



INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

Using Mobile Application Development to Develop MediTrans – An Android Application

¹Shailaja Pole, ²Dr. K. Suresh Babu

¹Student, ²Associate Professor

¹Computer Science,

¹School of Information Technology - JNTUH, Hyderabad, Country

Abstract: In our country, Medical Stores employing on online based mode, which include orders and delivery, searching and finding the medicines at our finger tips. But in most of the cases finding nearby medical shops is difficult for the customers in particular locality and availability of medicines at particular stores are unpredictable. Only through Google maps, everybody in just using search mode which cannot meet the demands of an average customers. To minimize the time and transport “MediTrans” idea came out to develop an android mobile application. Unlike all applications, “MediTrans” provides the platform to the customers to view and find, put request, enquire as well as to integrate their services for the recognized registered Medical shops/owners and Doctors.

The main purpose of developing this “MediTrans” application is to remove the barrier between all registered medical shops to the customers and can put request to the respective medical owners availed at particular shops in nearest places. Ultimate goal of this application is street medical shops, doctors should get benefited and patients should get the knowledge of medicines. It is easy to consult Doctors at particular locations and can check the services they provide. Pharmacists can supply and manage the store items for the customers by understanding the demands of certain medicines depending on the rate of seasonal outbreaks thereby reducing the risk of disease spread. Patients can know the use of each medicine.

Index Terms - Android Application, Doctor, MediTrans, Mobile Application Development, Patient, Pharmacist.

I. INTRODUCTION

In today’s generation health problems are quite common, so to get aware of common health problems and information about each medicine to take proper care of themselves they need some easy platform to do all this operations, in today’s situation android applications are very user friendly to handle. The patient category contains students, employees, workers, old aged people, housewives, businessmen etc. they all need a suitable platform that will give them all available facilities at their finger tip for that only one solution is an android mobile application. Everyone over there, are very addicted to their mobile phones and they know how to use applications in mobile, they know how to handle mobile application, this situation make our idea very useful to this generation.

One more thing to notice that most of the street medical shops are not able to expand their business most of them are not recognized at all. So they need a platform to register their medical shops and expand their business. They provide the available facilities they have in their shops like home delivery, 24/7 services, etc. They could update their medicines available list, available services etc. So if an android application provides that facility to the medical shops then they also get benefited at the same time patients can get their services done in short span of time. By this facility we can save time, save money and also improve our society. Even doctors can showcase their skills and highlight their hospitals, services, working hours etc. So this paper came with an idea “MEDITRANS – AN ANDROID APPLICATION”.

MEDITRANS is an android application that removes barriers between patients, pharmacists and doctors. Unlike all applications, “MediTrans” provides the platform to the customers to view and find, put request, enquire as well as to integrate their services for the recognized registered Medical shops/owners and Doctors.

The main purpose of developing this “MediTrans” application is to remove the barrier between all registered medical shops to the customers and can put request to the respective medical owners availed at particular shops in nearest places. Ultimate goal of this application is street medical shops, doctors should get benefited and patients should get the knowledge of medicines. It is easy to consult Doctors at particular locations and can check the services they provide. Pharmacists can supply and manage the store items for the customers by understanding the demands of certain medicines depending on the rate of seasonal outbreaks thereby reducing the risk of disease spread. Patients can know the use of each medicine.

1.1 Purpose of MediTrans

The main purpose of developing this application is to maintain a good relation among doctors, pharmacist, patients. Here in this application everything is maintained on their own by that whoever is interested in expand their business this platform is one. The main aim of this application is street medical shops and normal people should get aware of health care. So, to encourage those, this MediTrans.apk is developed.

1.2 Existing System

Now-a-days, there are so many medical related applications. They are all very useful for mankind. But, the thing is they will not encourage street medical shops, not recognizing some famous doctors how want to maintain their own business. Some people want to do social services. The above mentioned are all the things which are not encouraged by this medical applications. At the same place i.e., in one application one cannot find all the features like registering their medical shops and provide home delivery, doctor can get register and provide services. And patients can find so many helpful features at one place. Some application cannot contain a chat-bot which will help them out to get some medications for common problems and some tips etc.

1.3 Proposed System

MediTrans application is an APK which is proposed in this documentation. Here, this application is different from all other medical application. This app contains so many features in one place. It provides street medical shops to get register and provide services to customers and can maintain on their own. It provides the flexibility to the pharmacist to maintain on their own. Doctors can get register in this application and if they want they can do the social service or can fix their consultation fee etc., and customers can find medical shops, doctors, hospitals by the location filter. Customers have an added advantage of chat-bot. Chat-Bot will guide you with the mentioned symptoms to what to do next. Here, finally one can say that this application is self-service, one can have direct contact with another, there is no third person in this application. In that way it is very easy to use this application. The interface is also designed to use by each and every person like daily workers, teachers, students, businessman, engineers, housewives etc.

Other services provided by MediTrans Application:

- Real-Time Video Calling feature between Doctor and Patient in emergency situation.
- Real-Time Messaging feature available for post images and text messages.
- Real-Time Chat-Bot to assist in medical help.
- Real-Time location services available to find nearby hospitals and medical shops.
- Online medical prescription.
- Scheduling an appointment.
- Finding the nearest hospitals and medicals

1.4 User Requirements

- User's mobile should have Wi-Fi connection or mobile network to the mobile.
- User's mobile should have the sufficient storage.
- User's mobile should have battery life.
- User's mobile should have GPS feature.
- User's mobile should have camera feature.
- User's mobile should have outgoing and incoming call feature.
- User's mobile should allow all the permissions to work properly.

Key components in building a solution for the pertaining problem are:

- **DialogFlow:**

Dialogflow is a natural language processing platform. It is used to build chat-bots for user on multiple platforms. It responds to user for different queries and answers them in many ways. To develop this chat-bot we took the help of Dialogflow platform. By training the agent in dialogflow in a certain manner it will respond to the user with proper answers. Here, agent is like child we need train that how to respond and how to talk with users by feeding them with proper question and answers. It will understand the natural language and interact with the user and make conversation better.

- **FireBase**

In MediTrans application, for backend purpose we took the help of "Firebase". Here, firebase is act as database in this MediTrans application. Firebase is a Backend-as-a-Service (Baas). Firebase is categorized as a NoSQL database program, which stores data in JSON-like documents.

- **QuickBlox**

QuickBlox SDK is very helpful in implementing realtime video calling, audio calling. QuickBlox Video Calling API, is built on top of WebRTC. WebRTC is used for handling realtime audio, video and messaging feature.

- **GeoCoder**

Geocoder is a service to get the location address with latitude and longitude. It is offered by google. Following are the steps to create account in Google API.

- **Android Studio**

Android Studio is a complete suite of software which includes an Integrated Development Environment (IDE) and the proper Android development kit (SDK) needed in order to create Android software.

II. PROJECT DESIGN

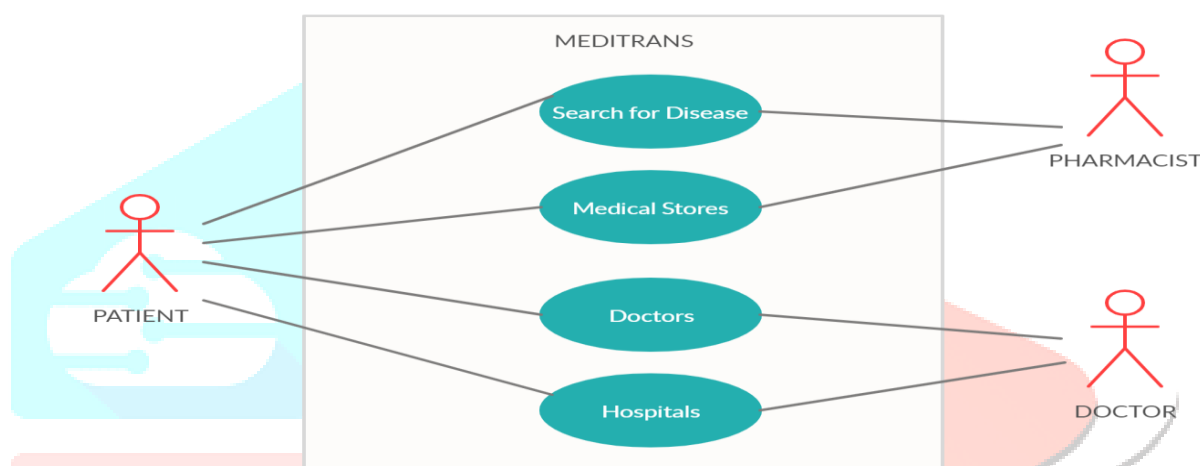


Fig-1: Use Case Diagram for MediTrans

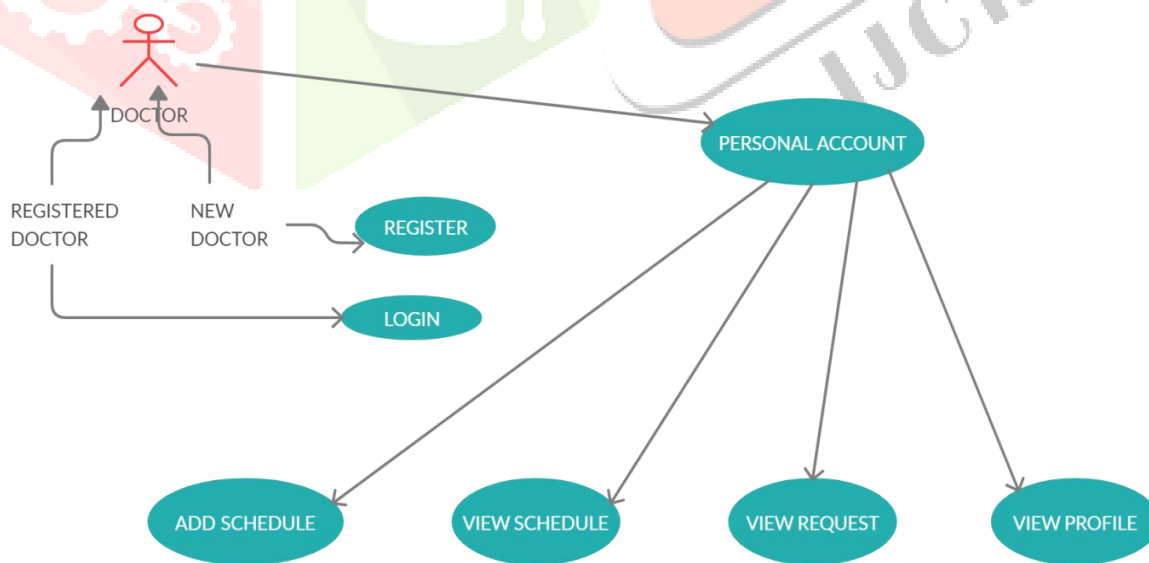


Fig -2: Use Case Diagram for Doctor Module

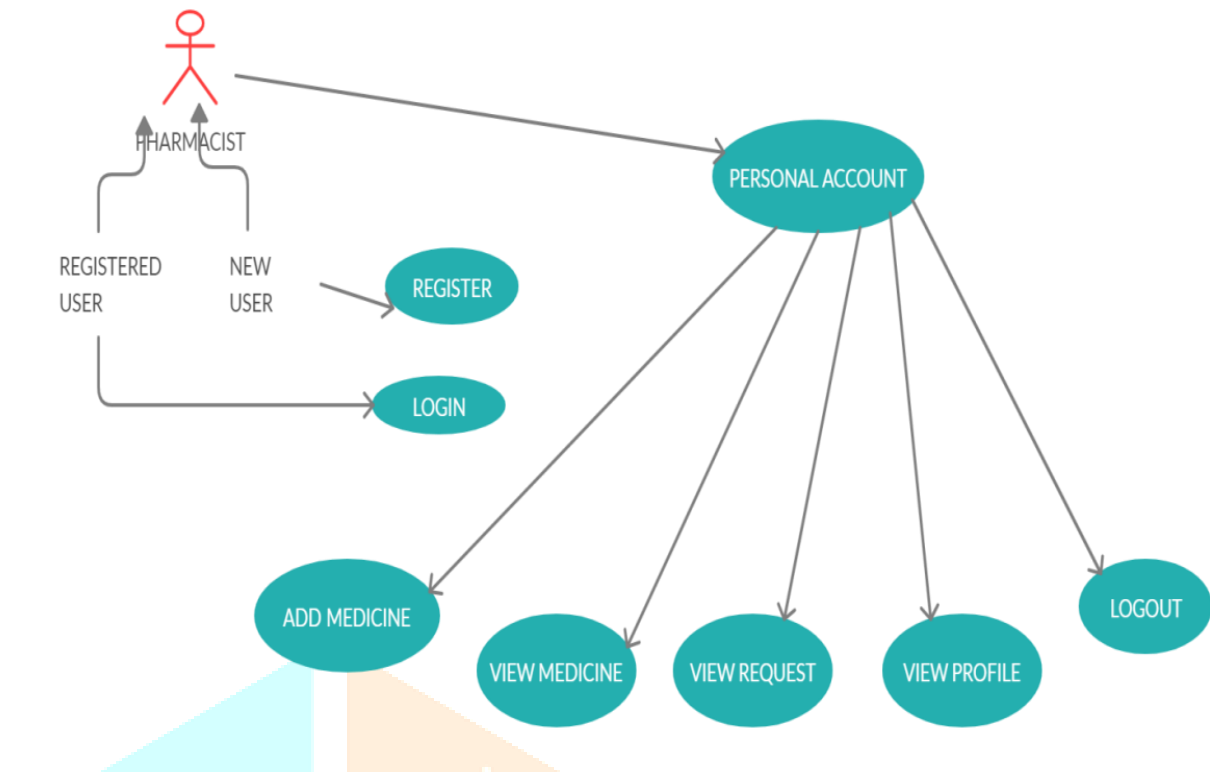


Fig-3: Use Case Diagram for Pharmacist Module

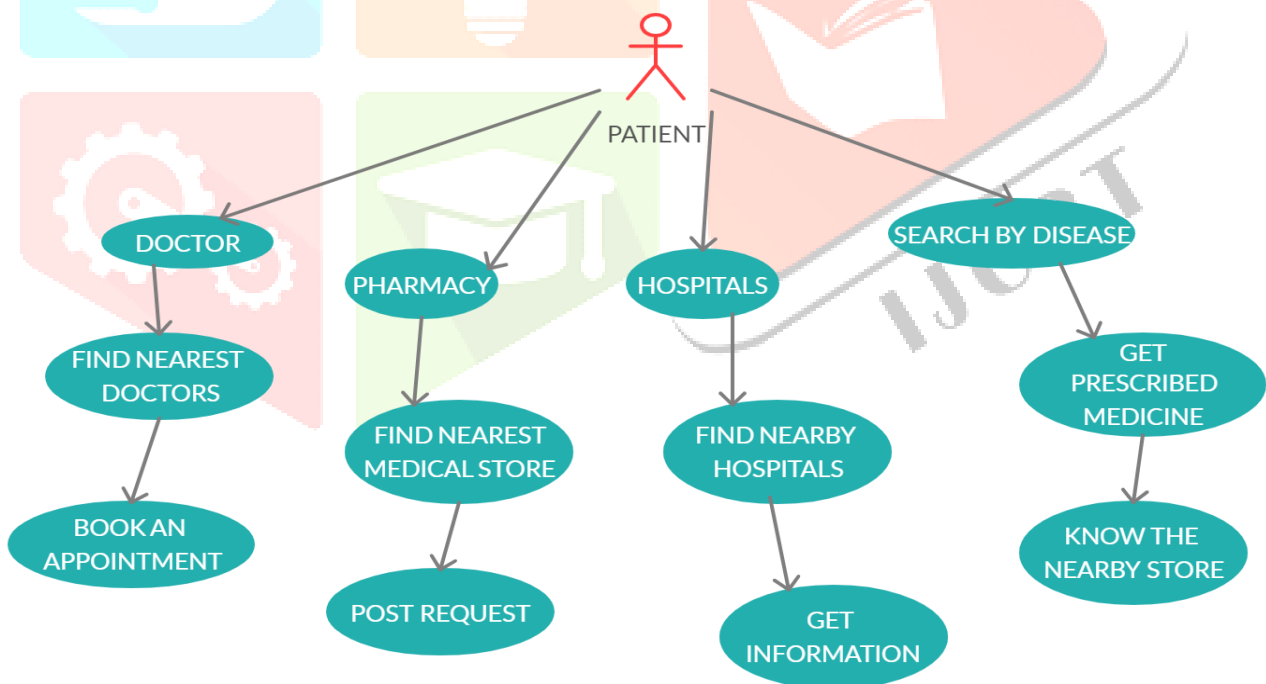
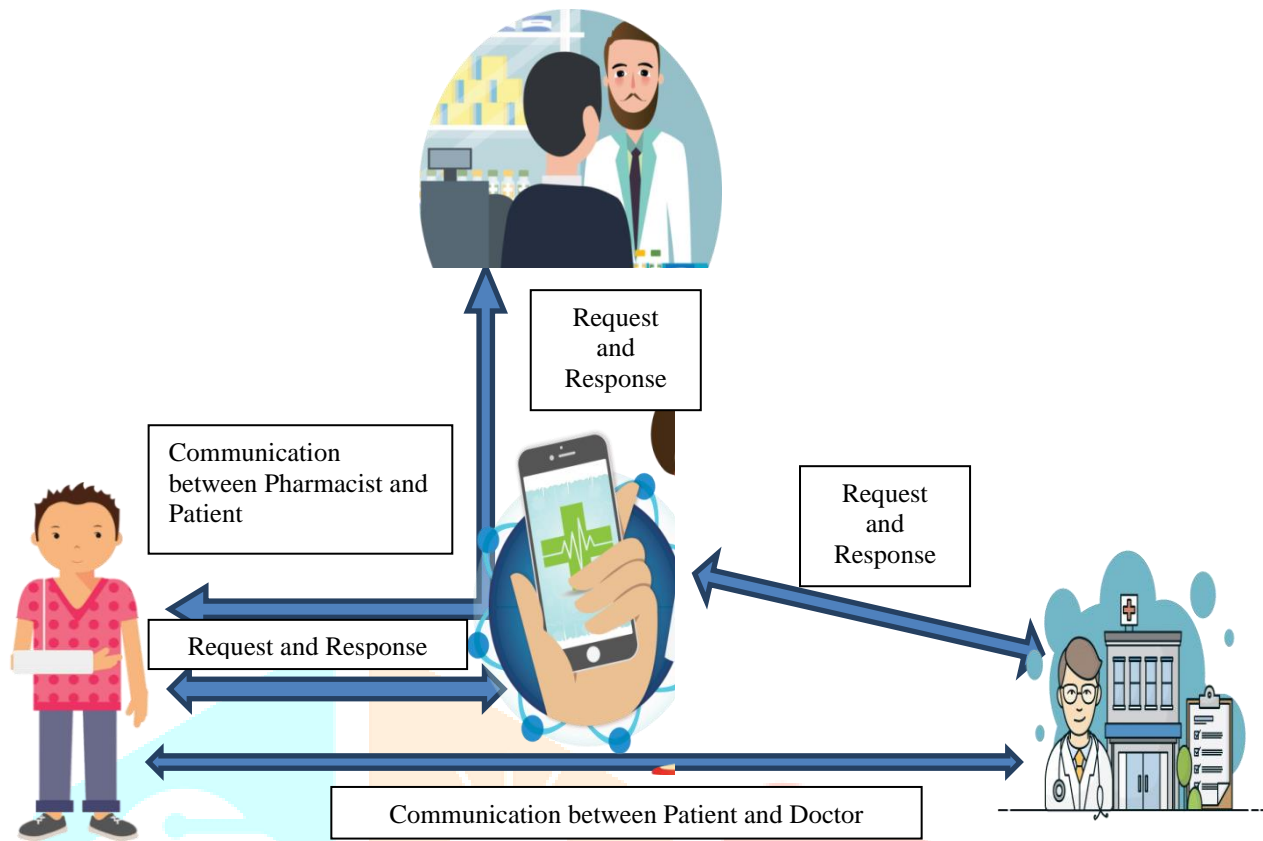


Fig-4: Use Case Diagram for Patient Module



III. IMPLEMENTATION

3.1 Home Activity

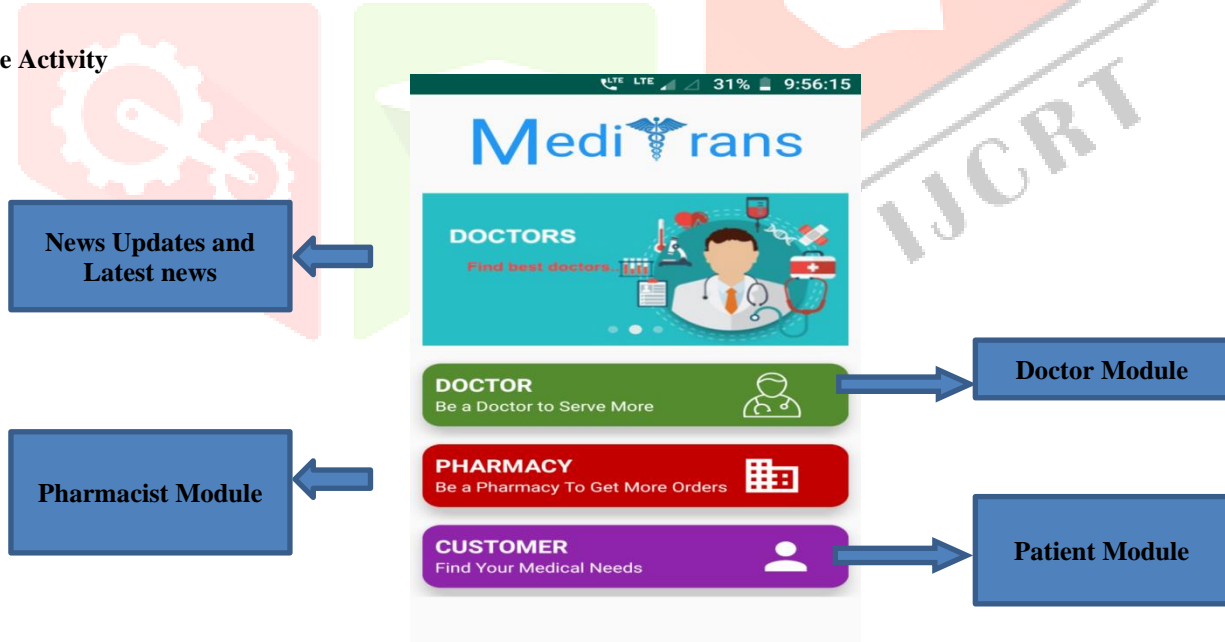


Fig-6: Home Activity

This is the Home Activity of MediTrans Application. There are four options available for all users.

- Latest news and Updates
- Doctor
- Pharmacist
- Patient

Every user will be starting the MediTrans application with this home page. They will click on particular tab and after authentication they are able to use the particular module for particular purpose.

3.2 Doctor Module

Doctor module has four options

- Add Schedule
- View Schedule
- View Request
- View Profile

Whenever he clicks on Doctor module he will be redirected to the login page. If he is using this app for the first time, then there is an option that “Create an account?Register”. Whenever user click on that option he will be redirect to the registration page. Registration page is to verify the user for the first time. This is the necessary step in order to use the application.

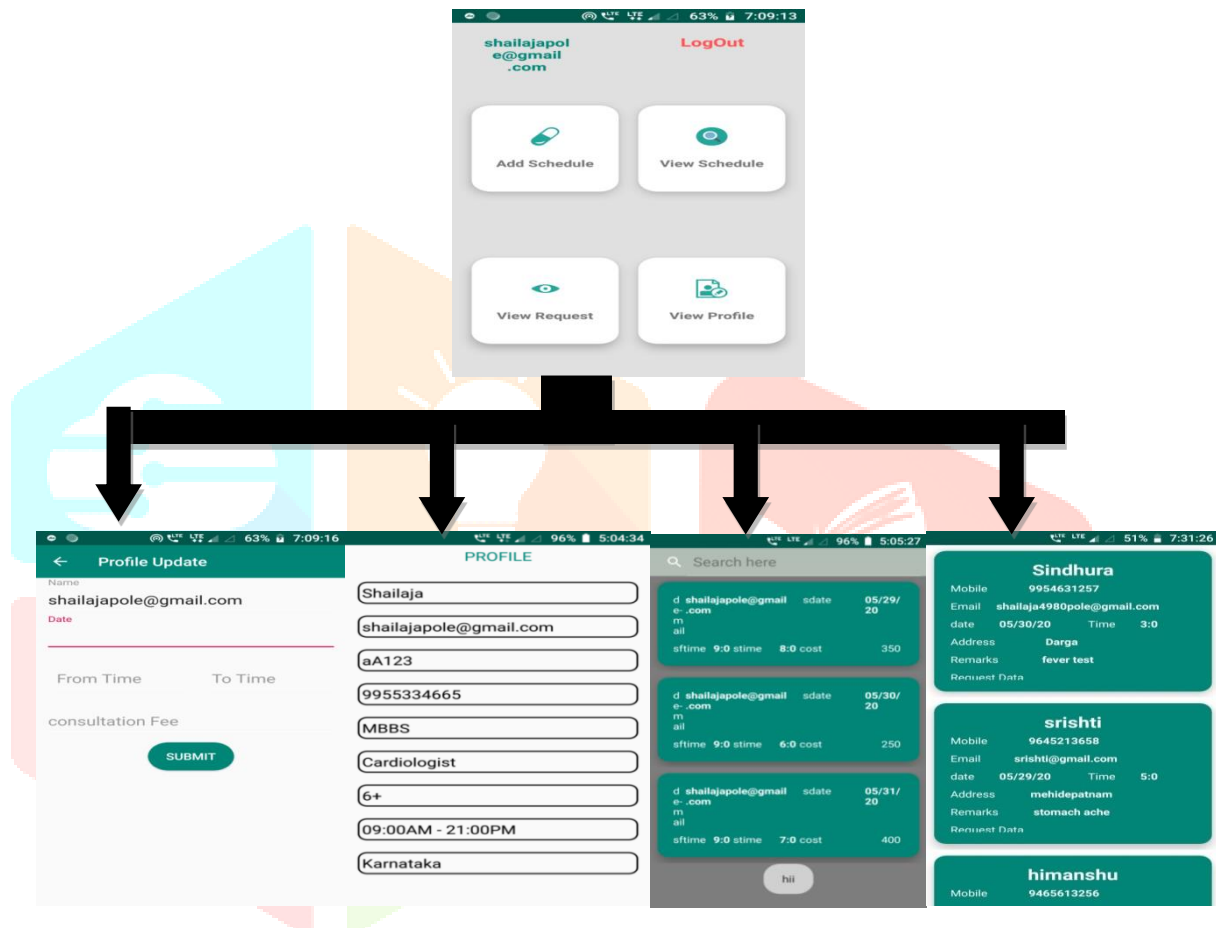


Fig-7: Doctor Module

3.3 Pharmacist Module

Pharmacist module has four options

- Add Medicine
- View Medicine
- View Request
- View Profile

Whenever he clicks on Pharmacist module he will be redirected to the login page. If he is using this app for the first time, then there is an option that “Create an account?Register”. Whenever user clicks on that option he will be redirect to the registration page. Registration page is to verify the user for the first time. This is the necessary step in order to use the application.

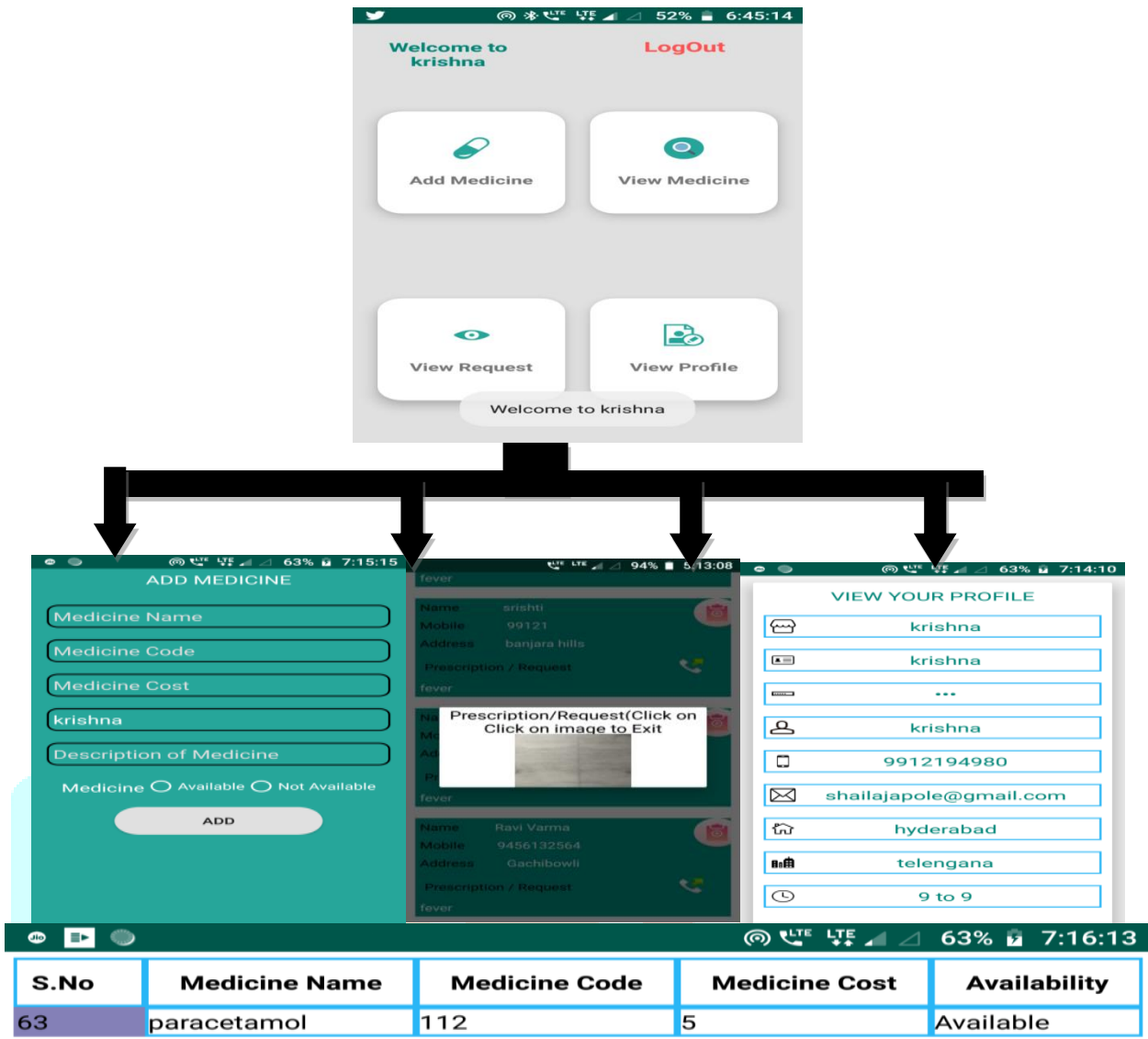


Fig-8: Pharmacist Module

3.4 Patient Module

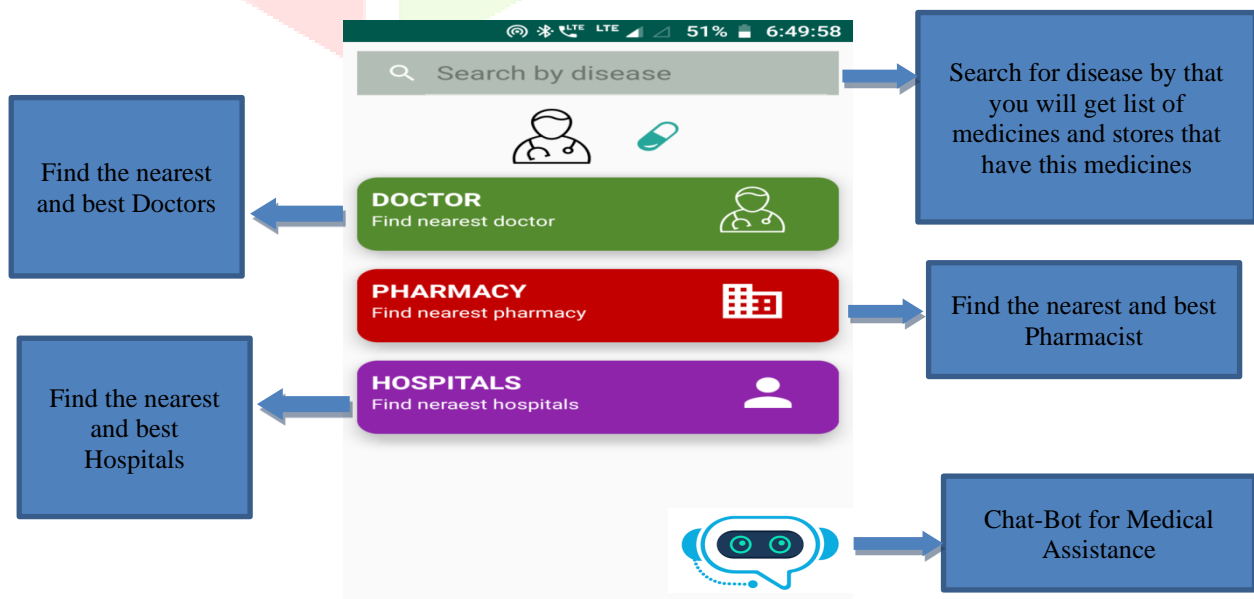


Fig-9: Patient Module

There are five options for patient module.

- Search for disease
- Find nearest and best doctors
- Find nearest and best medical stores
- Find Hospitals nearby
- Chat-bot for personal medical assistance.

3.4.1 Search for Disease

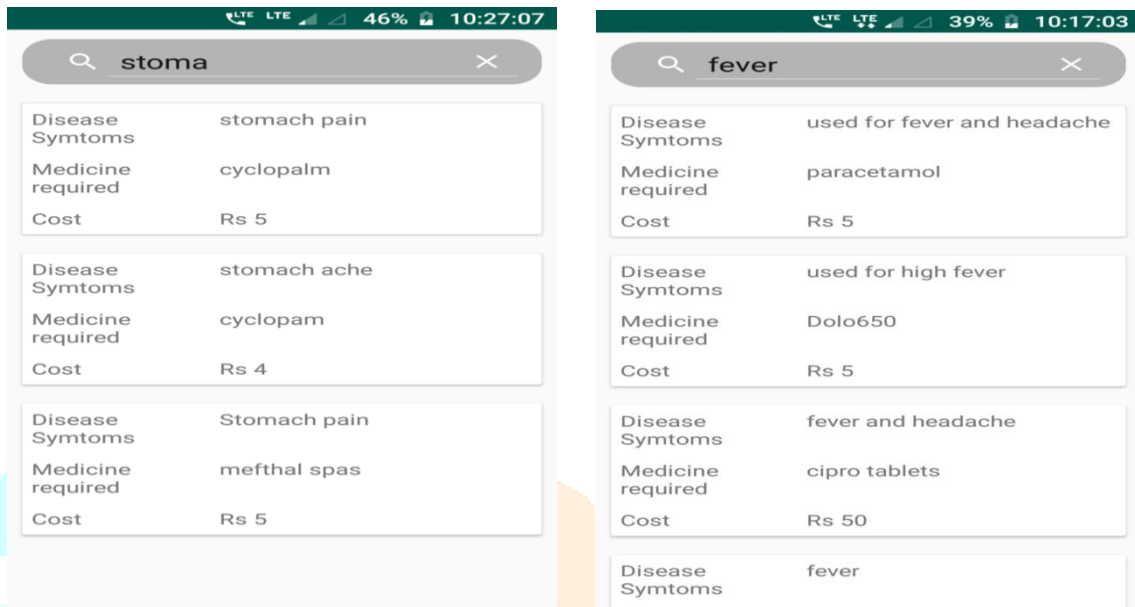


Fig-10: Search for Disease

Search for disease is a feature for customer to search for disease and get the medicines suggestions and at the same time they will get the medical stores which have that medicine in that store. After applying keywords and press enter you will get some medical stores with that medicine with description. Whenever user clicks on some card you will be redirected to that particular store and they can make a request and go further.

3.4.2 Find NearBy Doctors

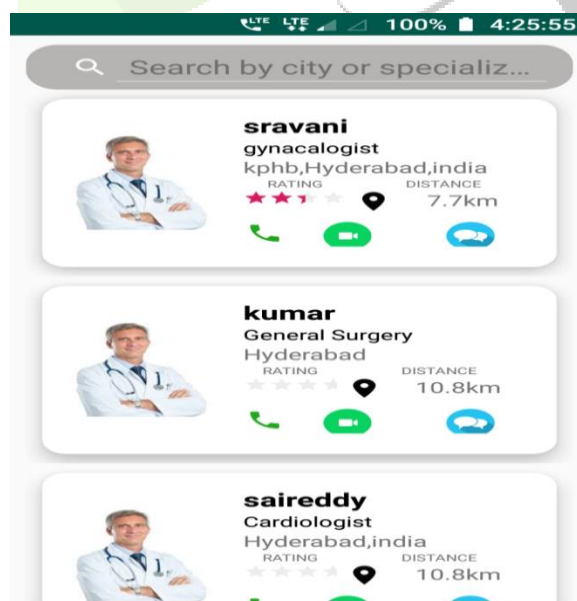


Fig-11: Find Nearby Doctors

Here doctors list is sorted by distance. One can select particular doctor and book appointment or view the full details. The above is the list of card view of Doctors. All the registered doctors are displayed in the form of list. There are three options in each card i.e., Call

option, real-time video call option, real-time messaging option. Whenever user selects one card he will be redirected to an activity in that, one can see full details of a particular doctor and book appointment.

To book appointment we need to enter some details like name, mobile number, address, time slot, date, health issue. Whenever user book appointment that particular doctor will get notification through mail.

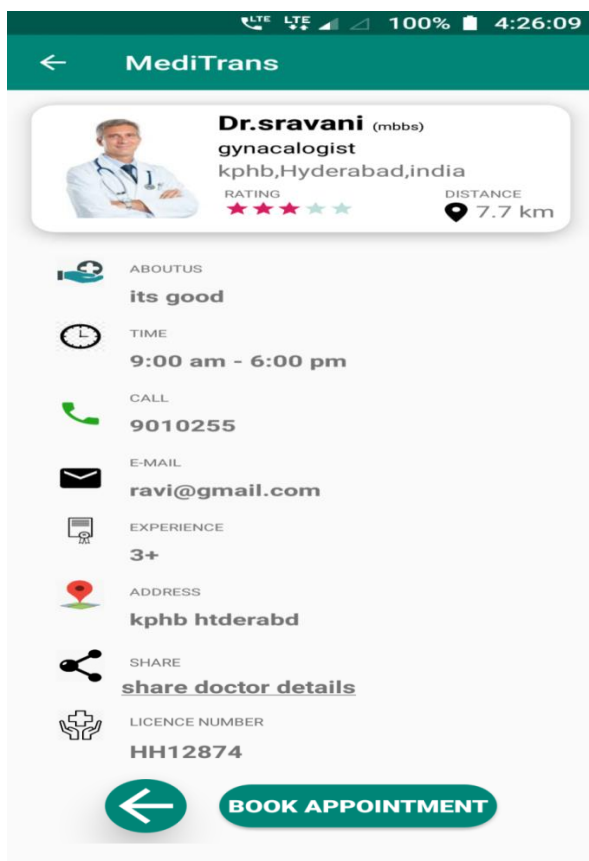


Fig-12: Doctor Profile

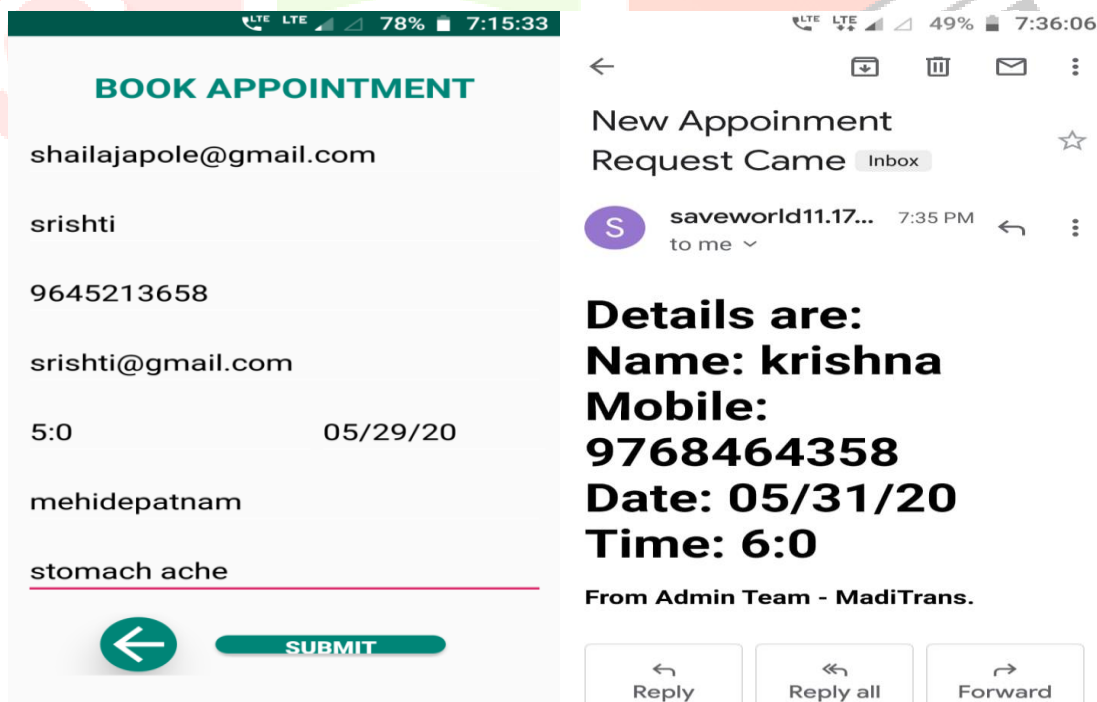


Fig-13: Booking an appointment and remainder to Doctor

3.4.3 Find NearBy Medical Stores

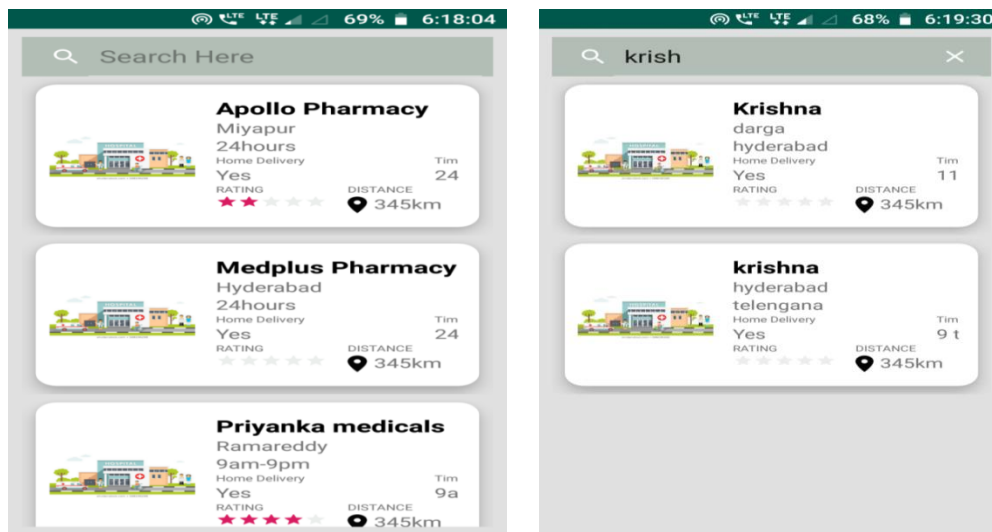


Fig-14: Medical stores and Search by Name

Here finding nearby medical stores will display all the nearby medical stores with the help of GeoCoder. In the top bar there is a search option, in that we can search for particular pharmacy as shown in another screen shot. When you click on particular card that is on particular pharmacy you will be redirected to that store and that activity will display all the medicines they have. When a user click on any medicine he will be redirected to the activity “Post your Request”. There he will able to post the request for medicine and provide the prescription for complete the process. Whenever user clicks on “Upload Prescription” he will get the popup to select the picture from any of the two options.

- Take photo
- Choose from gallery

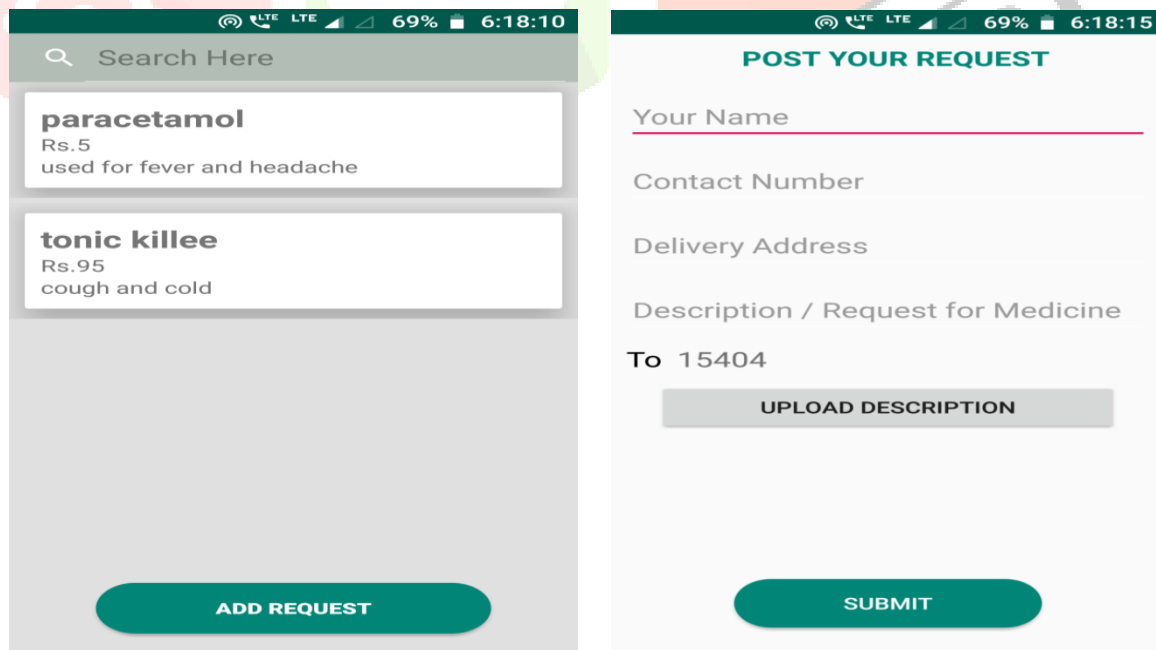


Fig-15: Select medicine and post request

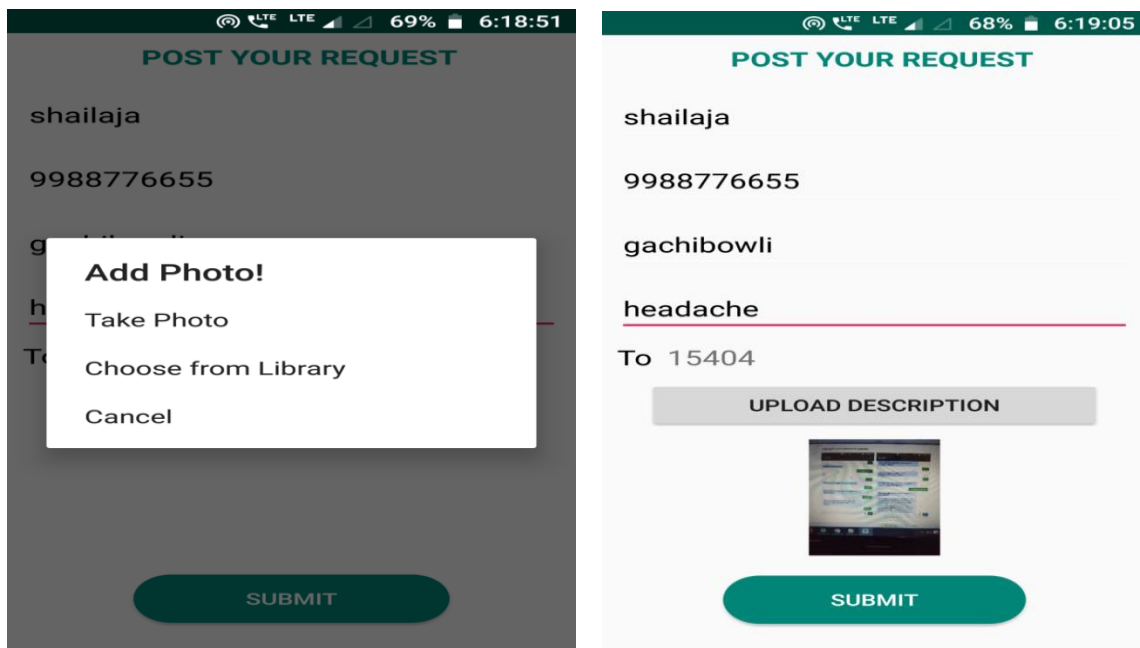


Fig-16 : posting request and uploading prescription

3.4.4 Find NearBy Hospitals

Finding nearby Hospitals will work same as finding nearby medical stores. Here will get all the hospitals nearby. On the Top of hospital list there is search option to search by hospital name or place name. User will get the filtered list form all the hospitals. Whenever user clicks on particular hospital, user will be redirected to that particular hospital details activity. In this activity there are so many details are available.

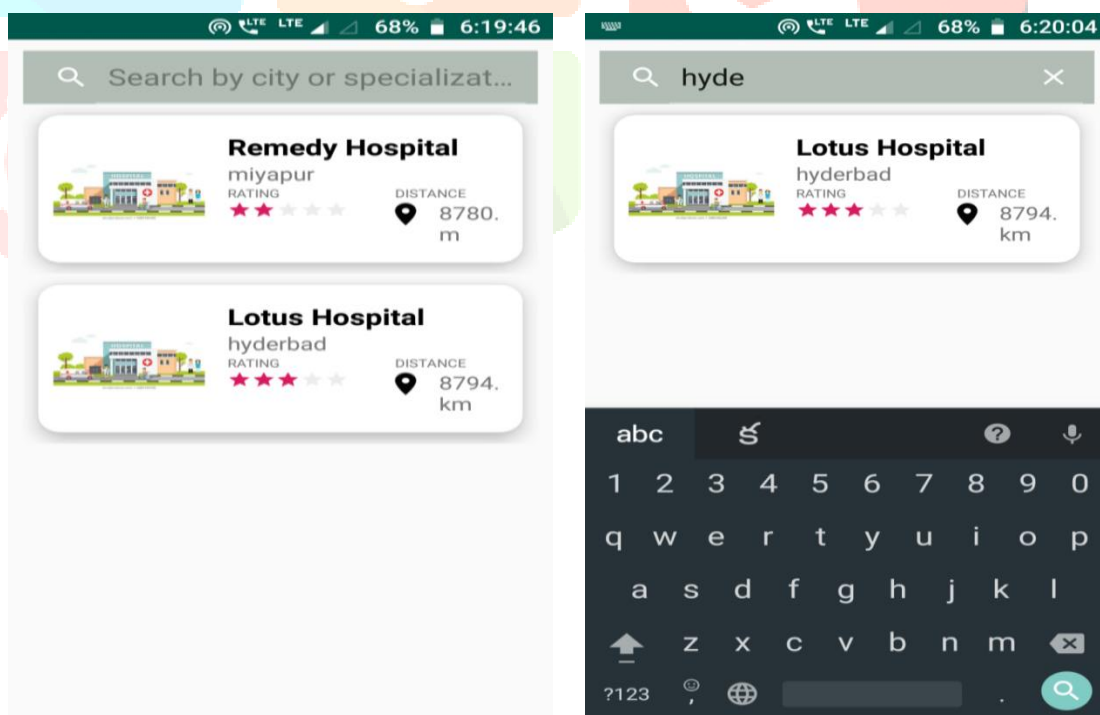


Fig-17 : Nearby hospitals and Search by name

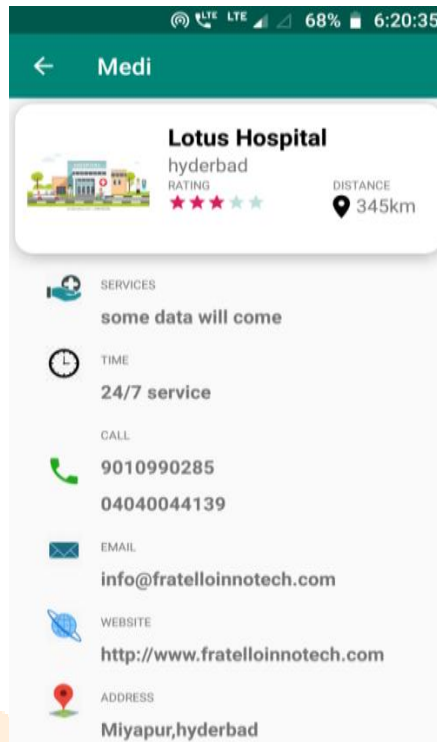


Fig-18 : Details of hospitals

3.5. Real-Time Video Calling



Fig-19 : Real-Time Video calling

In this MediTrans application, Video call feature is added in order to contact the doctor in some difficult cases. In some cases, there are some reasons some patients may not able to go and visit doctor directly. So, in order to avoid that issues we introduced this video call feature.

3.6 Real-Time Messaging

In this MediTrans application, realtime messaging feature is added in order to contact the doctor through messages. Here are few screen shots from MediTrans application.

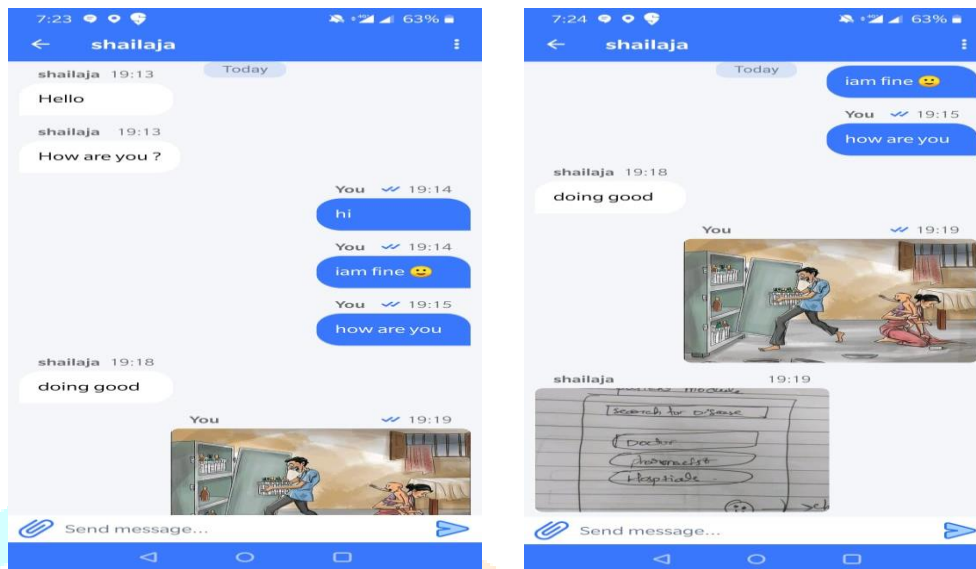


Fig-20 : Real-Time Messaging Feature

3.7 Real-Time Chat-Bot

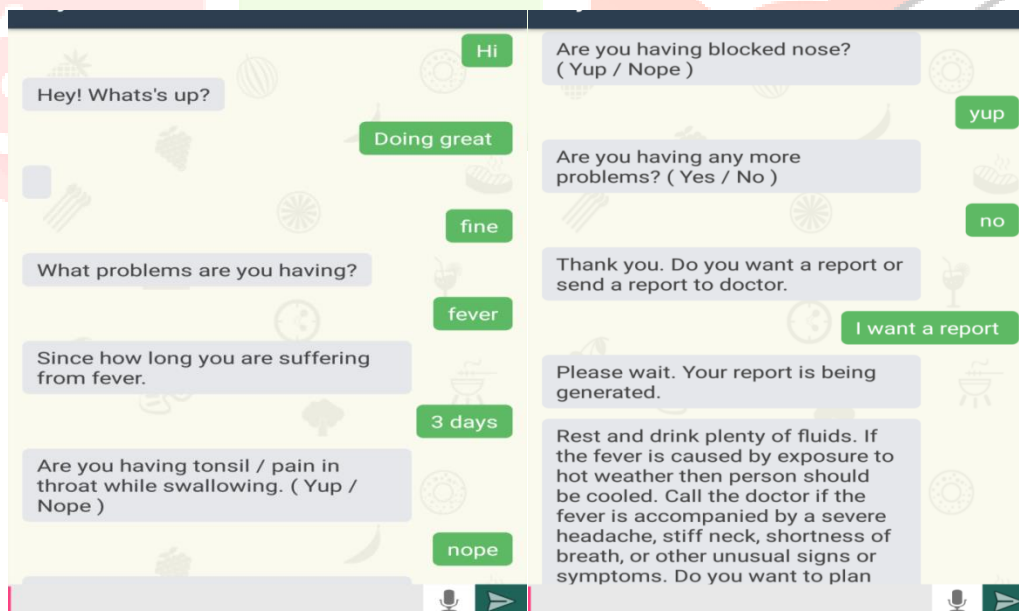


Fig-21 : Real-Time ChatBot Feature

Chat-bot feature in MediTrans application, here this chatbot will help the user with common issues of health problems. It will take the input from user in two ways i.e., text and audio inputs. By considering all the issues it will send a report to the user like precautions to stay safe.

IV. CONCLUSION

The most important thing to notice that most of the street medical shops are not able to expand their business most of them are not recognized at all. So they need a platform to register their medical shops and expand their business. They provide the available facilities they have in their shops like home delivery, 24/7 services, etc. They could update their medicines available list, available services etc. So if an android application provides that facility to the medical shops then they also get benefited at the same time patients can get their services done in short span of time. By this facility we can save time, save money and also improve our society. Even doctors can showcase their skills and highlight their hospitals, services, working hours etc. So this paper came with an idea “MEDITRANS – AN ANDROID APPLICATION”.

The main purpose of developing this “MediTrans” application is to remove the barrier between all registered medical shops to the customers and can put request to the respective medical owners availed at particular shops in nearest places. Ultimate goal of this application is street medical shops, doctors should get benefited and patients should get the knowledge of medicines.

REFERENCES

- [1] <https://quickblox.com/developers/Android>
- [2] <https://developer.android.com/guide>
- [3] https://code.tutsplus.com/tutorials/create-a-conversational-interface-for-android-with-dialogflow--cms_s30845
- [4] <https://medium.com/@KristiSimakova/android-chatbot-with-dialogflow-9b814f2b354d>
- [5] <https://www.simplifiedcoding.net/firebase-realtime-database-crud/>
- [6] <https://developer.android.com/reference/android/location/Geocoder>
- [7] <https://javapapers.com/android/android-get-address-with-street-name-city-for-location-with-geocoding/>

