



## On-Road Vehicle Breakdown Assistance

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### ABSTRACT

- On Road Vehicle Breakdown Assistance (ORVBA) Android App is going to be a good solution for the people who seek help in the remote locations with mechanical issues of their vehicle. Users of the On Road Vehicle Breakdown Assistance will be the registered public and they will be getting connected with the particular mechanic through the trustworthy (ORVBA) app. ORVBA is used to find the nearest mechanic shop from the current user location.

Keywords: Virtual Reality, Quantitative Research

## 1. Introduction

### 1.1 Project Background

Nowadays all the people travel from one place to other place by using their vehicle. At the time driver can think badly how can handle at the time of unexpectedly their car breakdown. Passenger get tension at think about current situation while breakdown. Suddenly feel at the time very badly. As well their plan get cancel. Some time the driver does not have the spare part of the vehicle difficult to find the nearest mechanic shop. Very difficult to find the mechanic find the suitable problem.

Driver can registered in this android app (ORVBA) already then easily find the nearest mechanic with in a second. Benefit of using this app automatically get the current location for the driver and easily search nearest mechanic shop. If user can search the spare part of the vehicle what their needs in this app. That the vehicle is technology problem then the mechanic and driver communicate via chat and solve their problem.

### 1.2 Project Aim and Objectives

#### 1.2.1 Aim

- To develop a platform which improve the efficiency of mechanic and driver.

#### 1.2.2 Objectives

- To identify the reason for vehicle breakdown.
- To design a web ontology that can identify a suitable mechanic.
- To build a common platform that connect with mechanic and driver.

### 1.3 Description About Artifacts

The user logging in their own Userid and Password. GPS helps to find the current location of the user. That location communicate with the database and retrieve the nearest mechanic whose registered in this app. There is facility that user can search spare part shops basis on the user location. Admin approve the mechanic request their own login in this application. Admin can view both user and mechanic detail.

### 1.4 Structure of the Report

This is the final report of the project. In this report there are discuss project information gathering to testing at the end of the android application. This is discussed within the five chapters. There are

- Introduction
- Literature Review
- Methodology
- Implementation and Testing
- Evaluation
- Conclusion and Further Works.

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. Literature review describe the related project as a second chapter. There are discuss how “ORVBA” is difference from other similar system and compare with each other. Then Methodology chapter discuss the Methodology that use, requirement gathering and design of the project. Implementation and testing chapter is discussing the tools and technology that use to the application and how tests for the final product. Evaluation chapter discuss about the user feedback for the android application. Finally, as a conclusion there are describe the benefits, limitation and future works of the project.

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## 2. Literature Review

### 2.1 Introduction

Literature review is a searching similar system and identify the difference between researcher project with existing systems. This is help to get a deep idea of the project. It provides the combination of theoretical, methodological and current knowledge of findings according to subject. There are need to gather the information according to the project. This chapter describe the how difference the “ORVBA” with other similar system.

### 2.2 Existing System

In an existing App they have no idea if their vehicles are broke down or had any mechanical issue in remote locations or any long distant locations from their known mechanic shops. Users with the contacts of people at the particular place may look for a help from them only if they are ready to do. It is not possible to find out the suitable mechanic for the desired service at remote locations.

### 2.3 Conclusion

In this Road Vehicle Breakdown Assistance Finder management , we presented the design and implementation of android application called Road assistance system, with which mobile users can get travel related service information they need anytime and anywhere.

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## 3. Methodology

### 3.1 Prototype

Developing the Android Application gathering as a primary data and secondary data. As a starting of the project there are need to search if there are any need of proposed system for society and the availability of the system. As a collecting primary data there is a Google survey form launched by the researcher as a Market research for the “ORVBA” 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. Search about the similar system and compare each other. That conclusion and information about similar project are describe through the Second Chapter Literature Review.

### 3.2 Requirement Gathering

Beginning of the app there should gather the requirements for the android app. First of all, there should search are there any need of that kind of app for the society. There for the researcher launch the Google form survey. As a result of that there are most of people who participate for the survey are used android phone.

### 3.3 Design

4. When the design the project there should make a design the project flow. Therefor there are design the architectural design and UML diagram for that. That is help to make get idea how should implement the app as user expectation. This is also help to develop the project and can be get an idea how to internal development should done.

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## 5. Implementation

### 4.1 Tools and Technology

When the implementation the android application the researcher use Android Studio as a tool. All UI development and implementations are done by the Android Studio. As a technology there are use Firebase. It is used for real time database. There are use igortncrc dotted-progress, theartofdev image crooper dexter, glide, circleimageview as a main library for the android app. There is use the image crooper API to crop the image. That is help to edit user profile.

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## 6. Evaluation

Here the users of On Road Vehicle Breakdown Assistance (ORVBA) 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. Only the licensed mechanics can get listed here while the search. And there are available mechanic who can come and repair the mechanical issues in the users vehicle.

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## 7. Conclusion and Further Work

### 7.1 Benefits of the System

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. If driver using this vehicle break down assistance user can find mechanic basis on user location easily. Driver can get the mechanical help directly and easily.

If there are any need of spare parts while repairing the vehicle user have to looking for spare parts shop. When the breakdown occurs user can find repair shop or spare-parts shops also. This is help to save user's time while the traveling.

### 7.2 Discussion

There are few changes in UI designs for such as background color and images for the better attraction for the android app. At the beginning of the development of the android app the researcher uses plain colors for the background.

There are some changes in technology that used for the app. In the beginning of the project there was a plan for data transfer through the web ontology. Therefor that become the one of objective of the project. But when the implementation the android app, the researcher used firebase for the real time database. Therefore, one of objective changed.

### 7.3 Limitation

There are few limitations for now. This is an android application for privet vehicle user. As a first step of the project this android application is introduce for only car, van and jeep. After the further more development of the project there can be include other taxi services, Mother Bick and Tuk-Tuk also.

When editing the user details there are limitation for edit user information. User can only change user name. User cannot edit user email or password.

### 7.4 Future Works

In the life of the software development, problem analysis provides a base for design and development phase. The problem is analyzed so that sufficient matter is provided to design a new system. Large problems are sub-divided into smaller once to make them understandable and easy for finding solutions. Same in this project all the task are sub-divided and categorized.

### 7.5. Recommendation

"ORVBA" can be recommend for android users, because it is an android application for vehicle breakdown assistance. It's SDK vision is 27. Then people who have android vision more than 25 can be use. Users can be install that application on Orio, Naugat android visions.

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