

# Suraksha: An Android App for Human Safety

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**Abstract:-** In today's world of unsafety-ness , furious incidents, human is required to act against such incidents. It's the need of the hour to act accordingly for the betterment of the mankind. Today's world is relying on Technology in many forms. The most popular one is the smart phone device which is replacing almost all devices. This paper represents the idea of building an application that provides security to the people. According to this proposal, the user is asked to store the emergency contact details while signing up the application. Later in case of emergency the pre-loaded message along with the GPS location of the user is sent to the contacts with the minimal clicks. People have come with many measures to avoid mis-happenings, but the unique feature of this project is to have a "gesture" to the application, to reduce the time consumption in operating the app.

**Keywords:-** Android, Application, Emergency, User.

## I. INTRODUCTION

In the recent past, the world is witnessing a rapid increase in crimes, molestations, rape, kidnapping etc. Many officials are behind these matters, yet they are unable to solve the problem. So, it is the need of the hour to find the solution for such problems. It's the individual's responsibility to fight back in case of any his/her insecure condition rather than depending upon others.

Today, technology is at its peak, which enables us to resolve many problems. Keeping this in view, the present project "Suraksha" has been proposed. This is an android based application for the safety of the people in case of emergency.

This application works on GPS module in which the user can send his/her current location to the stored emergency contacts along the pre-loaded message in case of emergency. The unique feature this project upholds is by getting operated through "gesture" which is very feasible to the user in case of high risk and less time.

## II. EXISTING SYSTEMS

### A. Raksha:

This app is about providing safety to women. In this application, the user can send his/her current location along with the message to the selected contacts. It even provides the feature of alarm sound which can be played in case of emergency.

### B. Safetipin:

It is a personal safety app that helps the user to make safer decisions about the mobility , based on the safety score of an area. It calculates the safety score of a place based on several parameters. The application even provides the feature of sending the location to the selected contacts.

### C. Women Safety:

This application also provides the same features as the other's provide like sending GPS location link and message to the contacts. The unique feature is that, the application is designed to capture the front and rear picture and upload to the server.

## III. EXPERIMENTAL SURVEY

- Around 92 women are being raped in India everyday according to recent statics.
- The total number of kidnapping and abduction cases have increased from 51881(2014) to 57311(2015).
- According to the reports, the murder rate in India is 2.49 per lakh population for the year 2017.
- Overall 30,62,579 crimes have been reported in India for the tear 2017.

## IV. WORKING OF PROPOSED SYSTEM

The application is designed in such a way that the distressed can react to the situation in the quickest way possible. Upon downloading the android application, the user is asked to sign up. Here the user is required to enter the basic credentials like name, contact number, email-id. Once he gets sign up, an authentication email gets sent to his mailbox. The mail contains a verifying link, clicking on which the user can login in into the app.

After the user gets logged in, he/she is asked to add the emergency contact numbers. The contact numbers can be added by selecting from the phone contact list or as individual numbers. The next step is to store the message which the user desire to send in emergency. Hence the user enters the message and save it. The emergency contact numbers added as well as the pre-stored message can be edited.

Now the application is ready to function. During emergency or when the user is stuck in helpless or

dangerous sleep, he/she is required to open the app and click on the “Help” button. Upon clicking on this button, the emergency contacts receive the pre-stored offline message along with the GPS location of the user.

The unique feature which the application carries out is to work on “Gesture”. With this, the application gets operated with the minimal clicks, thus reducing the number of mis-happenings. The user is required to draw ‘S’ shape on home screen, which triggers the application to carry out the operation.

**V. PROJECT ARCHITECTURE**

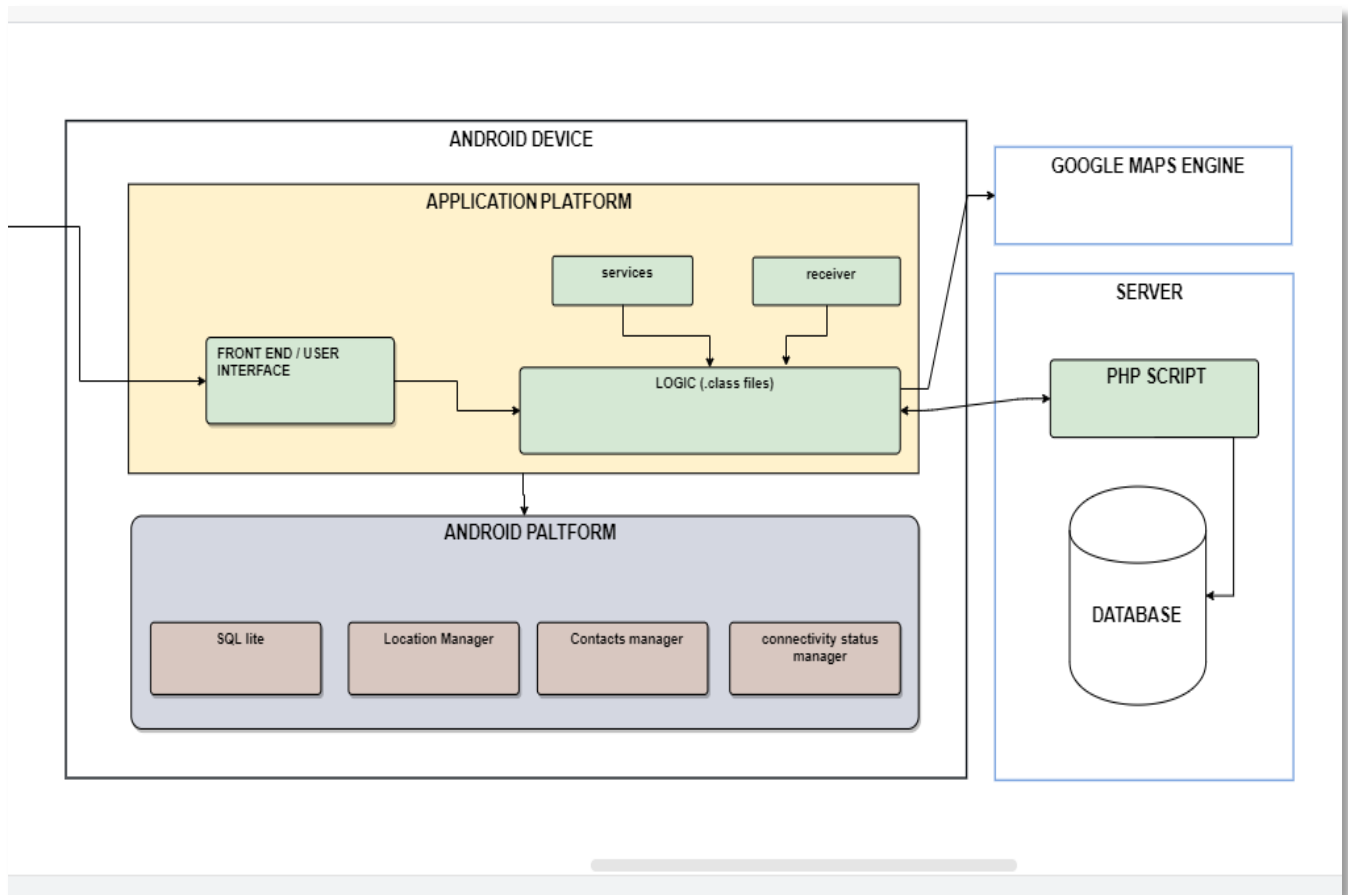


Fig 1:- Architectural representation

➤ *Application Layer*

Android ships with a set of core applications including an email client, SMS program, calendar, maps, browser, contacts and others. All applications are built using the Java. Each of the applications aims at performing a specific task that it is intended to do. This includes the programs that manage the phone’s basic functions like resource allocation, telephone applications, switching between

processes or programs and keeping track of the phone's physical location.

➤ *Android Layer*

Android Runtime layer includes a set of core java libraries. Every Android app gets its own instance of Virtual Machine. The basic components of an Android application include Activity, Broadcast Receiver, Service, and Content Provider.

**VI. MODEL VIEW PRESENTER**

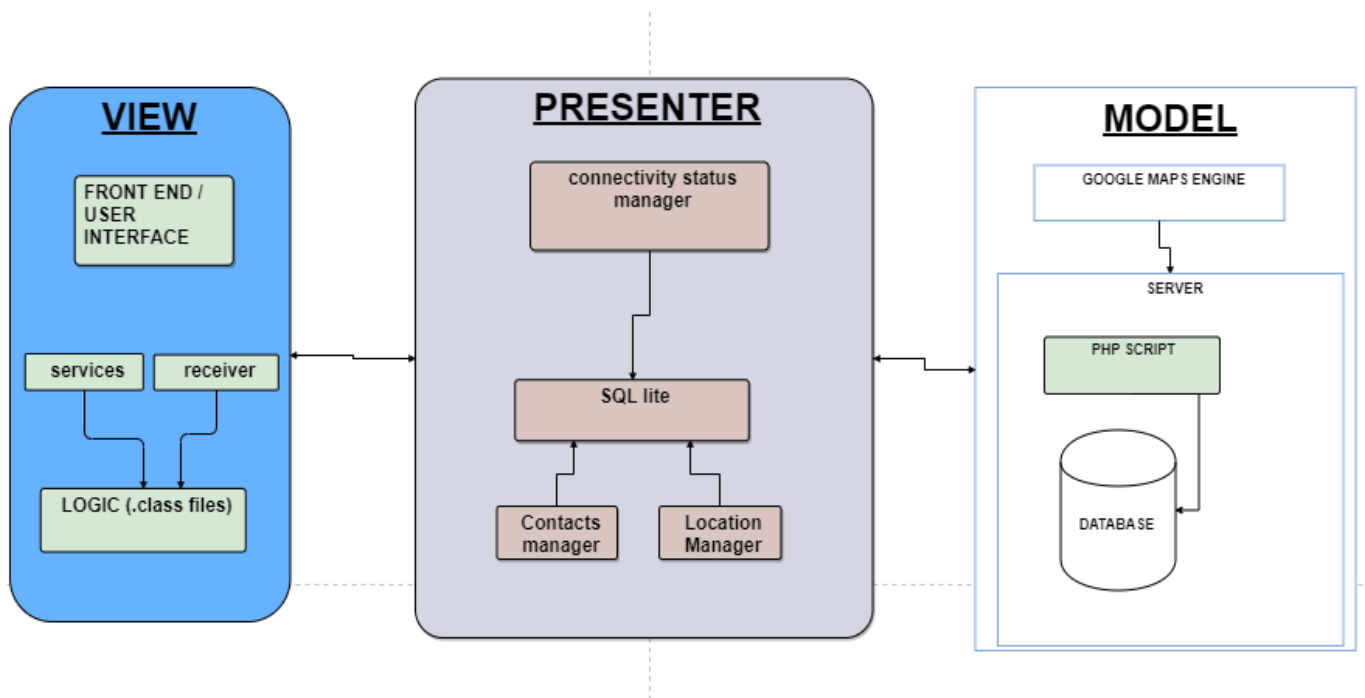


Fig 2:- MVP pattern to show the architecture of the system

**VII. SEQUENCE DIAGRAM**

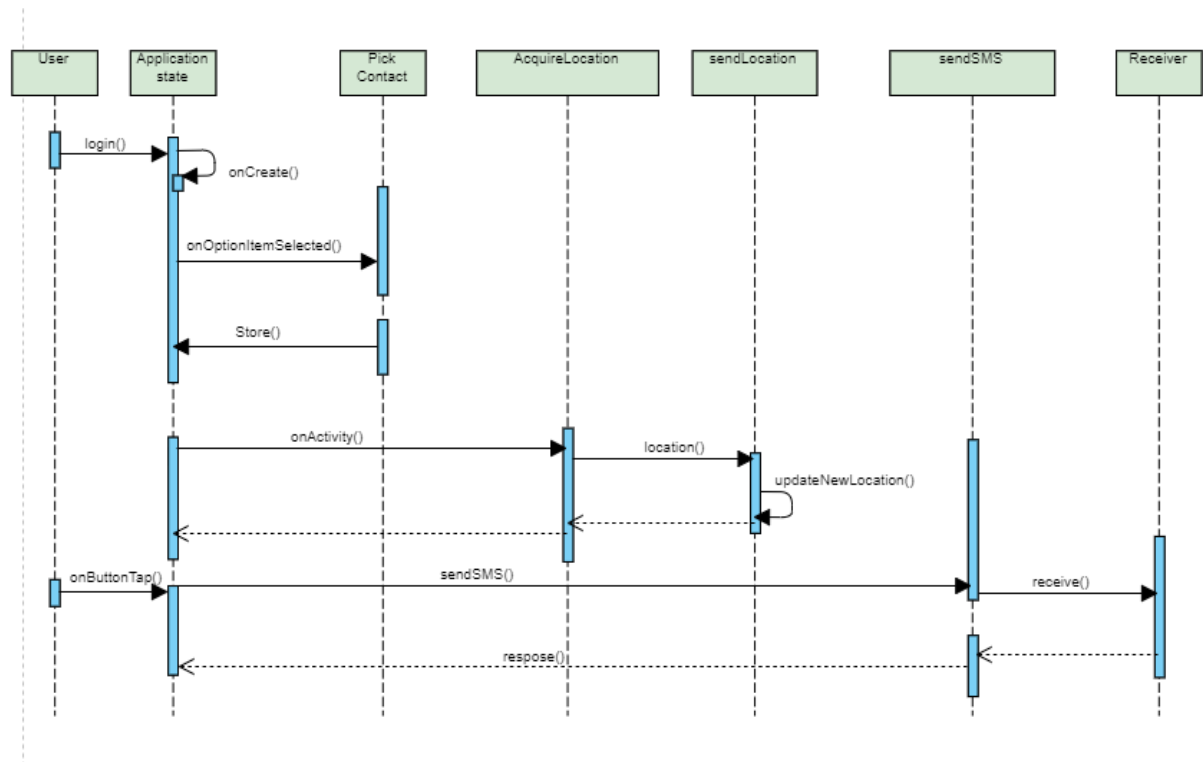


Fig 3:- Sequence diagram describing the data flow for the android application

### VIII. SCREENSHOTS

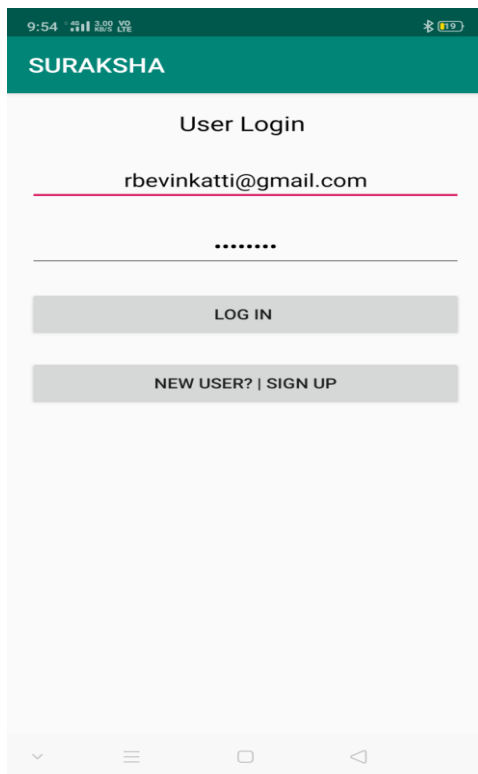


Fig 4:- User Login

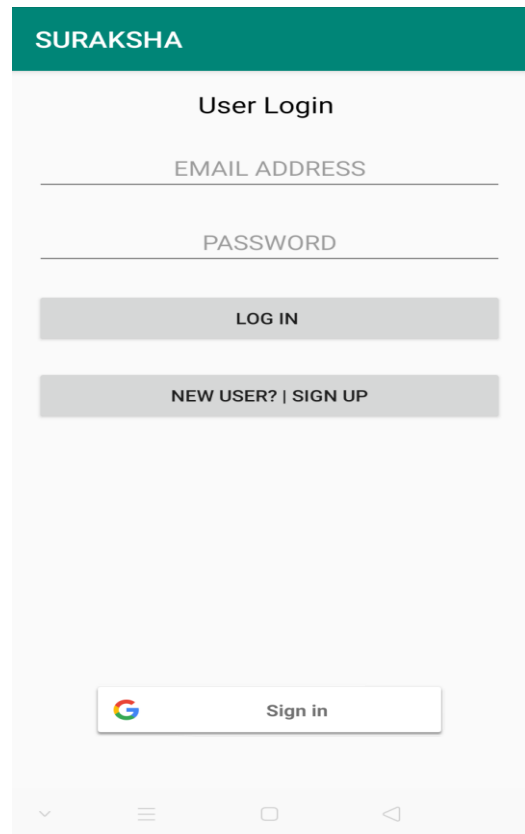


Fig 6:- User LogIn/SignIn using google account

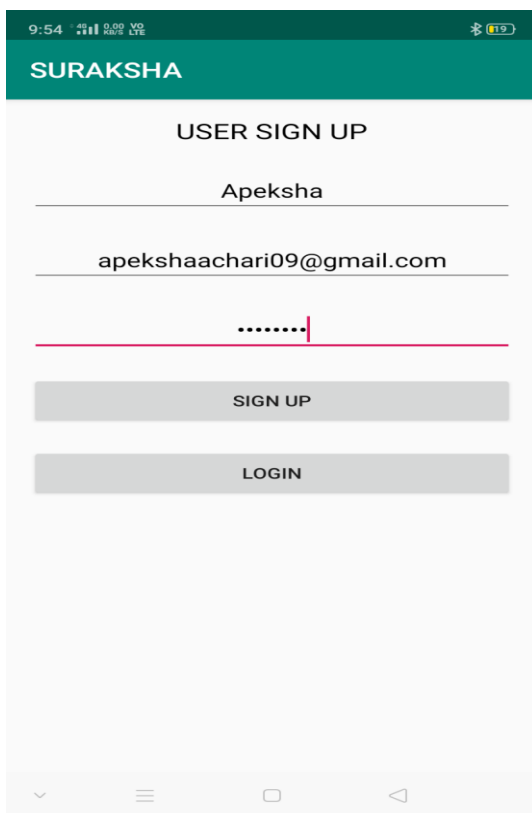


Fig 5:- User Sign In

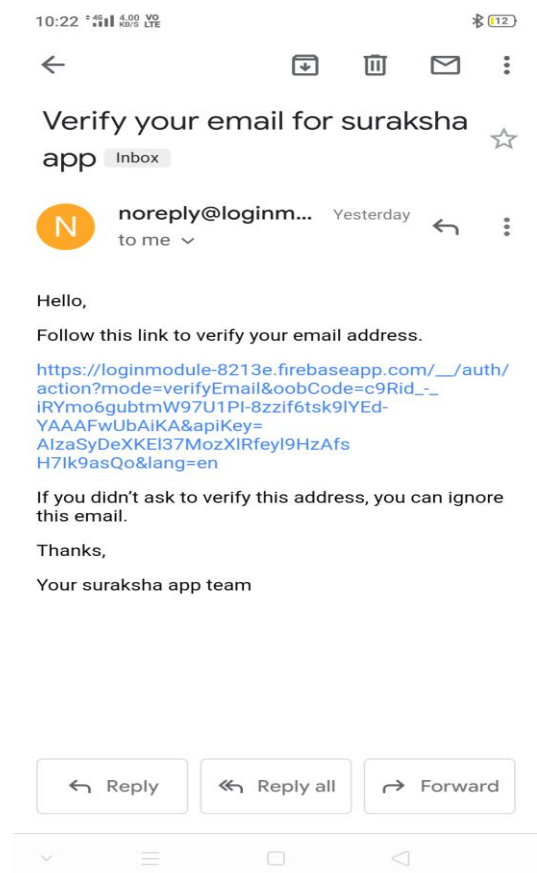


Fig 7:- User Authentication Mail



Fig 8:- Displaying Emergency Contacts

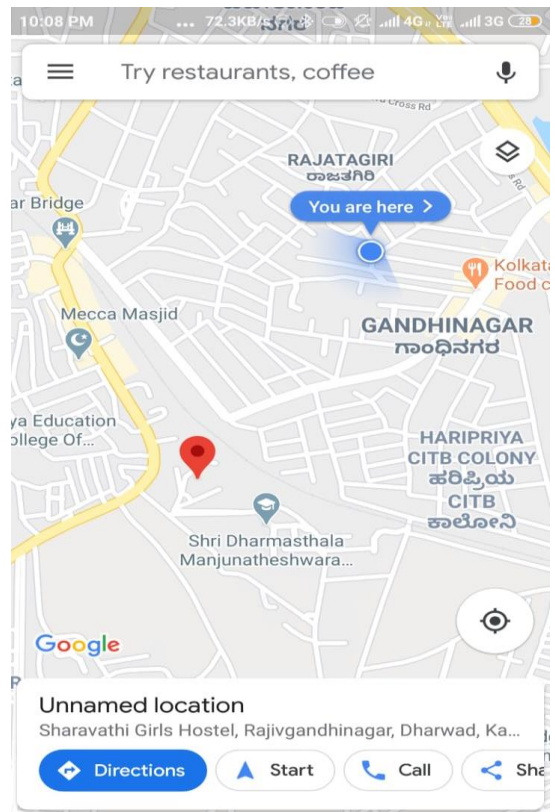


Fig 10:- Displaying location

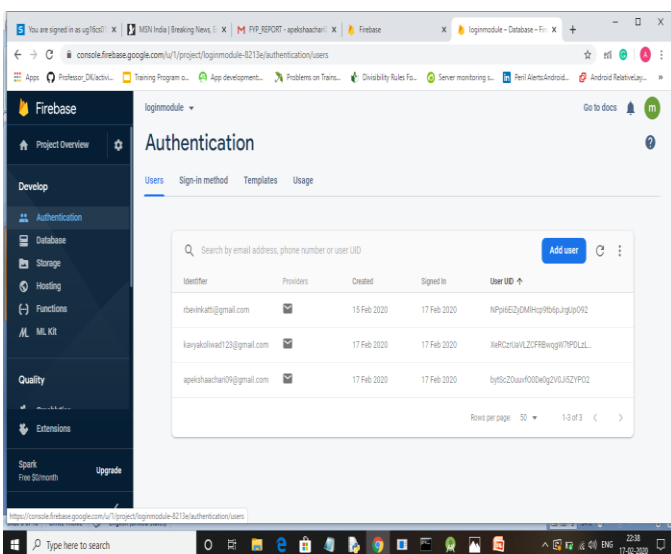


Fig 9:- Firebase Authentication

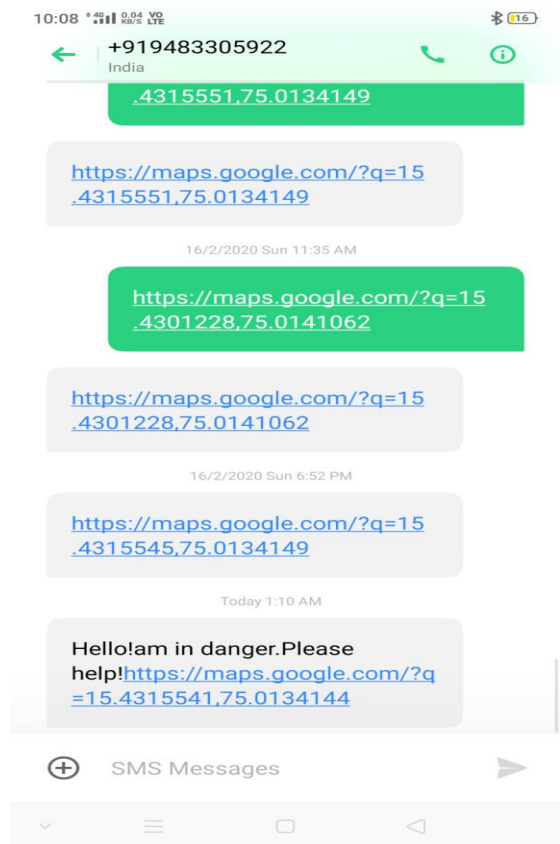


Fig 11:- Alert message sent

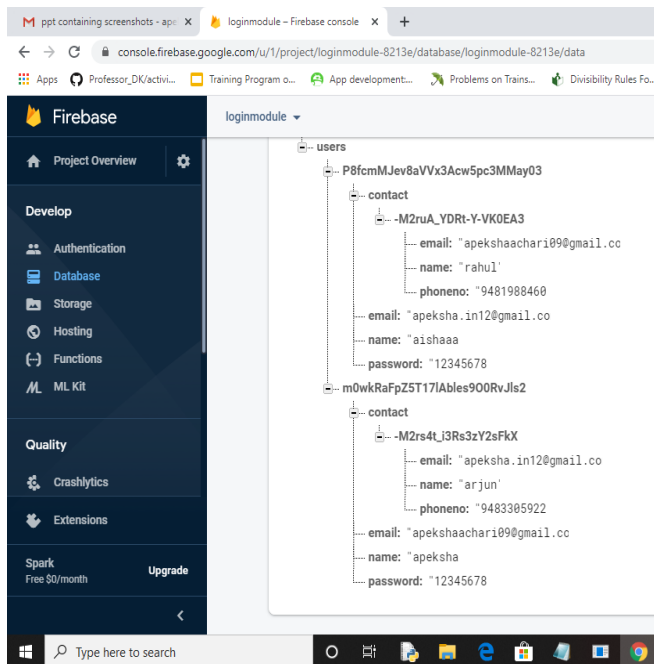


Fig 12:- Realtime database

## IX. FUTURE IMPROVEMENTS AND IMPLEMENTATIONS

- Making the application Robust.
- The mobile phone device must be able to send message with zero balance.
- Device should operate with no data connection.
- Enabling the application work on all platforms irrespective of the operating system.

## X. CONCLUSION

As the world is facing issues regarding crimes, molestations etc., and becoming insecure, one is responsible for his/her own safety. In these booming days of technology, the proposed android application “Suraksha”, is a boon to the society in rescuing the victim from the helpless situations. It triggers the emergency contacts of the user, with the message and GPS location tracking link, thus informing them about the user’s situation and alerting them to act against the situation. Thus, it creates an independency among people in tackling their situation.

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