



## Android Patient Tracker

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# Android Patient Tracker

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*Android Patient Tracker is an application which will be able to track patients who are in emergency situation and are away from hospitals so that medical support reaches the patients as early as possible more over it will also help to track people who need medicines in emergency situation.*

**Keywords—Android Application, API, Firebase**

## I. ABOUT PROJECT

Android patient tracker is actually nothing else then a tracking device which will be able to track patients who are in emergency, who are away from home, who cannot reach any hospitals in time, who no way or conveyance to reach hospitals in time so to ease them hospitals can reach such patients or we can say that the medical support can reach the patient that is the purpose of this application. This idea came to our mind after watching the below graph

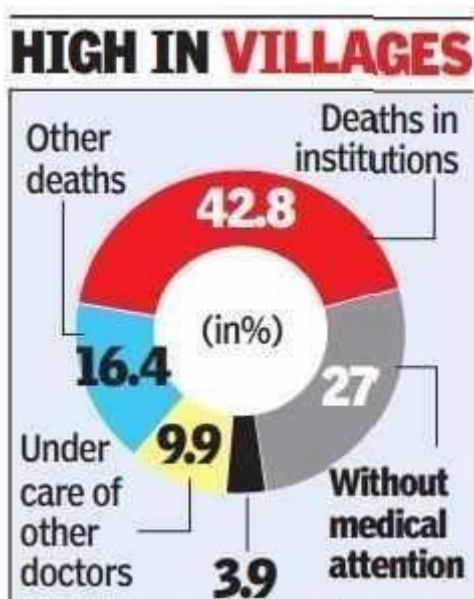


Fig 1

According to this diagram 27% people die due to No medical attention. Also people can track for pharmacies near them and many new features will be added once the application is approved.

## II. TOOLEES USED

### A. Android Studio:

Since our application is a mobile application so the most useful tool to create is android studio which is mostly used for android application development. Most of the popular android applications are made by this software only. Below are its interface and logo.



Fig 2

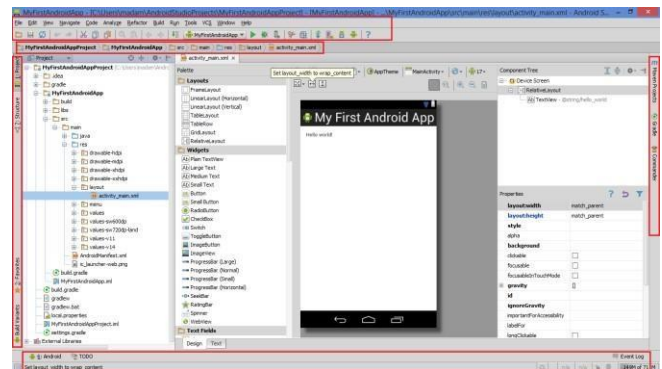


Fig 3

### B. Firebase:

Firebase is Google's mobile application development platform that helps us to improve, build and grow our application. We are using its real-time database feature to store the data of users like password and login credentials in a data base.



Fig 4

### C. Miscellaneous:

Apart from Firebase and Android Studio we also require a computer machine on which we can work on with minimum 8 GB RAM, a stable internet connection, and Intel i5 processor, also an android device to run our application or we can say to test our application on a physical device and

to connect the physical device to the computer we also require a connection so for that data cable is used.

### III. LANGUAGES REQUIRED

Three languages are mainly required. (1) XML: Extensible Markup Language is used for designing the android application. (2) Data Base: To create data base of the credentials, data base is required. And lastly (3)Java/Kotlin: either java or Kotlin one out of both is required for back-end coding as a developer can choose accordingly which language is easy and suitable to him/her. Note: XML is required for front-end coding.

#### A. Abbreviations and Acronyms

There are some Abbreviations which are used like Back-end, Front-end, API, Android Application, Data base and lastly Android which are important to understand. Because if we don't know them then we will confuse while developing the android application

#### B. API

- Full form of API is Application Programming Interface. It is an intermediary that allows two applications to talk to each other
- We will be using HTTP and REST API in our application which will help in keeping users data secure.

#### C. Android

Android is an Open Source Operating system used in mobile phones specially. This was developed Google and was released on 23 September 2008. Android Inc. was developed in Palo Alto, California, in October 2003 by Andy Rubin, Rich Miner, Nick Sears and Chris White. Presently there are 20 android versions present and we will be using android version 4.4 i.e. Kitkat and its API level is 19.

Android version 4.4 was first released on 31<sup>st</sup> October 2013.



Fig 5

We are this API level and android version because our app will be running 99.9% devices whose Android level is greater than or equal to 4.4 that is Kitkat android also most of the Android Applications easily runs on this version without any break down more over it is was also secure in that time with less bugs.

#### D. Data Base

- The word -data is plural, not singular and are also known as raw facts and figures. Data Base is a collection of information which from which information can be accessed, managed and updated.
- We will be creating a data base, a real-time data base which is a feature of Google firebase to store all the data of users which will be their Adhaar Card Number. Secondly their user names and passwords and lastly all the data which will be retrieved from their Adhaar Card like their Phone Number, Address, Pin Code but for that all the users have to register on the application first.

#### E. Front-End Development

Front- End development is the user interface of an application by which users can interact to the applications and use it. The front end development consists of responsive buttons, images, pages, background, colors, designs, text used to display on the screen, font style etc. In fact for front end development of an android application we can do either by relative layout which is by xml files or we can also use constraint layout in which we can place the objects and items just by drag and drop method. Some of our front end developments are as follows:



Fig 6

- We have used both relative and constraint layout for our application. The above page is made by the use of relative layout.
- Below is an example of constraint layout



Fig 7



Fig 8

#### F. Back-End Development

Back-End Development is the development which is done as the develop end. User don't have access to those codes and programming that's why only an APK file is shared whether by play stores or on internet. Back – End development consists of all the linking of pages and functioning of various options like delay of a page connecting a button to Gmail or opening of contacts are all part of none other than Back-End development. In our application we are using it for connection our application to firebase and connecting buttons to Google map so that when a user clicks on the button he / she automatically gets redirected to the Google map and for that we also require a stable internet connection.

- The abbreviation -i.e. means -that is, and the abbreviation -etc. means - Et cetera .
- The word -users refers -Patients.

#### IV. WORKING AND USAGE OF ANDROID PATIENT TRACKER

Let's start with how we have to use and working of each and every feature of android patient tracker. Firstly a user have to register ourselves on the registration then on entering our adhaar card number it will verify our data entered in the registration page with our data given to UIDAI. This also implies that the application will be linked to our adhaar card or we can say our adhaar number. Secondly comes emergency feature. On the main page there is an emergency feature which will be seen as -S KIP that text will straight

away redirect us to a page where we have two options first button Track Hospital will give an emergency call to the nearest hospital irrespective of whether it is private or government because patient's safety should be always a top priority for each and every doctor



Fig 9

The second option will navigate the users to the nearest pharmacies.

- Then comes our registration page that will ask for name, phone number, email id, password etc. as below. We will also be having an option to upload our photos of our choice.

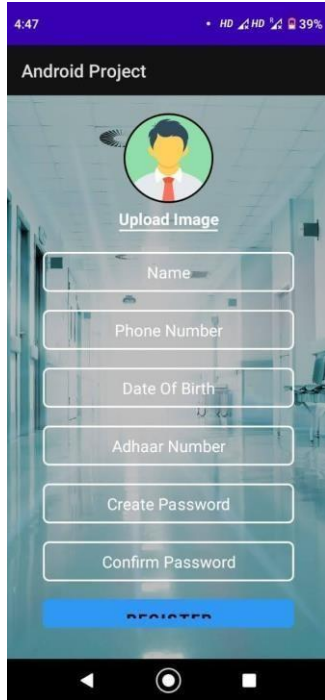


Fig 10

- After hitting the register button it will move to fig 8. and then the users have to hit sign in.
- Then comes the signup page which will ask for our user name and password. The password is created by you and username is the phone number entered.

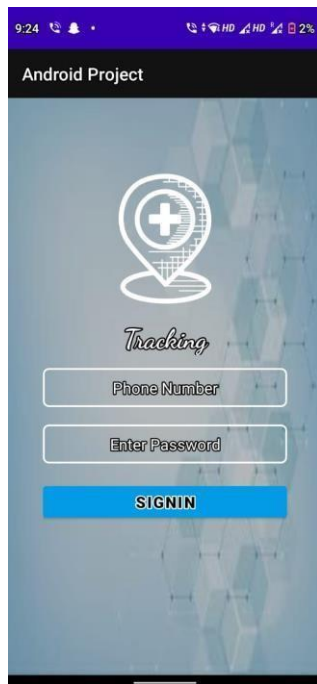


Fig 11

- After hitting sign in the very next page will be fig 7.
- Fig 7 or also known as Dashboard. Where the Upload document option will allow the users to upload their medical reports, prescriptions, hospital fee slips etc. Locate hospital will redirect the users to a navigation map to nearest hospitals present to his/ her location and help the user to contact the hospital whichever he/she chooses.
- Lastly one thing is sure that this application overall requires a cloud storage at firebase for database and storing data and will have an access to the location of our android device and also internet connectivity will be must for this software.

#### A. WHO ALL CAN USE THIS APPLICATION

This Android Application can be used by everybody who ever has a government-organised identity card mainly Aadhaar Card will be able to use this more over since this is an android application so people having only android phones can use this but this is not true because there will be more changes and updates that will be done later one which we have already decided but for that you have to read the future update sections mentioned below. Also this android application will be free of cost no subscriptions no payment costs no fees no charge nothing.

#### B. Future Updates

As we already know each and every good thing also has a drawback or we can also say disadvantages we already know some of it and we already started working on that also that what will be there in our future updates and below mentioned are some of them:

- The safety feature of the application will be enhanced and will be more secured since it is a trial version so there are no penetration tests.
- Secondly we are using dummy data in Google firebase for a time being which will be replaced by other cloud server. In fact our all system will move to a cloud server later on.
- Since we have not done any penetration testing so UIDAI authorization is not possible for a time being but once the penetration test gets passed then we will also get UIDAI authorization more over users will be required to verify themselves using an OTP sent by UIDAI directly.
- Moreover this application will only be running on android devices but there are also some percent of population who cannot avail an android device or who cannot use an android device for them we will be also building a website through which they can remotely access their account.
- One last update will be their i.e. this application is only for android devices so it will only be available for android devices but what about Apple IOS users for them IOS based software will also be developed.

### C. Application Icon

Since we are creating a patients application so we have given this application a icon which is relevant or we can say that the icon show cases that the application is for medical use and for that the icon being used is given below



Fig 12

### ACKNOWLEDGMENT

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### REFERENCES

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