# ANDROID BASED MEDICAL HELPER

**Vinay Warrier*1, Harshvardhan Gupta*2, Pratham Karia*3,**

**Suhani Pandey*4, Dashrath Kale*5**

*1,2,3,4Student, Vivekanand Education Society's Polytechnic, Chembur, Mumbai, India.

*5Professor, Vivekanand Education Society's Polytechnic, Chembur, Mumbai, India.

## ABSTRACT

This is an innovative System for any user mostly targeting the aged population as a medical helper. The user or anyone behalf of the user can enter the medicine reminders such as tablet color, name, quantity and when it should be taken with a reminder. This is advance application where a doctor himself can enter the details for the patients helping him or her to remind the user. The System speaks out the reminders as well gives a detail about the reminder like tablet name, color, quantity, etc. This system can be useful for a person where he has many tablets to intake. Thus the system named medical helper. This Project is mainly targeted for aged generation, since most of them tend to forget to take medicines. [1]

**Keywords:** Medical Helper, Android, Medicine, Doctor, Hospital.

## I.  INTRODUCTION

After discharge from the hospital, there are often important medications to take—even for the short-term—that can mean the difference between healing at home and a re-admittance. When someone is routinely available to remind a person to take their medicine, it can be part of keeping them safe at home. Missing a dose or two of your medications may not seem like a big deal. Sometimes the skipped doses cause no obvious problems. But many medications won't work right if you don't take them when and the way you're supposed to. The project is a helping hand for everyone who forget to take their medicine on time. To make the android application, we will be using android studio. Android Studio offers a single platform in which you can create applications for Android phones, tablets, Android Wear, Android TV, and Android Auto. Structured code modules allow you to separate the project into functional units that you can create, evaluate, and debug separately. With the support of the Android Studio, we can easily build Android Studio for various Android models and screen sizes. [2]

## II.  MATERIALS AND METHODS

The work for this application was divided among the four of us where two of us will make the UI design and the other two will work on the backend part of the application. The UI design will be based on the main screen from WhatsApp Messenger application. [3]

The backend part of this application was completely designed by us as there are no applications with our logic. The other applications don't have any modern technology like Text to Speech through Machine Learning which our application does. [4]

Data was collected by the four of us while developing the application. We checked which parts of the application will be more useful for the public and which of them won't be much useful to the general public. We found out that the Medicine Reminder section of the application will be the most useful part. [5]

This application will have a lot of scope in present as well as in the future as we are humans we will always get some disease or get some allergy so we need immediate medical care as if it persists for long term it will be really life threatening. This app will help the patients remind about their medicine for short term period as well as long term period. In the future we can add more features for the doctor to help the patient remain healthy or get rid of diseases easily through video communications from across the world.

This application contains has three main modules. The modules are as follows:

1.) **Medicine Intake Reminder:** This is the main feature of this application. Its function is to remind the user to intake their medicine on time by converting text info into speech. This feature gives the user all the medicine info like medicine type, medicine name and also the basic physical features of medicine. The Doctor must set a reminder for this medicine and then add the medicine details on the user's phone.

2.) **Water Intake Reminder:** This feature is really important for any user. Many people intake water too much or too less. So what this feature does is that it reminds the user to intake a specific amount of water every hour. This feature doesn't seem much important but it decides whether the user will fall sick easily or not.

3.) **Medicine Information:** This feature is mostly used for those problems that occur on a regular basis or when the problem doesn't need a doctor. If the user has a mild fever, common cold, headache, nausea or any other short term problems, the user can type the problem on the search bar and all the medicines related to that problem will be displayed. The order of the medicines will be from medicines consumed for short term problems to long term problems or life threatening diseases, which does require a doctor's permission. **[6]**

**Requirements for this android application:**

**A. Software Requirements**

1. Android Version 6.0 or above

2. Java Toolkit JDK 1.8 or above

3. Android Studio 4.1 or above

4. Android Emulator 6.0 or above

**B. Hardware Requirements**

1. Android Phone with 4GB RAM or above

2. 100MB Storage or more

**Algorithm for this application:**

1. Start

2. On the home page, click on 'Create Schedule'.

3. Enter Details about the medicine, like Name of the Medicine, Medicine Type (Liquid, Tablet, Capsule, Injection, etc.), Physical Characteristics of the Medicine and Quantity of the Medicine.

4. Set the date and time to consume the medicine according to the Doctor.

5. Click on 'Save Details' button which will save the details about the medicine in the app.

6. Go back to the home page and exit the application.

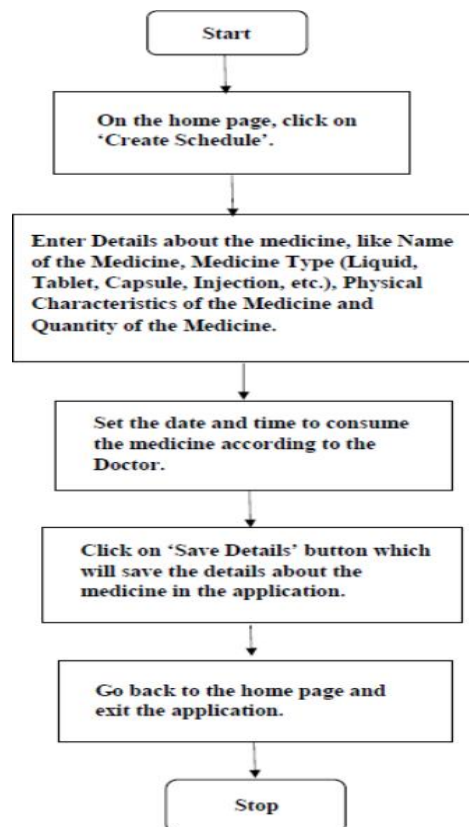7. Stop.

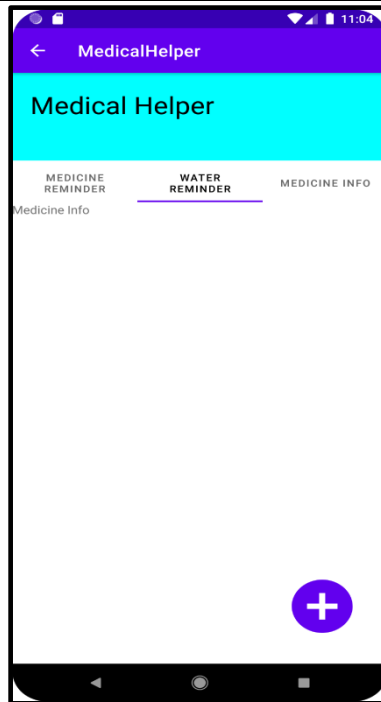**Flowchart for this application:**



**Fig 1:** Flowchart

**Fig 2:** Application Prototype

## III.     RESULTS

The application was done in the expected time given by our mentor. The backend took some time but it was over in the best way we expected. This application is used by people who are under medication while using our best feature, Text to Speech technology as not everyone will read the whole description of the medicine. Many people started to use our application as doctors sometimes suggest our application while people are under medicine as it is trusted by many people who have used this application. The above statements doesn't mean that the application is flawless. It has flaws because of its limited features. We tried to focus mostly on the Medicine Reminder section as it was the main goal of the application. We wanted to perfect the main section of the application as that's why users will download and use our application.

## IV.     DISCUSSIONS

Medicine Reminder is an important part of someone's life as not taking medicine in time may lead to serious problems. **[7]** Doctors started suggesting our application after we asked for their feedback on our application and after solving the problems they talked about our application. After asking feedback from the doctors we wanted to ask feedback about our application from the patients too so we asked our fellow peers for the feedback. After implementing their feedback, we were ready with our final product that we can supply to the general public.

## V.     CONCLUSION

The project involves the development of Android Based Medical Helper Application. The main goal of this application is to remind the user to intake their medicines on time. With the use of a user-friendly GUI and with the help of a doctor, our application can ensure that the user will never forget to take their medicine on time. We as part of our final year project at VESP, we developed and tested the software under the guidance of our teacher Mr. Dashrath Kale. We would like to thank him for his support.

## VI.     REFERENCES

[1]     Ljubomir TODOROVIÆ, FACULTY OF STOMATOLOGY, BELGRADE, SERBIA AND MONTENEGRO, Original (scientific) paper - the IMRAD layout, UDC: 006.05:001.818, Archive of Oncology 2003;11(3):203-5.

[2]     Introduction to the Application – Pill Reminder and Med Tracker (Google Play Application) - https://play.google.com/store/apps/details?id=com.medisa fe.android.client&hl=en_IN&gl=US

[3]   WhatsApp Messenger (Google Play Store) – https://play.google.com/store/apps/details?id=com.whatsa pp&hl=en_IN&gl=US

[4]   Text to Speech Technology - https://www.readingrockets.org/article/text-speech-tts

[5]   Importance of Medication Reminder - https://www.homewatchcaregivers.com/blog/caregivers/th e-importance-of-medication-reminders/#:~:text=Safety%20%26%20Medication%20Re minders&text=When%20any%20medication%20is%20no t,at%20home%20and%20a%20readmittance.

[6]   Thomas Lorchan Lewis 1*, BSc (Hons), MB ChB; Jeremy C Wyatt 2*, BA, MBBS, FRCP, DM, FACMI 1 Warwick Medical School, University of Warwick , Coventry , GB 2 Leeds Institute of Health Sciences, Faculty of Medicine, Health &

[7]   Psychology, University of Leeds, Leeds , GB, mHealth and Mobile Medical Apps: A Framework to Assess Risk and Promote Safer Use. J Med Internet Res 2014;16(9):e210.

[8]   Karl Frederick Braekkan Payne, Heather Wharrad & Kim Watts, Smartphone and medical related App use among medical students and junior doctors in the United Kingdom (UK): a regional survey Article number: 121 (2012).