develop the system is quite feasible in respect to time.

## V. SYSTEM FEATURES

1. Notification: Used to notify user of the service response
2. Service Request: User request for services provided by service center.
3. Mechanics Personal Information.

### A. Functional Requirements

- Admin authentication using user id and password.
- RS 232 Serial communication mode.

- Power generator.
- RFID receiver.

### **B. Non-functional Requirements**

- 24 X 7 availability.
- Better component design to get better performance.
- Flexible service based architecture will be highly desirable for future extension.
- Ease of Use-flexibility, performance.
- Security- Privacy, Confidentiality, Integrity, Authentication.
- Comprehensiveness- Transferability, Divisibility, Standardization.
- Maintenance.

## **VI. FUTURE SCOPE**

The goal of this project is to produce an interactive and entertaining application for the Android marketplace. E-Mechanic Service is composed of two main components: a client-side application which will run on Android handsets, and a server-side application which will support and interact with various client-side features. The system is designed to provide spare parts of all types of vehicles, services provided by mechanics at various places, locations of all the service centers in the vicinity etc. The above proposed model is easy to implement considering the available technology infrastructure. The models are simple, secure and scalable.

The proposed model is based on serial communication. But for future scope in enlarging the system we can use connectionless system. We can even start online for registration and information based website.

## **VII. CONCLUSION**

The proposed paper shows the flow, structure and working of the E-Mechanic Service EMS is user friendly i.e. easy to use. It is free of cost on android store. Thus, it is time a time saving as well as cost efficient application. So, we can conclude that the proposed system can be used to reduce human efforts and luxuriate human lives, hand in hand, with the modern technology.

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