CHAPTER 1

INTRODUCTION

1.INTRODUCTION

1.1 Integrated Development Environment

- Mechanic wala is a computer-based system. Which helps the people to contact to the mechanics through the application. This application is useful to mechanics to increase their business and as well as to the people who needs the mechanical services. This application digitalizes the communication between the mechanics and the users. In this application, both mechanics and users will sign up for different accounts and each of them will have their own view. The mechanics will be provided with requests he get and the users will be provided with the search option to find out the mechanics based on their requirements.
- This application can be useful to interact with any kind of mechanics such as vehicle mechanics, electrical and electronic mechanics etc...

1.2 ANDROID ARCHITECTURE

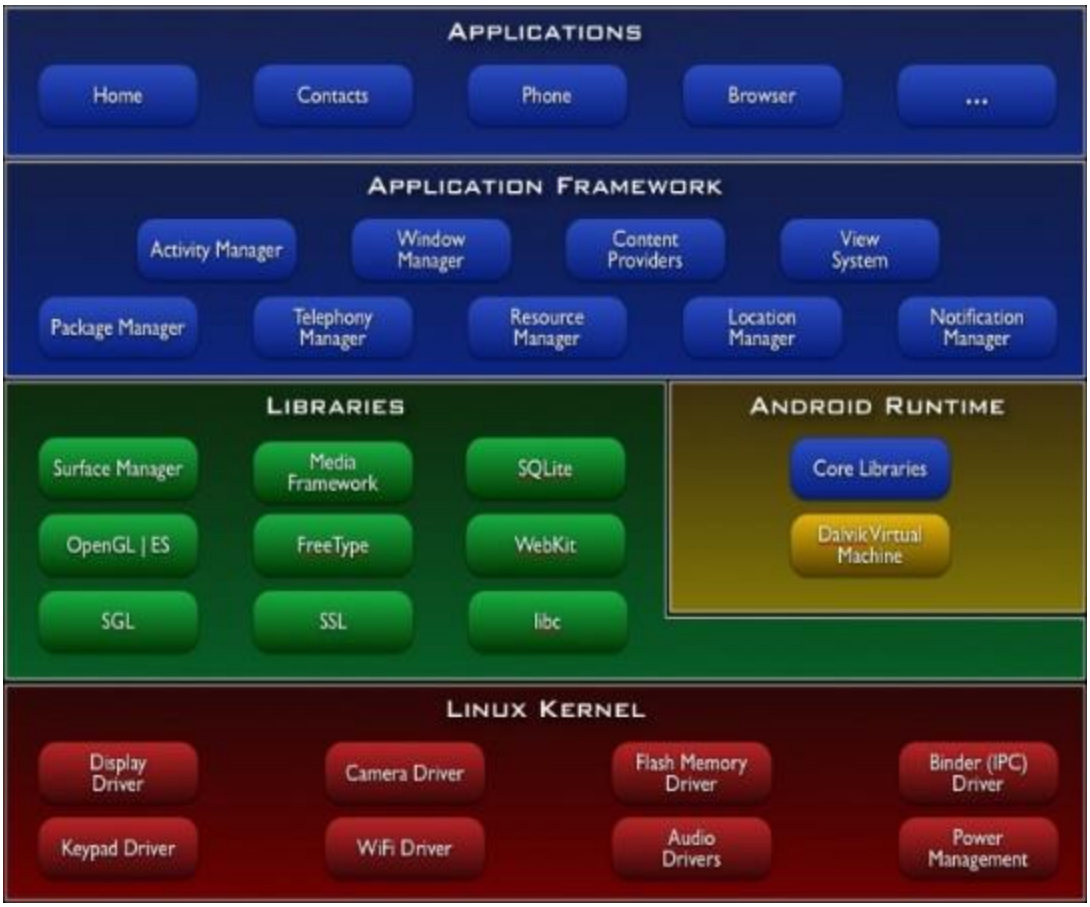


Fig 1.2. Android Architecture

Libraries

Android includes a set of C/C++ libraries used by various components of the Android system. These capabilities are exposed to developers through the Android application framework. Some of the core libraries are listed below:

- **System C library** - a BSD-derived implementation of the standard C system library (libc), tuned for embedded Linux-based devices
- **Media Libraries** - based on PacketVideo's OpenCORE; the libraries support playback and recording of many popular audio and video formats, as well as static image files, including MPEG4, H.264, MP3, AAC, AMR, JPG, and PNG
- **Surface Manager** - manages access to the display subsystem and seamlessly composites 2D and 3D graphic layers from multiple applications

- **LibWebCore** - a modern web browser engine which powers both the Android browser and an embeddable web view
- **SGL** - the underlying 2D graphics engine
- **3D libraries** - an implementation based on OpenGL ES 1.0 APIs; the libraries use either hardware 3D acceleration (where available) or the included, highly optimized 3D software pasteurizer
- **Free Type** - bitmap and vector font rendering
- **SQLite** - a powerful and lightweight relational database engine available to all applications

Android Runtime

Android includes a set of core libraries that provides most of the functionality available in the core libraries of the Java programming language. Every Android application runs in its own process, with its own instance of the Dalvik virtual machine. Dalvik has been written so that a device can run multiple VMs efficiently. The Dalvik VM executes files in the Dalvik Executable (.dex) format which is optimized for minimal memory footprint. The VM is register-based, and runs classes compiled by a Java language compiler that have been transformed into the .dex format by the included "dx" tool.

The Dalvik VM relies on the Linux kernel for underlying functionality such as threading and low-level memory management.

Linux Kernel

Android relies on Linux version 2.6 for core system services such as security, memory management, process management, network stack, and driver model. The kernel also acts as an abstraction layer between the hardware and the rest of the software stack.

The Linux kernel is an operating system kernel used by the Linux family of Unix-like operating systems. It is one of the most prominent examples of free and open source software. The Linux kernel is released under the GNU General Public License version 2

(GPLv2), (plus some firmware images with various licenses), and is developed by contributors worldwide. Day-to-day development takes place on the Linux kernel mailing list.

The Linux kernel was initially conceived and created by Finnish computer science student Linux Torvalds in 1991. Linux rapidly accumulated developers and users who adapted code from other free software projects for use with the new operating system. The Linux kernel has received contributions from thousands of programmers. Many Linux distributions have been released based upon the Linux kernel.

The Linux kernel has extensive support for and runs on many virtual machine architectures both as the host operating system and as a guest operating system. The virtual machines usually emulate Intel x86 family of processors, though in a few cases PowerPC or ARM processors are also emulated. At Google, the team led by Rubin developed a mobile device platform powered by the Linux kernel. Google marketed the platform to handset makers and carriers on the premise of providing a flexible, upgradable system. Google had lined up a series of hardware component and software partners and signaled to carriers that it was open to various degrees of cooperation on their part.

Speculation about Google's intention to enter the mobile communications market continued to build through December 2006.Reports from the BBC and The Wall Street Journal noted that Google wanted its search and applications on mobile phones and it was working hard to deliver that. Print and online media outlets soon reported rumors that Google was developing a Google-branded handset. Some speculated that as Google was defining technical specifications, it was showing prototypes to cell phone manufacturers and network operators.

Hardware running Android

The main supported platform for Android is the ARM architecture. The Android OS can be used as an operating system for cell phones, notebooks and tablets, including the Dell Streak, Samsung Galaxy Tab, TV and other devices. The first commercially available phone to

run the Android operating system was the HTC Dream, released on 22 October 2008. In early 2010 Google collaborated with HTC to launch its flagship Android device, the Nexus One. This was followed later in 2010 with the Samsung-made Nexus S.

The early feedback on developing applications for the Android platform was mixed. Issues cited include bugs, lack of documentation, inadequate QA infrastructure, and no public issue-tracking system. (Google announced an issue tracker on 18 January 2008.) In December 2007, Merge Lab mobile startup founder Adam MacBeth stated, "Functionality is not there, is poorly documented or just doesn't work... It's clearly not ready for prime time."Despite this, Android-targeted applications began to appear the week after the platform was announced. The first publicly available application was the Snake game The Android Dev Phone is a SIM-unlocked and hardware-unlocked device that is designed for advanced developers. While developers can use regular consumer devices purchased at retail to test and use their applications, some developers may choose not to use a retail device, preferring an unlocked or no-contract device.

The Android software development kit (SDK) includes a comprehensive set of development tools. These include a debugger, libraries, a handset emulator (based on QEMU), documentation, sample code, and tutorials. The SDK is downloadable on the android developer website. Currently supported development platforms include computers running Linux (any modern desktop Linux distribution), Mac OS X 10.4.9 or later, Windows XP or later. The officially supported integrated development environment (IDE) is Eclipse (currently 3.5 or 3.6) using the Android Development Tools (ADT) Plug-in, though developers may use any text editor to edit Java and XML files then use command line tools (Java Development Kit and Apache Ant are required) to create, build and debug Android applications as well as control attached Android devices (e.g., triggering a reboot, installing software package(s) remotely).

Android applications are packaged in .apk format and stored under /data/app folder on the Android OS (the folder is accessible to root user only for security reasons). APK package contains .dex files(compiled byte code files called Dalvikexecutables), resource files, etc.

Android Operation System

Android is an operating system based on Linux with a Java programming interface. It provides tools, e.g. a compiler, debugger and a device emulator as well as its own Java Virtual machine (Dalvik Virtual Machine - DVM). Android is created by the Open Handset Alliance which is led by Google.

Android uses a special virtual machine, e.g. the Dalvik Virtual Machine. Dalvik uses special byte code. Therefore you cannot run standard Java byte code on Android. Android provides a tool "dx" which allows to convert Java Class files into "dex" (Dalvik Executable) files. Android applications are packed into an .apk (Android Package) file by the program "aapt" (Android Asset Packaging Tool) To simplify development Google provides the Android Development Tools (ADT) for Eclipse . The ADT performs automatically the conversion from class to dex files and creates the apk during deployment.

Android supports 2-D and 3-D graphics using the OpenGL libraries and supports data storage in a SQLite database. Every Android application runs in its own process and under its own user id which is generated automatically by the Android system during deployment. Therefore the application is isolated from other running applications and a misbehaving application cannot easily harm other Android applications.

Android components

An Android application consists out of the following parts:

- Activity - Represents Important the presentation layer of an Android application, e.g. a screen which the user sees. An Android application can have several activities and it can be switched between them during runtime of the application.

- Views - The User interface of an Activities is build with widgets classes which inherent from "android. view. View". The layout of the views is managed by "android. view. View Groups".
- Services - perform background tasks without providing an UI. They can notify the user via the notification framework in Android.
- Content Provider - provides data to applications, via a content provider your application can share data with other applications. Android contains a SQL lite DB which can serve as data provider
- Intents are asynchronous messages which allow the application to request functionality from other services or activities. An application can call directly a service or activity (explicit intent) or asked the Android system for registered services and applications for an intent (implicit intents). For example the application could ask via an intent for a contact application. Application register them self to an intent via an Intent Filter. Intents are a powerful concept as they allow to create loosely coupled applications.
- Broadcast Receiver - receives system messages and implicit intents, can be used to react to changed conditions in the system. An application can register as a broadcast receiver for certain events and can be started if such an event occurs.
- A Java Virtual Machine (JVM) enables a set of computer software programs and data structures to use a virtual machine model for the execution of other computer programs and scripts. The model used by a JVM accepts a form of computer intermediate language commonly referred to as Java byte code. This language conceptually represents the instruction set of a stack-oriented, capability architecture. Sun Microsystems states there are over 4.5 billion JVM-enabled devices
- A JVM can also execute byte code compiled from programming languages other than Java. For example, Ada source code can be compiled to execute on a JVM. JVMs can also be released by other companies besides Oracle (the developer of Java) — JVMs using the "Java" trademark may be developed by other companies as long as they adhere to the JVM specification published by Oracle and to related contractual obligations.
- Java was conceived with the concept of WORA: "write once, run anywhere". This is done using the Java Virtual Machine. The JVM is the environment in which java

programs execute. It is software that is implemented on non-virtual hardware and on standard operating systems.

- JVM is a crucial component of the Java platform, and because JVMs are available for many hardware and software platforms, Java can be both middleware and a platform in its own right, hence the trademark write once, run anywhere. The use of the same byte code for all platforms allows Java to be described as "compile once, run anywhere", as opposed to "write once, compile anywhere", which describes cross-platform compiled languages. A JVM also enables such features as automated exception handling, which provides "root-cause" debugging information for every software error (exception), independent of the source code.
- A JVM is distributed along with a set of standard class libraries that implement the Java application programming interface (API). Appropriate APIs bundled together form the Java Runtime Environment (JRE).
- Java's execution environment is termed the Java Runtime Environment, or JRE.
- Programs intended to run on a JVM must be compiled into a standardized portable binary format, which typically comes in the form of .class files. A program may consist of many classes in different files. For easier distribution of large programs, multiple class files may be packaged together in a .jar file (short for Java archive).
- The Java application launcher, java, offers a standard way of executing Java code. Compare java.
- The JVM runtime executes .class or .jar files, emulating the JVM instruction set by interpreting it, or using a just-in-time compiler (JIT) such as Oracle's Hotspot. JIT compiling, not interpreting, is used in most JVMs today to achieve greater speed. There are also ahead-of-time compilers that enable developers to pre compile class files into native code for particular platforms.
- Like most virtual machines, the Java Virtual Machine has a stack-based architecture akin to a microcontroller/microprocessor. However, the JVM also has low-level support for Java-like classes and methods, which amounts to a highly idiosyncratic memory model and capability-based architecture.

1.3 Features

- The usage of mechanical wala is the people who are in mechanical emergency by using this application we easily survive. By using this application we can easily share the message with the help of gps tracking. Otherwise there is another option to communicate the user to mechanic there is a calling option. And we can choose nearby mechanic with sufficient amount. And this is very useful to mechanics also the mechanics who are in financial problems by using this application they can earn money easily. And they can easily get money in home and by checking the orders they can run the business easily. Now a day's people are using different applications for necessity. This is the best application for our needs.
- If the person travelling in unknown place the vehicle was getting troubled , By using this application we can first choose the nearby mechanics and we can choose sufficient amount. After that we can send a message to the mechanic with the help of gps system. In that type of situations we can easily survive including televisions, refrigerators and air conditioners etc.,

CHAPTER 2

LITERATRE SURVEY

2.1 Purpose

- A literature survey or literature review is the study of references projects and old algorithms that we have read for designing the proposed methods. It also helps in reporting summarization of all the old references projects, and their drawbacks. The detailed literature survey for the project helps in comparing and contrasting various methods, algorithms in various ways that have implemented in the research.

2.2. RELATED STUDY

- Mechanic wala is a computer based system. Which helps the people to contact to the mechanics through the application. This application is useful to mechanics to increase their business and as well as to the people who needs the mechanical services. This application digitalizes the communication between the mechanics and the users. In this application, both mechanics and users will sign up for different accounts and each of them will have their own view. The mechanics will be provided with requests he get and the users will be provided with the search option to find out the mechanics by specifying their need. In this application the users and mechanics can be interacted with both messages and calls based on their requirements.
- This application can be useful to interact with any kind of mechanics such as vehicle mechanics, electrical and electronic mechanics etc.

- The usage of mechanical wala is the people who are in mechanical emergency by using this application we easily survive. By using this application we can easily share the message with the help of gps tracking. Otherwise there is another option to communicate the user to mechanic there is a calling option.

And we can choose nearby mechanic with sufficient amount. And this is very useful to mechanics also the mechanics who are in financial problems by using this application they can earn money easily. And they can easily get money in home and by checking the orders they can run the business easily. Now a days people are using different applications our necessary. This is the best application for our needs.

- If the person travelling in unknown place the vehicle was getting

troubled , By using this application we can first choose the nearby mechanics and we can choose sufficient amount. After that we can send a message to the mechanic with the help of gps system. In that type of situations we can easily survive including televisions, refrigerators and air conditioners etc.,

- In this paper , we purposing to design a unified model to help the people in any kind of mechanical emergency situation along with the gps tracking.
- Our system helps to send the emergency messages to the nearby location along with the current location.
- It can be used any kind of mechanical emergency situations including televisions, refrigerators, etc.,

- The need for mechanic is kind of like the need of doctors everyone everywhere will always need them. Being a mechanic offers you have a certain level of security. A good mechanic can always find employment.
- Mechanics can work in all kinds of industries. You could find a job designing auto systems for new auto, deciding how to manage, repair, and expand auto technologies.

- Professional mechanics can always choose to go into business for themselves. Owning your own mechanics business means you can work when you want and where you want, which is great for those who having family obligations or need flexibility in scheduling or location.
- Mechanics really do save lives. Without good auto repair systems to deliver best results about driving, We would all be at risk of catching potentially accidents.

CHAPTER 3

SYSTEM ANALYSIS

3.SYSTEM ANALYSIS

Systems Analysis is a detailed study of project information through various steps, procedures, functions and entities which including in getting the analysis of computer Information, Project Information, Algorithm Information and Other Inner and Outer information related to the proposed study. System Analysis provides a series of scientific methods to understand the various requirements required for designing the project work. In System analysis we study about various functional, non-functional requirements needed for the designing the proposed system. In the current System Analysis is we have studied various projects related to the project work and planned the design using various tools such as Class Diagrams, Sequence Diagrams, data flow diagrams and data dictionary are used in developing a logical model of system.

DOMAIN ANALYSIS

- The selected area or domain analysis is the process studying which a software to be selected for designing the project work. The word ‘domain’ in the case means the general field of business or technology in which the customers expect to be using the software. As per our requirement the project is related to cryptographic and wireless protocol management, to design these specifications I selected java technology because it provides wireless, security and network packages.

3.2. REQUIREMENT ANALYSIS

A requirement analysis is a study of various methods and functions like man power, software, inputs, outputs and processing to be implemented for the development of proposed system. In this study I have performed functional and non functional requirements for the project.

FUNCTIONAL REQUIREMENTS

Functional requirements describe what the system requires. The functional requirements are the detailed study of what inputs, outputs, data and computations to be performed. In the project I perform the given input, output and data computations.

3.1.EXISTING SYSTEM

- Now a days, to find a mechanic is very difficult. By using our application we can easily gather the information what type of mechanic you want. And you have opportunity to choose nearby mechanics and we are available in less time and less amount we can choose easily.
- The person we are in mechanical emergency they can easily using this application they can easily send the message to the mechanic by sharing the location.
- In present situation the people are gathering information from the friends or relatives about the mechanics. This is very lengthy process to know the information. By using this application we can easily survive.

3.2.PROPOSED SYSTEM

- In this paper , we purposing to design a unified model to help the people in any kind of mechanical emergency situation along with the gps tracking.
- Our system helps to send the emergency messages to the nearby location along with the current location.

- It can be used any kind of mechanical emergency situations including televisions, refrigerators, etc.,

3.2.1 Advantages:

- The need for mechanic is kind of like the need of doctors everyone everywhere will always need them. Being a mechanic offers you have a certain level of security. A good mechanic can always find employment.
- Mechanics can work in all kinds of industries. You could find a job designing auto systems for new auto, deciding how to manage, repair, and expand auto technologies.

- Professional mechanics can always choose to go into business for themselves. Owning your own mechanics business means you can work when you want and where you want, which is great for those who having family obligations or need flexibility in scheduling or location.
- Mechanics really do save lives. Without good auto repair systems to deliver best results about driving, We would all be at risk of catching potentially accidents.

3.3 FEASIBILITY STUDY

The feasibility study is an estimation and analysis of the various potential requirements of a projected project which is based on wide and extensive investigation and advanced research work to sustain the process of good decision making. Feasibility Study is detailed study of making analysis and gathering information for developing the project. A viability interpret is drive widely to feign the scourge corpus juries that meets performance

requirements. The filthy pointing of the workability interpret sortie is to establish inevitably it would be financially and technically base to develop the forecast. The practicality criticize skirmish involves the dissection of the calling and gathering of throughout befitting answer voice-over to the product such as the surrogate details truly which would be input to the criterion criteria, the processing scheduled to be hassle overseas on these details, the procure text destined to be come up by the customs as extensively as various constraints on the behavior of the system.

This study gives information regarding Technical Information, Economical or Cost Information, Operational Study, Social and various other studies which are feasible in designing the project or not. The major areas considered in feasibility analysis are as follows.

- Economic Feasibility
- Technical feasibility
- Operational Feasibility

ECONOMIC FEASIBILITY

The purpose of the economic feasibility appraisal is to determine the positive economic benefits related cost, expenditure and other maintenance to the organization that the proposed system will provide. It includes various expenditures and budges related to quantification and identification of all the economic requirements for designing the project which is expected. This estimation naturally involves a cost benefits analysis. Budgetary dissection is the worst many times worn advance for evaluating the act of a minimal corpus juries. Prevalent oft-times song as Assert / in compliance interpretation, the entry is to appoint the penny-pinching and primary lapse are obligated -up from a proposed system and compare them with cut corners. If

parsimonious preponderate over costs, a arbitration is phony to obstruction and apply the system. Else, shelved bidding or adjustment in the proposed system backbone venture to be made if it is to essay a fluke of being approved. This is a leisurely commitment go improves in correctness at till the end of time epoch of the system life cycle.

TECHNICAL FEASIBILITY

In technical feasibility study I focus on the system requirements for development of the project. It is technically feasible to design the project as the entire modules described in the modules description can be created using Front-End interaction JSP and Tomcat Server activities using Java 1.7. As the project modules are focused on wireless activities, java supports J2ME Java Mobile Edition packages for wireless programming, J2EE Java Enterprise Edition packages for networking programming. To implement the project we have selected the given technical environment, we require Pentium/Core-2 Duo Processor with 2 GB Ram and 80 GB Hard disk and Java Programming language. This is wary connected with naming outfit and software go wool-gathering will successfully satisfy the user requirement. The applied needs of the code may alter lengths, but power figure out:

- The capacity to upon forth entangled with outputs in a predisposed maturity.
- Acceptance time under outright conditions.
- Gifts to force a certain lot of deal at a precise speed.
- Gift to fool around figures to distant locations.

In examining polytechnic applicability, proportion of the patterns is given concerning financial statement than the actual make of hardware. The arrangement obligated to give the totalitarian upset relative to the system’s revere: Regardless

unlike workstations are directed, in whatever way these units are interconnected so that they could operate and communicate smoothly. What speeds of input and glean have to be achieved at particular quality of printing.

OPERATIONAL FEASIBILITY

Our application provides Graphical Interface for the end user and which very easy and feasible to operate. The front end navigations are created using Java swings which provides very easy to the user to enter the necessary information and get the necessary outputs. The project is highly user interactive application and network based. The project is provided with various windows, buttons and other graphical navigations so that the system is fully operationally feasible.

STEPS IN FEASIBILITY ANALYSIS

In implementation of project the following seven steps are involved:

- From a project team appoints a project leader.
- Prepare system flow chart. Enumerate potential candidate system
- Describe the identity characteristics of candidate system.
- Determine the evaluate performance and cost effectiveness of each candidate system.
- Weigh system performance and cost data.
- Select the best system.

3.4.NON-FUNCTIONAL REQUIREMENTS

Non-functional requirements are the constraints that must be adhered during development. They limit what resources can be used and set bounds on aspects of the software's quality.

3.4.1. User Interfaces

The User Interface is a GUI developed using Java and JSP. In the project used applications and languages, java is programming, JSP is user interface and back end.

3.4.2. Software Interfaces

The main processing is done in java using Java , JavaIO, JSP and Databas

3.5. SYSTEM REQUIREMENTS

3.5.1. HARDWARE REQUIREMENTS

System : Windows 7 or above

Hard Disk : 500 GB

RAM : 8GB RAM

3.5.2. SOFTWARE REQUIREMENTS

Front End : Android Studio, SDK, Java SE 7

Language : Java.xml

Database : Firebase

CHAPTER 4

SYSTEM DESIGN

4.SYSTEM DESIGN

System design or System planning is the procedure of defining the project Structure, architecture, Planning, components, modules, interfaces, and data elements for a system to satisfy the design requirements and helps to start the work in planned way. Systems design or Planning could be seen as the appliance of systems philosophy and helps to product development in a systematic manner. There are some extensions with the disciplines of systems analysis and planning, systems architecture and development engineering. System Design is broadly divided in two activities.

- Design Logical
- Physical Design

LOGICAL DESIGN

The logical design of a system is concerned to a theoretical representation of the project planning using UML Flows, data flows, inputs and outputs of the system. Logical Design is also called as Graphical Modeling of System planning. In the Logical context of systems design are included. For our project I have processed various UML, DFD and ER Diagrams for better planning and implementation.

PHYSICAL DESIGN

The physical design and planning relates to the real and actual input and output processes to be given the system. This is process is a study of various data inputs and outputs to be processed in the system. Physical Design involves in User Interface Design Front End Screens, Data Design Back end Tables and Process Design Algorithm.

UML

The (UML) is a general and all-purpose modeling and planning language in the Software engineering field, which provides a standard way to envisage or visualize the design of a system in a pictorial format. Unified modeling language is a language for writing blueprints.

- Documenting-addressing of all architecture details.

Conceptual Model of the UML

- To understand how UML works, I need to know Specifying-building models that is precise, unambiguous, and complete.
- Constructing-directly connected to various programming languages.
- Visualizing-modeling textually as well as graphically.

about three elements namely building blocks:

Building Blocks of the UML

- Things
- Relationships
- Diagrams

▪▪▪▪▪▪▪▶**Relationships Are**

And association is a structural relationship which specifies that objects of one thing are connected to objects of another.

4.1 USE CASE DIAGRAM

Use case diagram is a graph of actors, a set of use cases are enclosed by a system boundary. Use case diagram are important for knowing the behavior of the element.

- Sequences indicate the relationship with the outside things.
- It involves interaction of actors & the system.
- Actors represent human or systems.

Use cases can have relationships between them. Shows extend, include, and generalization relationships between the use cases.

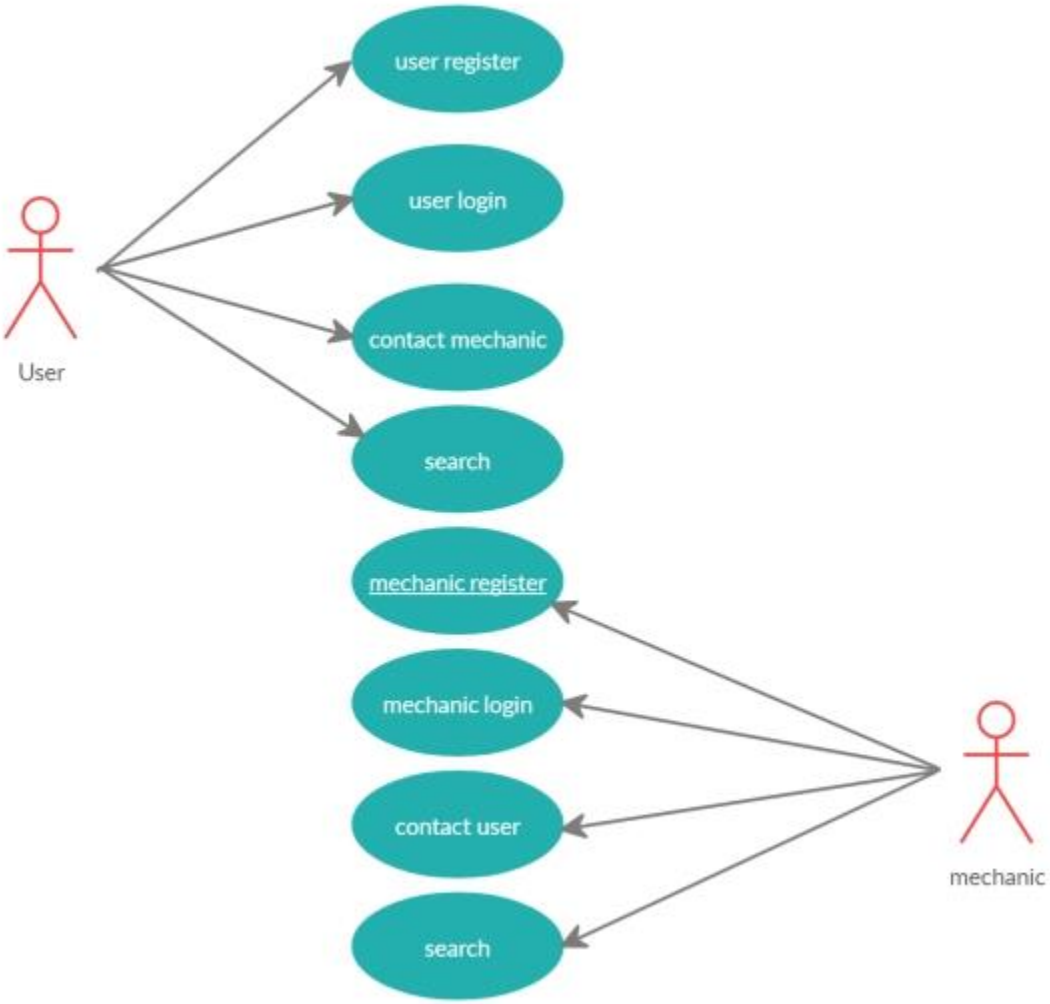


Fig.4.1.1use case diagram

4.1.2 CLASS DIAGRAM

A class diagram is a set of various related objects that share the same characteristics called attributes operations called activities, relationships called associations and semantics called rules. A class is a whole set of objects. Its representation is

Objects of the Class

The purpose of class diagram is to model the static view of an application. Class diagrams are the only diagrams which can be directly mapped with object-oriented languages and thus widely used at the time of construction.

UML diagrams like activity diagram, sequence diagram can only give the sequence flow of the application; however class diagram is a bit different. It is the most popular UML diagram in the coder community.

The purpose of the class diagram can be summarized as −

- Analysis and design of the static view of an application.
- Describe responsibilities of a system.
- Base for component and deployment diagrams.

Forward and reverse engineering.

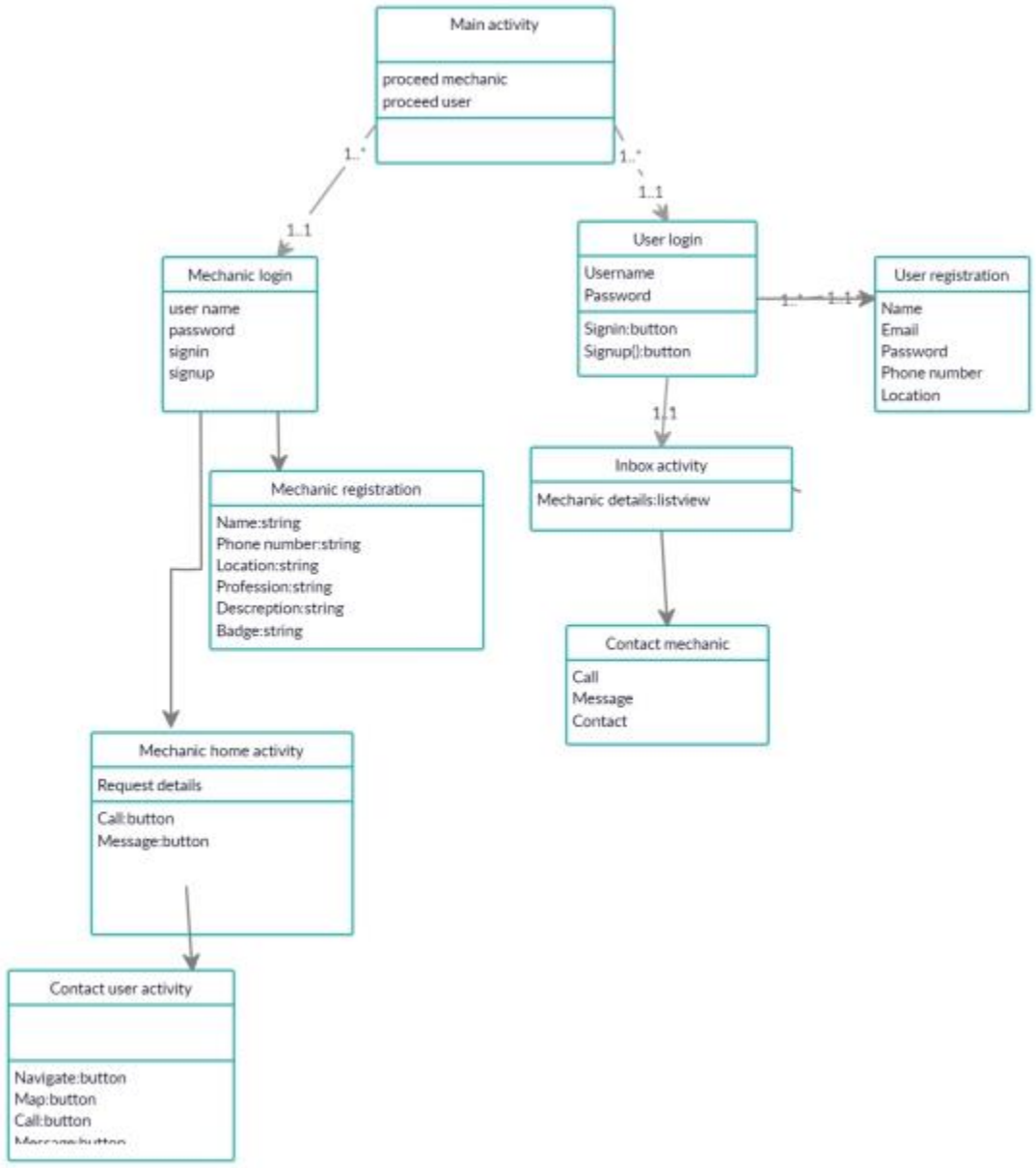


Fig. 4.1.2 Class Diagram for Overall System

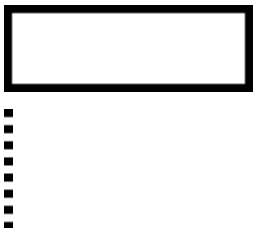
4.1.3 SEQUENCE DIAGRAM

It is an interaction diagram that emphasizes the time ordering of messages. A sequence diagram shows objects participating in the interaction by their lifetime and the messages that they exchange/arranged in the time sequence.

DESCRIPTION

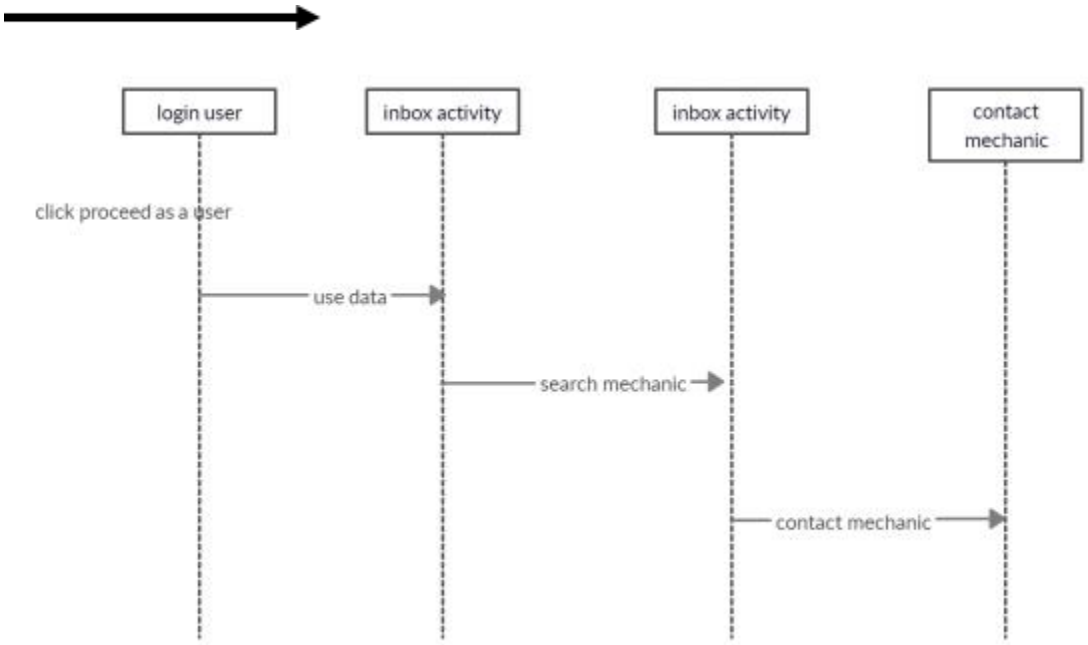
It contains

- Object: It is represented as horizontal rectangle.
- Object Lifeline: It represents the existence of an object at a particular instance of time and is represented as
- Focus of control: It is a tall, thin rectangle that shows the period of time during which an object is performing an action.

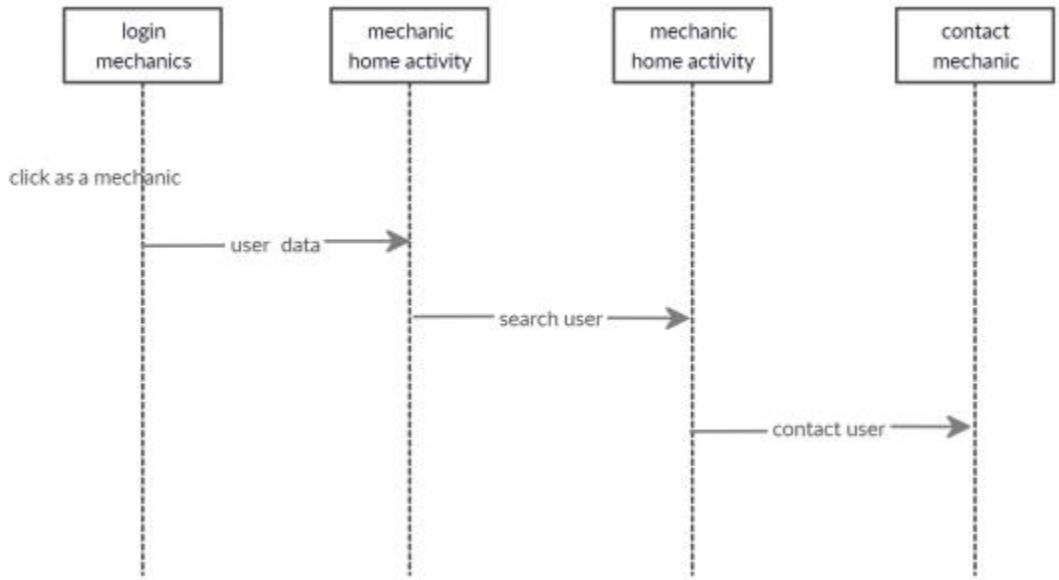


- Messages: It is communication between objects, shown as horizontal solid arrow from one object to another object.

  In the below diagram



4.1..3 .Fig. Sequence Diagram for User



4.1.3 **sequence diagram for mechanic**

4.1.4. ACTIVITY DIAGRAM

Activity Diagram in some ways is like a flowchart with states. With the activity diagram you can observe waft of activities to your machine inside the order that they take place. Note the activity diagram looks as if a move among a kingdom diagram, a use case diagram and a flowchart. Activities appearance much like states however they may be a chunk more rounded. They are stateless in that they take place and automatically transition to the following country upon completing. The diamond is a conditional branch that determines which pastime to transition too primarily based on a situation and it is also stateless. Activity Diagram consists of

- Action states.
- Transition.
- Objects.
- Contains Fork, Join and branching relations along with flow Chart symbols.

REPRESENTATION OF ACTIVITY DIAGRAM

- Action State is represented as a shape with straight top and bottom and with convex areas on the two sides.

- Diamond shape symbol represents branching. It specifies alternate paths and decision satisfying the constraint. Transition represent Flow of control between Start state and end state.

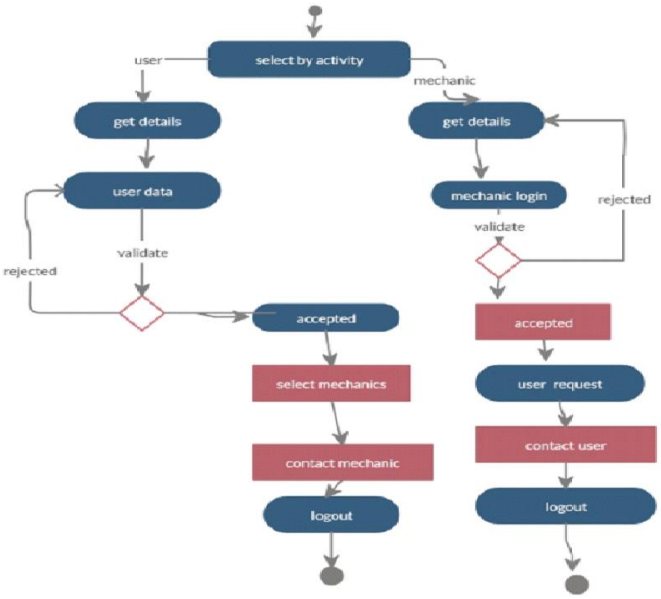


Fig. 4.1.4 Activity Diagram

4.1.6 STATE CHART DIAGRAM

A State Chart diagram shows the state machine focusing on the flow of control from state to state. In the UML these are used to model the behavioral aspects of a system. A state chart diagram comprises states and events.

A state is defined as the situation in the life of an object. An event can trigger a state transition. The relationship between the states can be represented by a transition**.** Objects have behaviors and state. The state of an object depends on its current activity or condition. A state chart diagram shows the possible states of the object and the transitions that cause a change in state.

A state chart diagram can have the similar properties of other diagram. It has an initial and final states, action states, objects, forks, joins etc…

USES OF STATE CHART DIAGRAM

- It is used to model the dynamic aspects of a system.
- State diagrams are also used to describe the behavior of a

  Single class of objects.

- State chart diagrams are used to model reactive objects.

  (A reactive reacts only when an event occurs).

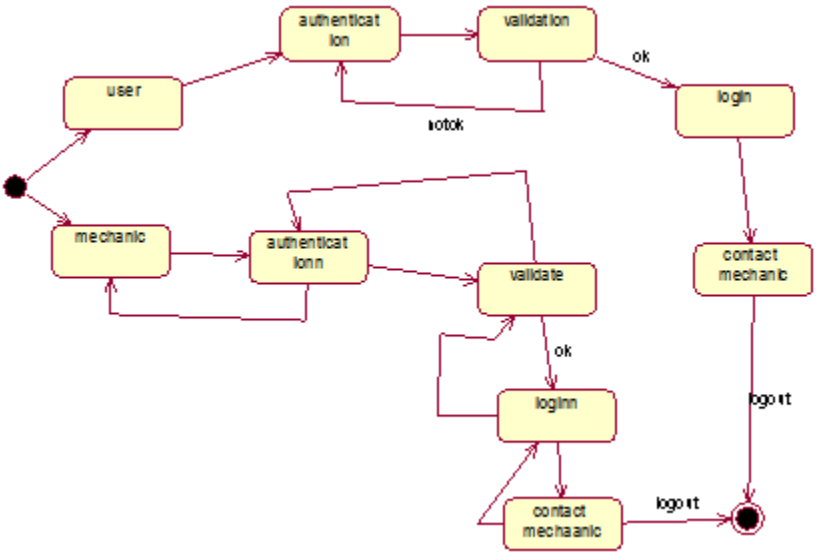


Fig. 4.1..6: State Diagram for Login (Authentication) Process

4.1.7. COMPONENT DIAGRAM

A component is something required to execute a stereotype function. Examples of stereotypes in components include executables; documents, database tables, files, and library files. Components are wired together by using an assembly connector to connect the required interface of one component with the provided interface of another component. This illustrates the service consumer - service provider relationship between the two components. An assembly connector is a "connector between two components that defines that one component provides the services that another component requires. An assembly connector is a connector that is defined from a required interface or port to a provided interface or port. When using a component diagram to show the internal structure of a component, the provided and required interfaces of the encompassing component can delegate to the corresponding interfaces of the contained components. A delegation connector is a "connector that links the external contract of a component (as specified by its ports) to the internal realization of that behavior by the component's parts.

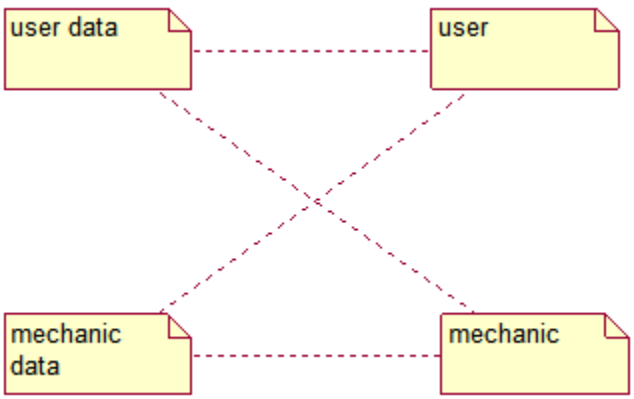
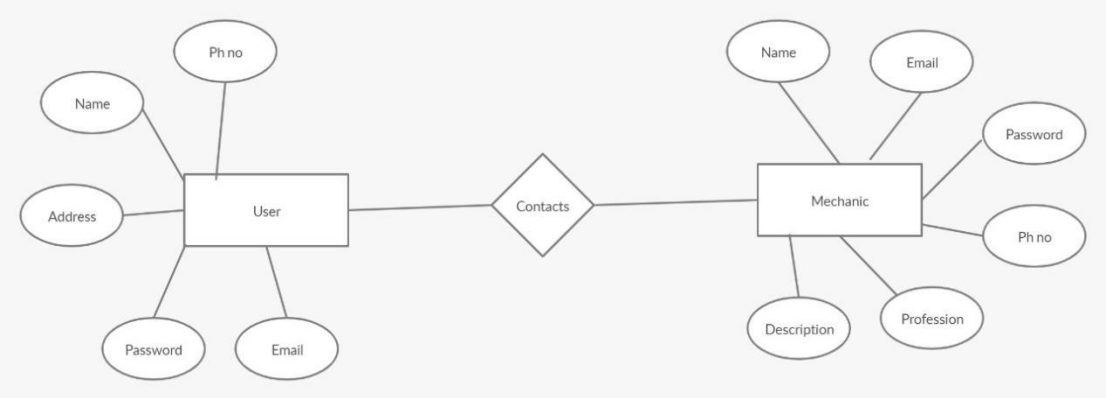
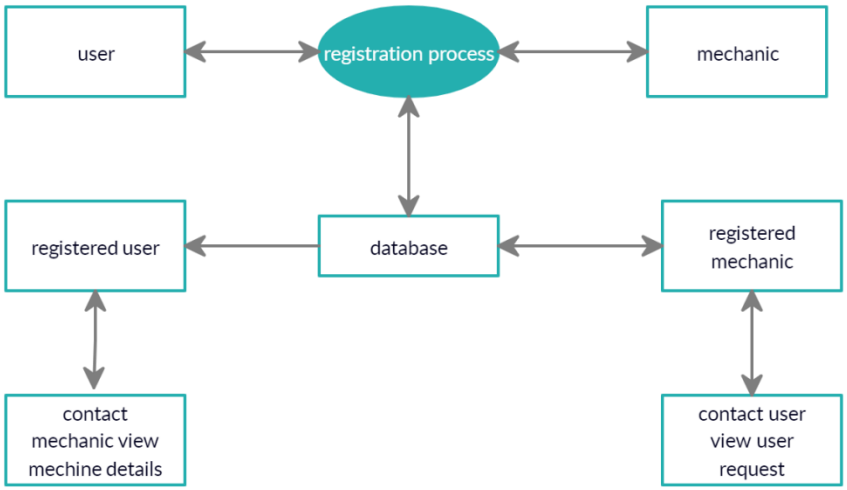


Fig. 4.1.7: Component Diagram for Overall Project

4.2 E-R DIAGRAM



4.3. SYSTEM ARCHITECTRE



CHAPTER 5

IMPLEMENTATION

5.1. LIST OF MODULES

5.1.1 Registration

During registration process, the user can register in the register page. And the mechanic can also register in register page and the user can register in mechanic register and mechanic can also register in user register.

5.1.2 Login

In the process of login page the user can login in login page. And the mechanic can also login in login page and the user can also login in mechanic page.

5.1.3 Location sharing and searching

In the process of location sharing, the user who are in mechanical problem they can easily send the message to the mechanic by sharing the location.

And there is a searching option is available to search the mechanic who are in nearby location. By using this application, we can easily solve the problem.

5.1.4 Contact mechanic

1.sending information

In the process of sending information to the mechanic the user we are in trouble by sharing location we can send the information.

2.message

In the process of message to mechanic, there is a message availability option to send the information to the mechanic.

3.calling

In the process of contact to mechanic, there is a calling option to call the mechanic who are in emergency condition to quick response.

5.1.5 Contact user

1.message

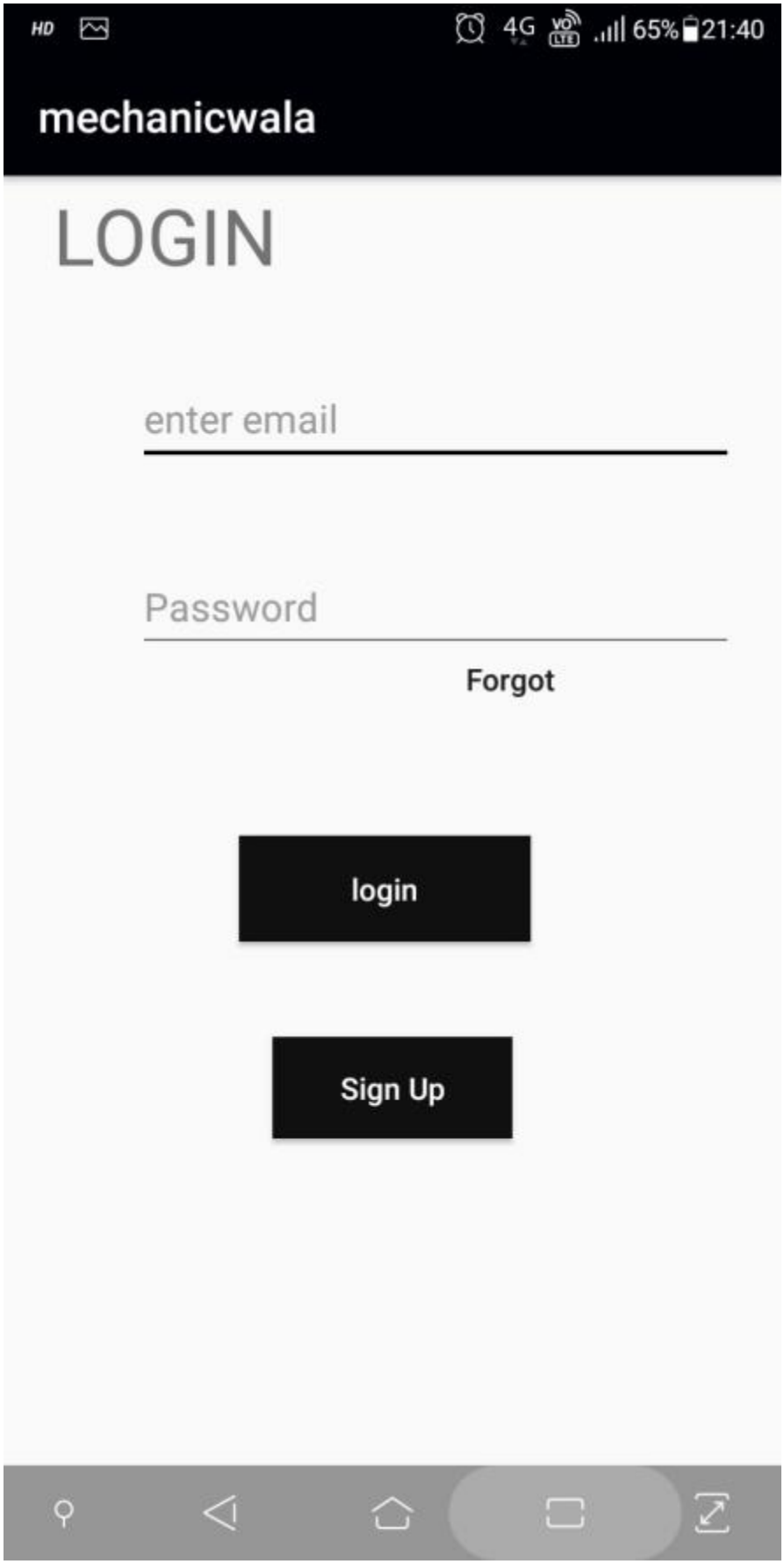
In the process of contact to the user, there is a message option to the user to send the reply to the user who send the information.

2.calling

In the process of contact to the user, there is a calling option to call the user who are sending request to the mechanic.

CHAPTER 6

SCREENSHOTS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4G
65%
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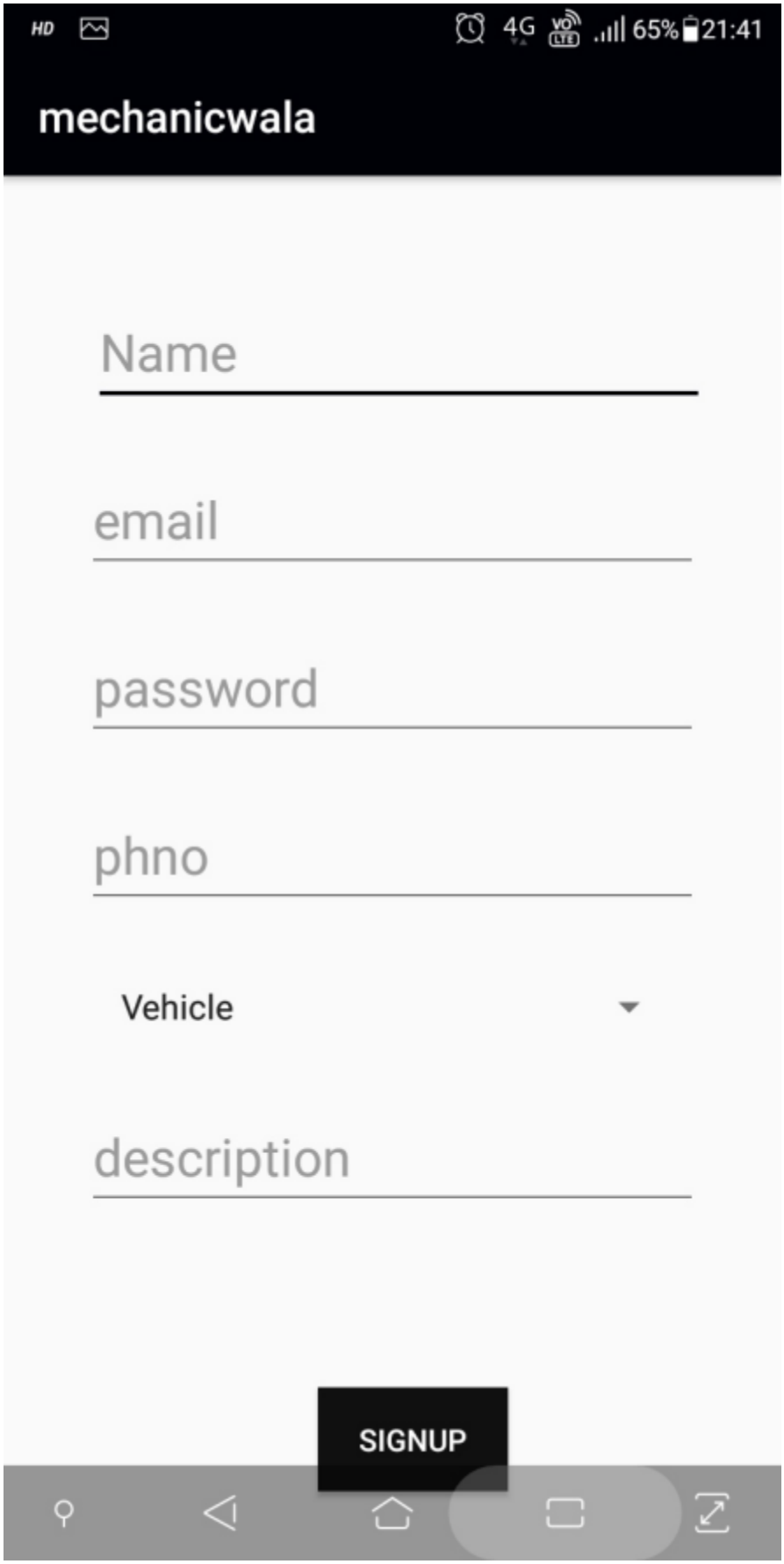
mechanicwala
LOGIN
enter email
Password
Forgot
login
Sign Up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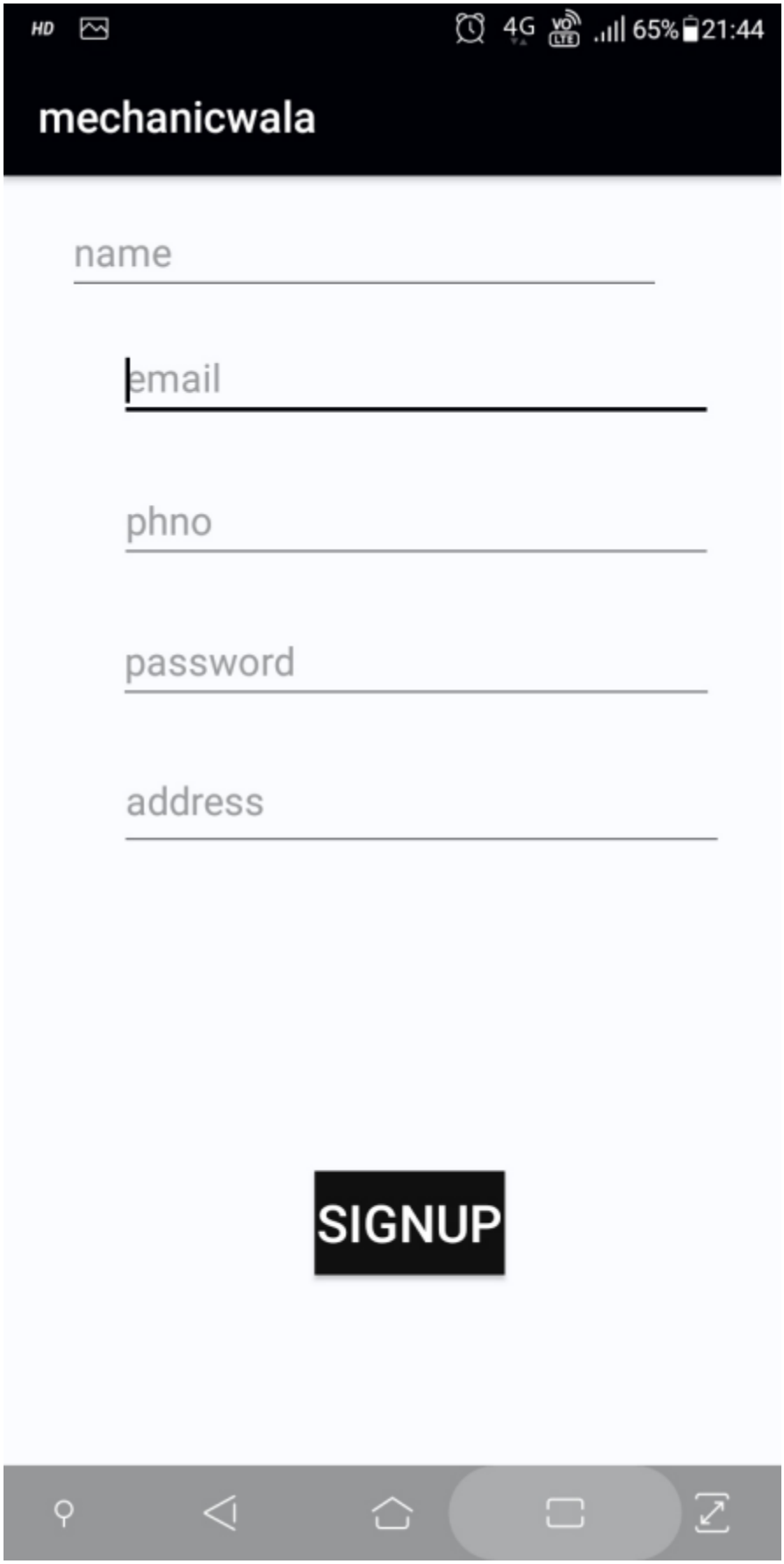
21:41
mechanicwala
Name
email
password
phno
Vehicle
description
SIGNUP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password
address
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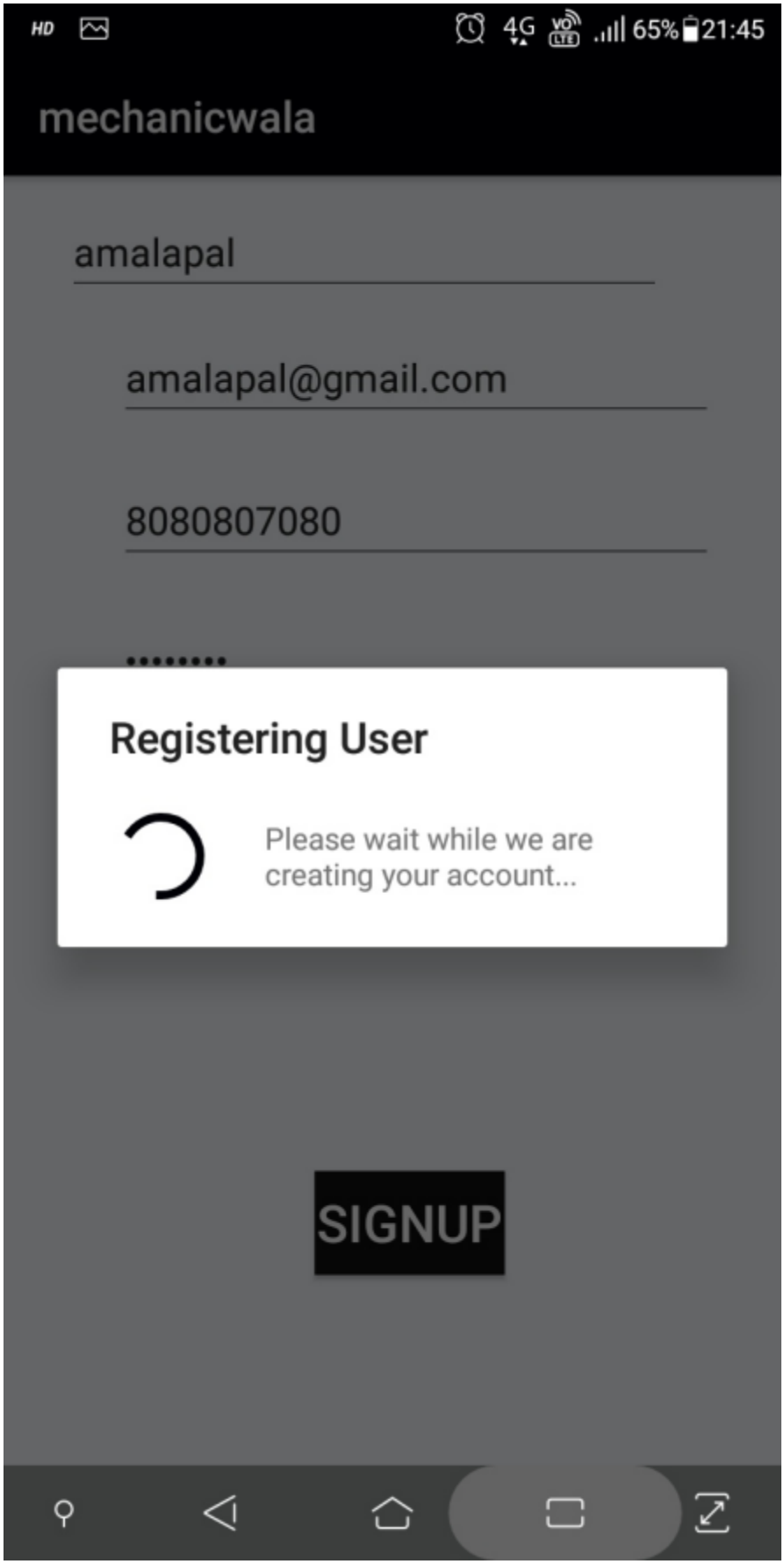
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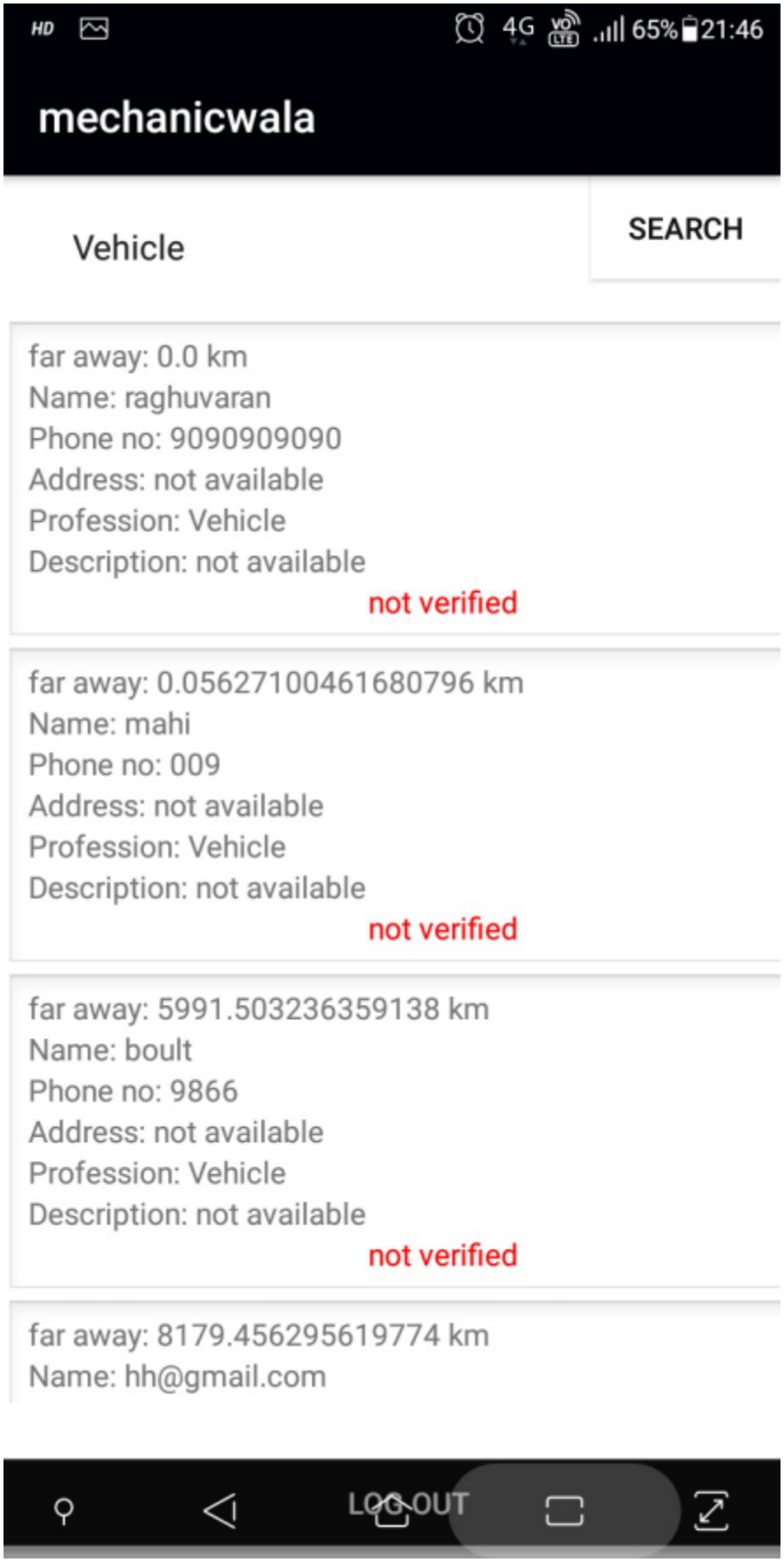
amalapal@gmail.com
8080807080
Registering User
Please wait while we are creating your account...
SIGNUP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4G
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21:46
mechanicwala
Vehicle
SEARCH
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Address: not available
Profession: Vehicle
Description: not available
not verified
far away: 0.05627100461680796 km
Name: mahi
Phone no: 009
Address: not available
Profession: Vehicle
Description: not available
not verified
far away: 5991.503236359138 km
Name: boult
Phone no: 9866
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Profession: Vehicle
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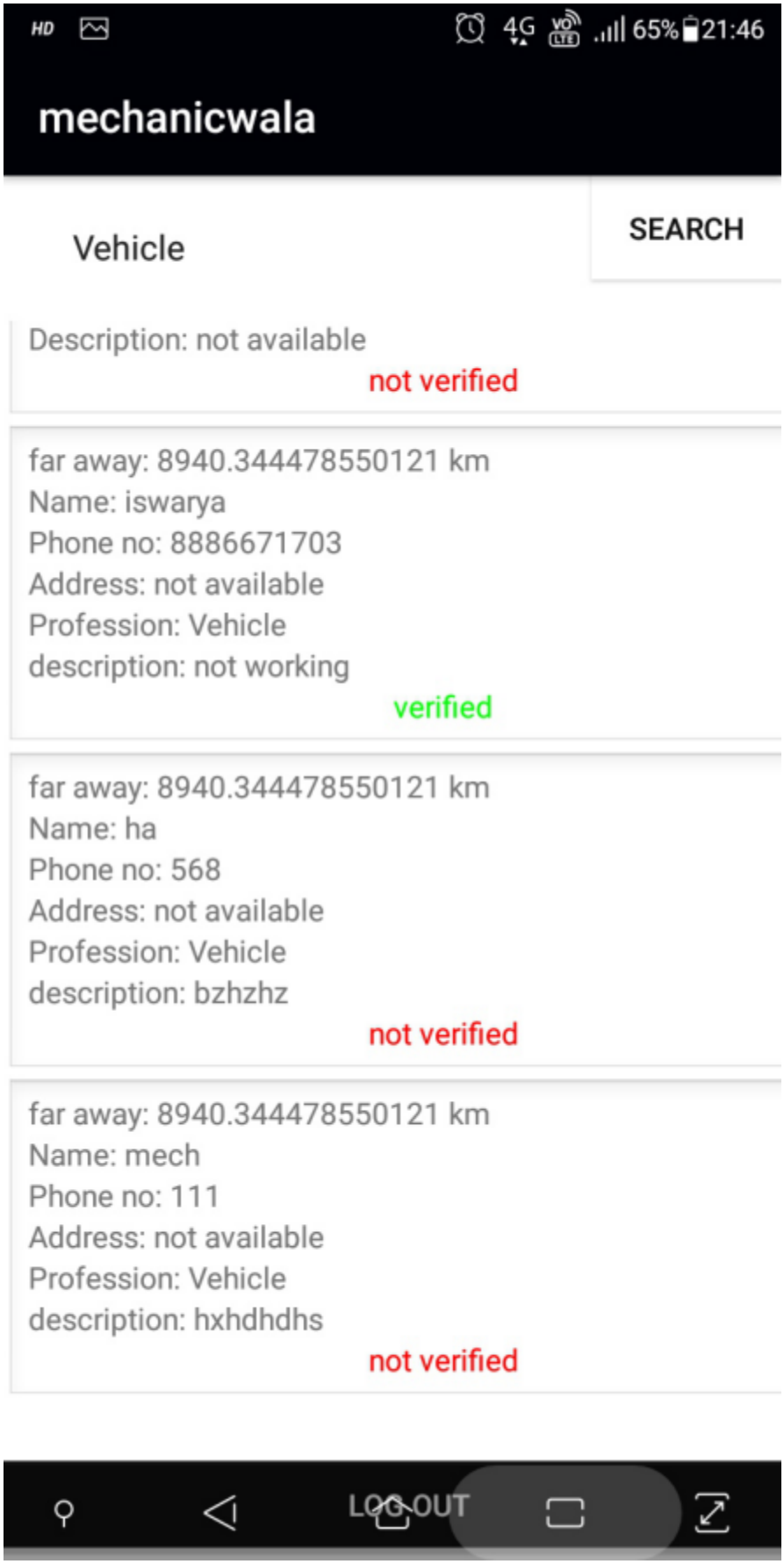
not verified
far away: 8179.456295619774 km
Name: hh@gmail.com
LOG OUT


HD
4G
65%
21:46
mechanicwala
Vehicle
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not verified
far away: 8940.344478550121 km
Name: iswarya
Phone no: 8886671703
Address: not available
Profession: Vehicle
description: not working
verified
far away: 8940.344478550121 km
Name: ha
Phone no: 568
Address: not available
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description: bzhzhz
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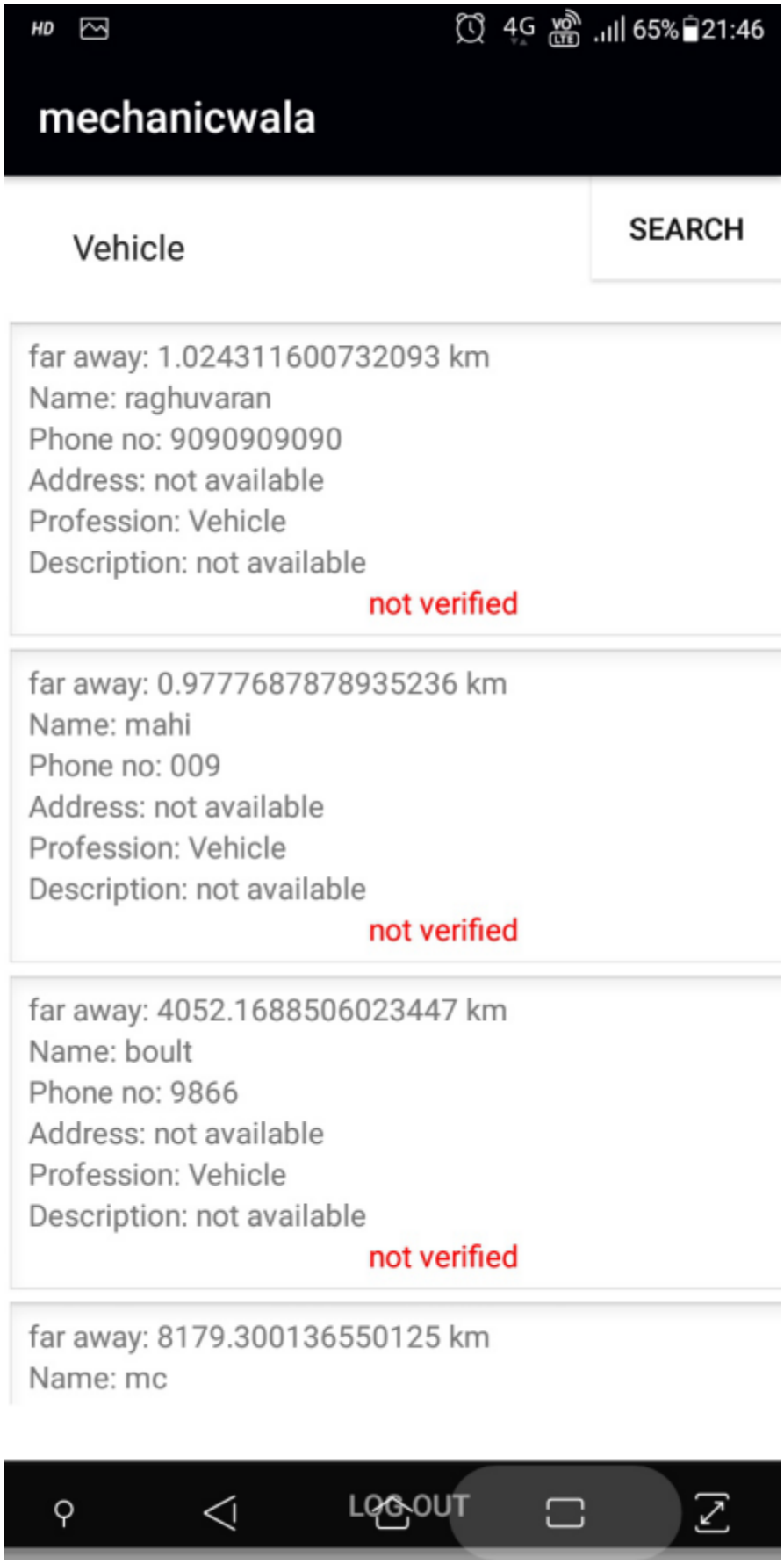
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mechanicwala
Vehicle
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far away: 1.024311600732093 km
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not verified
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not verified
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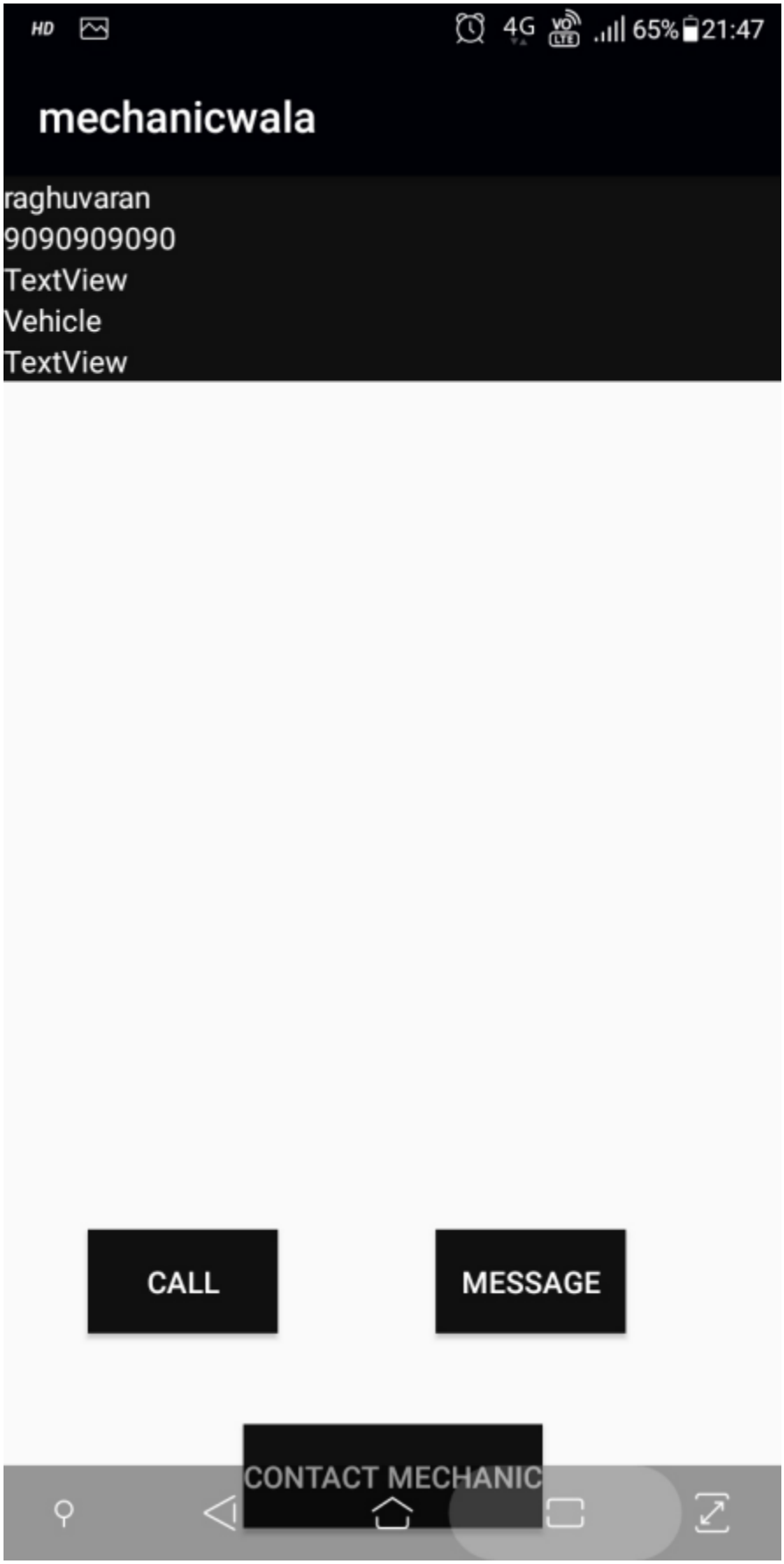
LOG OUT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mechanicwala
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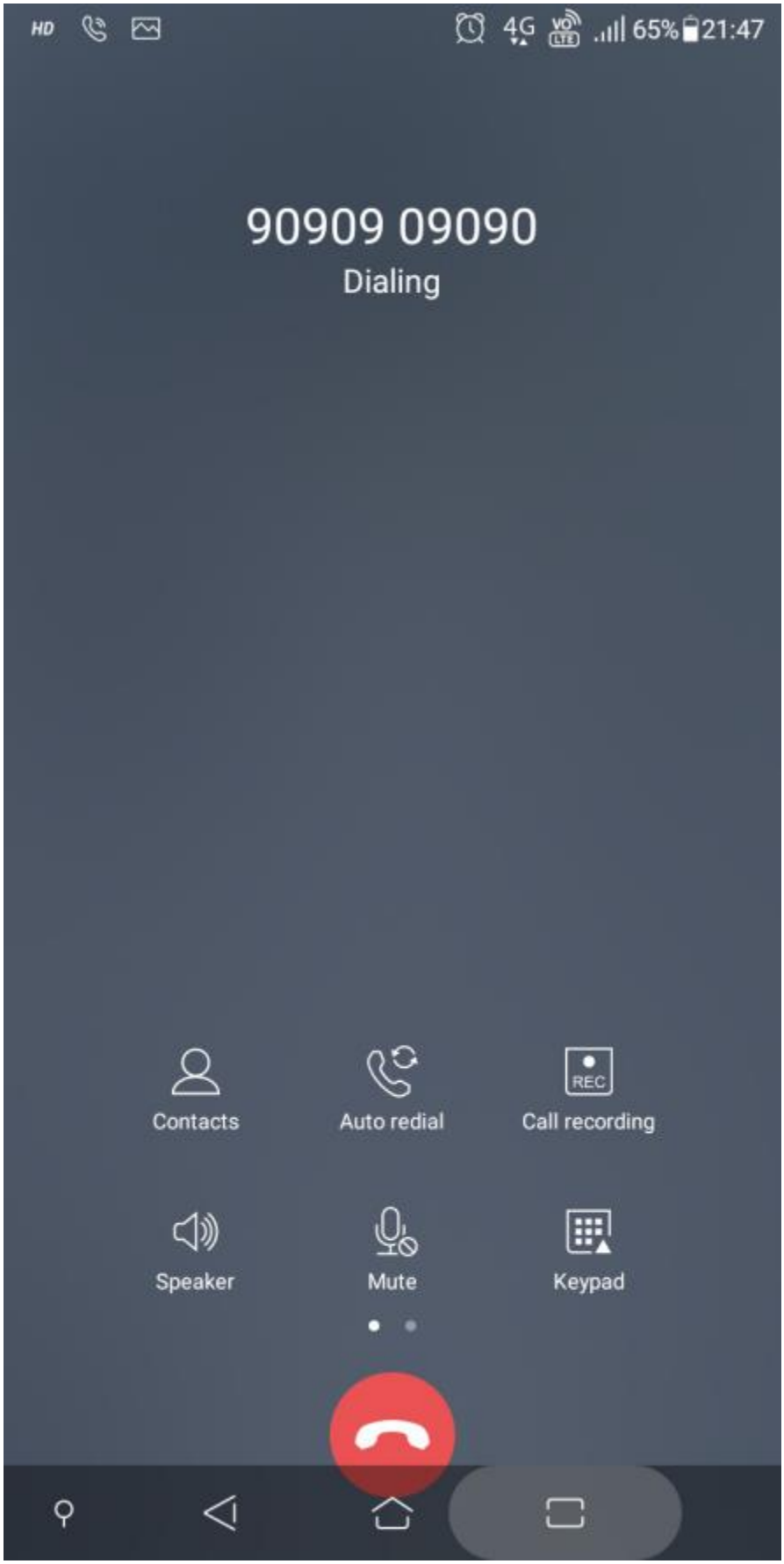
TextView
Vehicle
TextView
CALL
MESSAGE
CONTACT MECHANIC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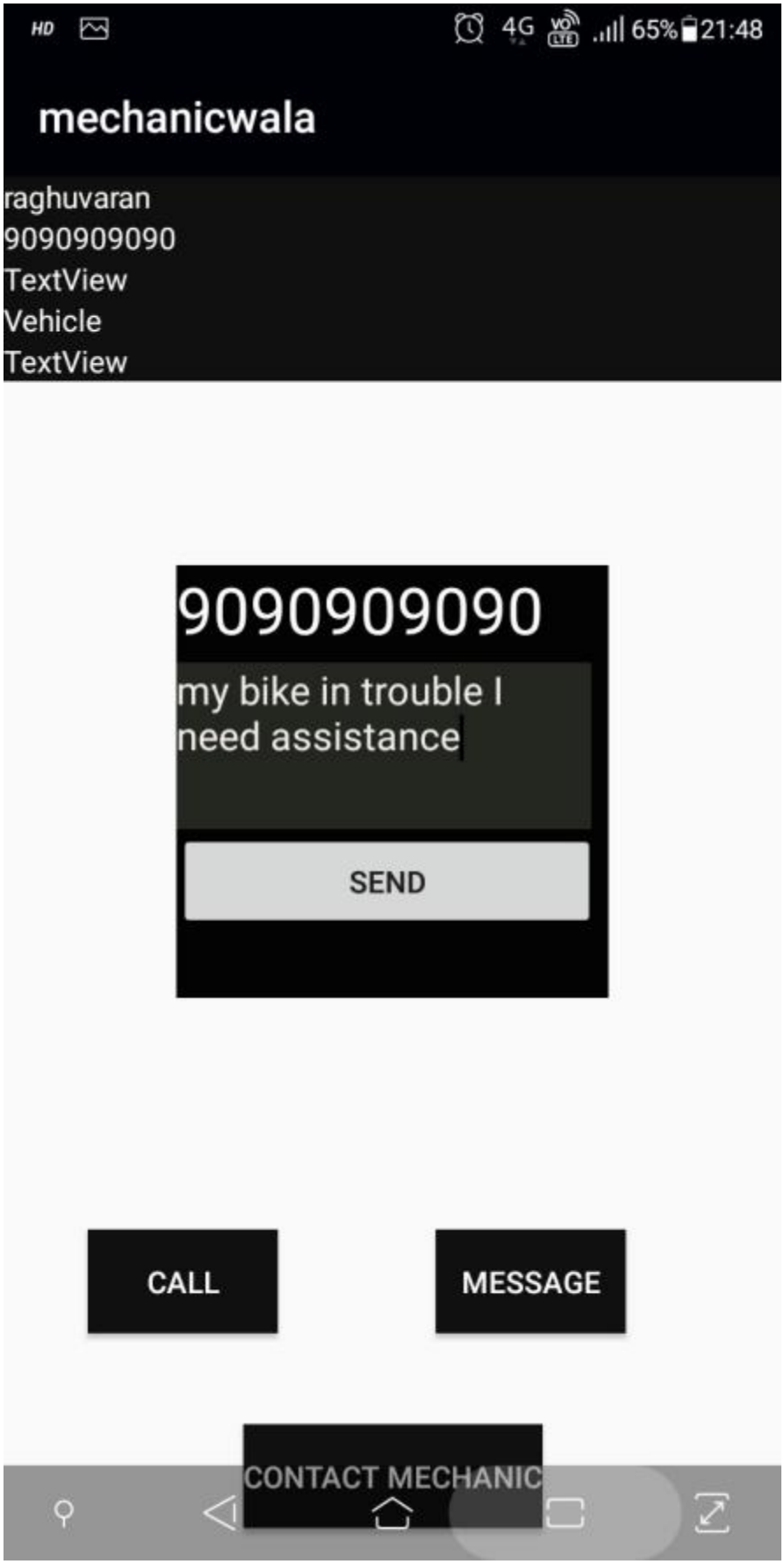
90909 09090
Dialing
Contacts
Auto redial
REC
Call recording
Speaker
Mute
Keypad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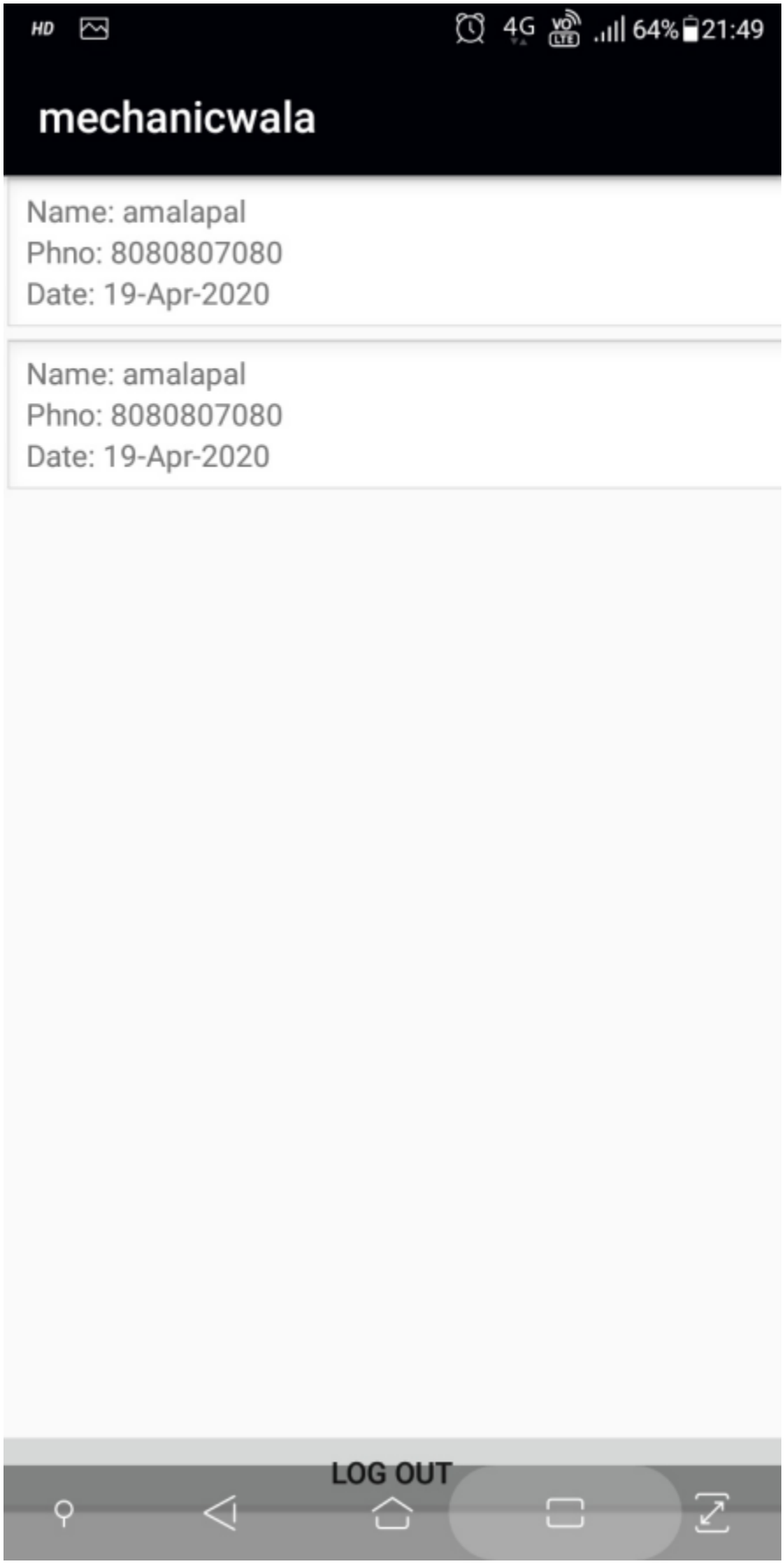
21:48
mechanicwala
raghuvaran
9090909090
TextView
Vehicle
TextView
9090909090
my bike in trouble I need assistance
SEND
CALL
MESSAGE
CONTACT MECHANIC


HD
4G
65%
21:49
mechanicwala
set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mechanicwala
Name: amalapal
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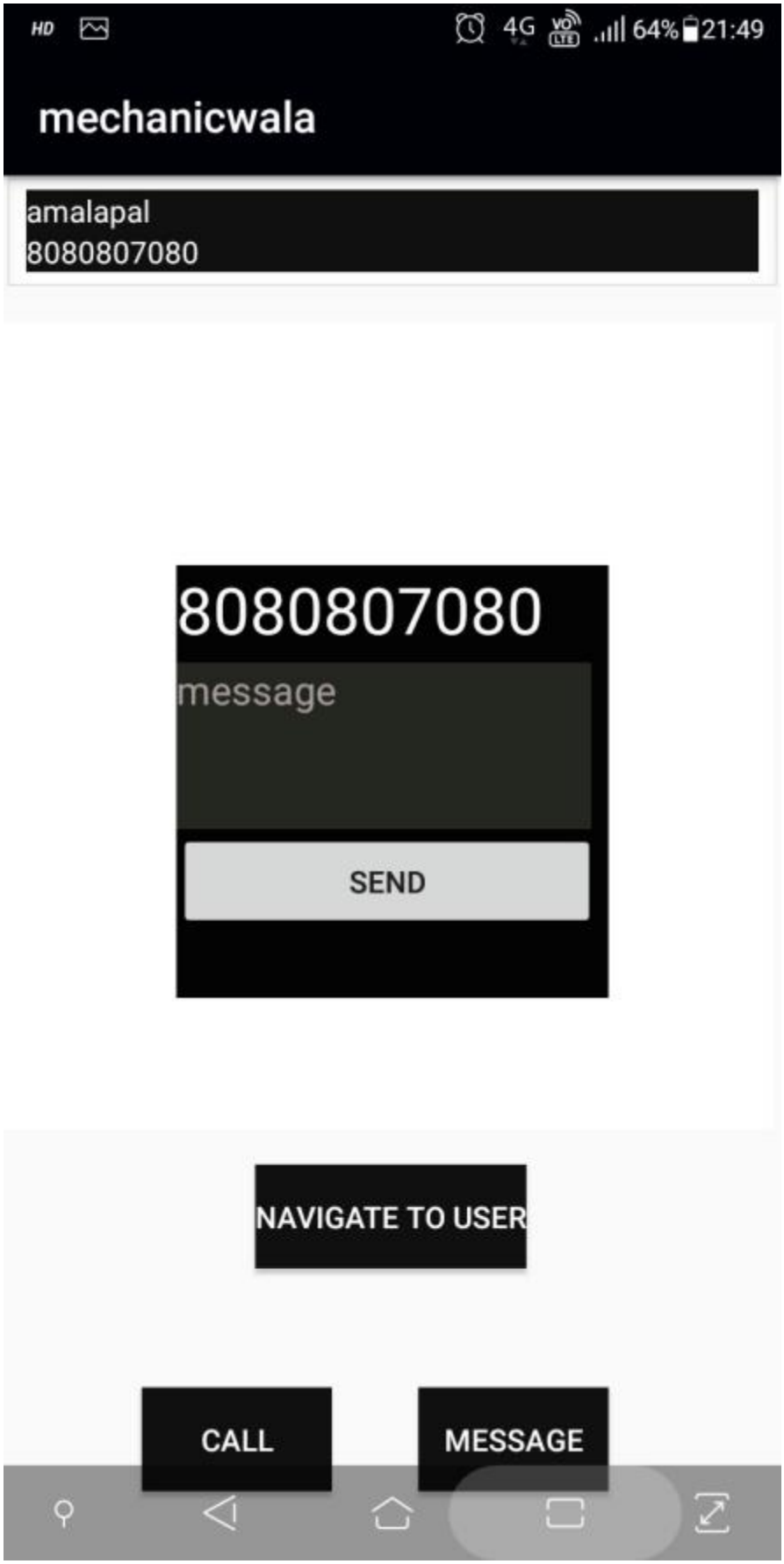
Date: 19-Apr-2020
Name: amalapal
Phno: 8080807080
Date: 19-Apr-2020
LOG OUT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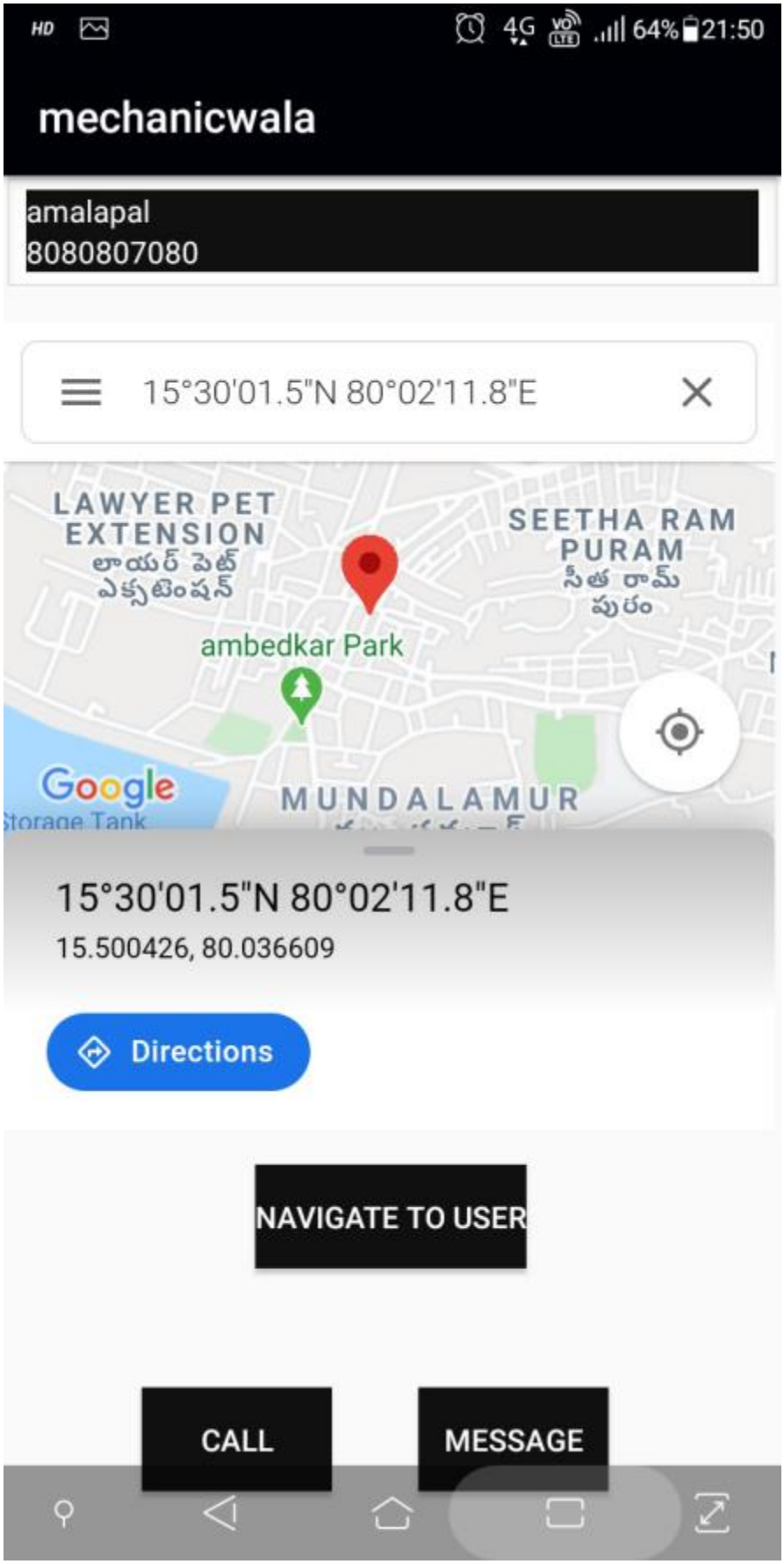
message
SEND
NAVIGATE TO USER
CALL
MESSAGE


HD
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mechanicwala
amalapal
8080807080
15°30'01.5"N 80°02'11.8"E
LAWYER PET EXTENSION
లాయర్ పెట్ ఎక్సటెంషన్
SEETHA RAM PURAM
సీత రామ్ పురం
ambedkar Park
Google
MUNDALAMUR
15°30'01.5"N 80°02'11.8"E
15.500426, 80.036609
Directions
NAVIGATE TO USER
CALL
MESSAGE

CHAPTER 7

TESTING

7.1 SOFTWARE TESTING TECHNIQUES

Testing Software is a critical process which includes many activities, elements of software excellence assertion and represents the ultimate review of specification, design and coding, Software Testing presents a wide nature of an interesting variance for the software developers.

Testing Objectives

- Testing is a series of steps which includes executing a program with various inputs and intent of finding an error from the inputs and making the developer to make corrections on error finding.
- A good Software test case is one that has a possibility of finding an undiscovered error in the designed program.
- A successful Software Testing is one that exposes an unknown or undiscovered error.

These above objectives imply a dramatic change in view port.

Software Testing is a series of steps but it cannot show the absence of defects and errors but it can only show various errors that are found software or program.

. Test Case Design

Any Software product can be tested in one of two ways:

White Box Testing

White Box Testing is also called as Open or Glass box testing. In White Box Testing, by finding the specified program or function that a software product or a software program has been designed or developed to perform or execute the test can be implemented and conducted for the demonstrates each program or function in a fully operated at the same time finding for errors in each program. It is a glass box or open test case design method that uses the wide control on structure of the procedural program and design to find and drive the test cases. The starting path testing activities is a white box testing.

Black Box Testing

In Black Box testing by understanding and knowing the various program internal operation of application or product or program, Black Box Testing can be

conducted to guarantee that all gears mesh of the internal activities of the product or program or application can be tested. The process provides a internal operation to check the performance and specifications of all the internal mechanism which have been passably exercised. Black Box Testing fundamentally focuses on the functional activities and requirements of the software.

The steps involved in black box test case design are:

- Graph based testing methods
- Equivalence partitioning
- Boundary value analysis
- Comparison testing

- Graph matrices

8.2. SOFTWARE TESTING STRATEGIES

Software Testing Strategy integrates the software test cases into a series of well-planned steps and series of planned procedures that result in the successful construction, Design and Implementation of a software. Various Software testing Methods are referred for Verification and Validation. Software Verification refers to the set of activities on the designed functions and programs for ensuring that the software or the product correctly implements a specific function or the required output. Software Validation refers to a set of activities that ensure that the software or product or application that has been built for traceable to customer's requirements and providing the customer to input valid data and make Data store free from redundancy.

7.1.1. Unit Testing

In software testing, Unit testing mainly focuses on verification effort on the smallest unit of program or software design that is also called a module. In unit testing the procedural or functional design provides a detailed description as a guide, focal the control paths are tested to uncover errors occurred in the designed software within the boundaries of the module. The unit testing of software is normally white box or open testing oriented and the series of steps can be conducted in corresponding or parallel for multiple modules or functions.

7.1.2. Integration Testing

Integration testing is another Testing for systematic technique and product module integrating which constructs the program structure and makes the data flow between the modules, while conducting Integration Testing it requires to uncover errors associated with various interfaces. The main objective is to take unit tested methods and activities to build a program structure that have been dictated by design.

Top-Down Integration

The next Testing process is top down integrations is a sequence approach for construction and testing of a program structure. In a Software or product or application various modules are integrated with each other by moving downward through the systematic control hierarchy between the modules, beginning with the main control or home control or index program. Various activities or modules connected to the main program are included in the structure of the project or either in the breath first or depth first manner.

Bottom-up Integration

The next testing method as the name suggests, which begins in construction and testing with various atomic modules of the product i.e., modules or functions at the lowest level. Because the all the functions or modules are having integration between bottom up manner in which the processing is required for the modules having connection to a given level is always available and the need for remnant is eliminated.

7.1.3. Validation Testing

The Validation Testing is integration testing for software which is completely assembled as a package. The Validation testing is the next stage in Testing Activities, which can be defined as successful testing process for the software functions in the manner reasonably expected by the customer.

7.1.4. System Testing

To check system activities related to computer we process system testing which is actually a series of different tests whose primary purpose is to test the functionalities of computer-based system. Even though each test has a different purpose of checking the validations and integrations of product, all work is to verify

that all system elements and system activities which have been properly integrated to perform allocated functions.

7.1.5. Security Testing

Attempts to verify the protection and security mechanisms built into the system for protecting the data, program and other integrations related to system.

7.1.6. Performance Testing

In software engineering, performance testing is processed to check the workload, usage of system, memory, processing, network and other system functionalities. It can also serve to investigate measure the program structure and its process activities inside the system, validate or verify other quality attributes of the system, such as scalability, reliability and resource usage.

7.2 TEST CASES

TEST RESULT: UNIT TESTING

S.no	Action	Input	Expected output	Actual output	Test result
1	User signup	Give all correct data	Signup success fully	Signup success fully	pass
2	User signup	Give incorrect data	Sign up failed	Sign up failed	pass
3.	User login	Give valid credentials	Sign in	Sign in	pass
4	User login	Give invalid credentials	Sign in failed	Sign in failed	pass
5	mechanic signup	Give all correct data	Signup success fully	Signup success fully	pass
6	mechanic signup	Give incorrect data	Sign up failed	Sign up failed	pass
7	mechanic login	Give valid credentials	Sign in	Sign in	Pass
8	mechanic login	Give invalid credentials	Sign in failed	Sign in failed	Pass
9	Contact mechanic	Click on contact mechanic button	Add entry to respective mechanic database with user details and location	Add entry to respective mechanic database with user details and location	Pass
10	Message	Click on	Prompt	Prompt	Pass

	mechanic	message button	message window and send message on send click	message window and send message on send click	
11	Call mechanic	Click on call button	Call to mechanic phno	Call to mechanic phno	Pass
12	navigate user	Click on navigate ser button	Navigate to user	Navigate to user	Pass
13	Message user	Click on message button	Prompt message window and send message on send click	Prompt message window and send message on send click	Pass
14	Call user	Click on call button	Call to user phno	Call to user phno	Pass
15	User logout	Click on logout	Logout the current user and open homepage	Logout the current user and open homepage	Pass
16	mechanic logout	Click on logout	Logout the current mechanic and open homepage	Logout the current mechanic and open homepage	Pass

Table 8.1. Test Case Results

CHAPTER 8

CONCLUSION

8.CONCLUSION

Mechanicwala is an interactable platform for the mechanics and users who need mechanical services. There would be no more struggle in finding for the mechanics across various cities. The mechanicwala facilitates the user a more flexible way of searching for the mechanics and provides the genuine and accurate details. It also provides a specified individual fragmentation of the mechanics based on their domain. This can be a solution for the huge searching for the rare services and also for the effective and premium mechanics search. I.e. some of the mechanical services has been limited to only specific organizations, this mechanicwala can be a better solution to find such ones, and to get interact.

CHAPTER 9

FUTURE ENHANCEMENT

9.FUTURE ENHANCEMENT

Payment System

We can automate payment systems between the customers and mechanics during the transactions. This can make the payments more genuine and more optimistic.

CHAPTER 10

BIBILIOGRAPHY

10.BIBIOLOGRAPHY

1. https://www.tutorialspoint.com/android/android_studio.htm

2. https://developer.android.com/docs

3. https://www.w3schools.com/xml/

4. https://firebase.google.com/docs/

5. https://docs.oracle.com/javase/7/docs/api/

6. Java: The Complete Reference, Eleventh Edition Paperback – 19 March 2019

by Herbert Schildt

7. https://firebase.google.com/docs/reference/android/packages