

# Modified and Advanced System for Health Care Application

Naveen Vaswani<sup>1</sup>, Vandana Patel<sup>2</sup>, Ashish Saheta<sup>3</sup>, Smit Shah<sup>4</sup>, Sumit Shah<sup>5</sup>

<sup>1</sup>Asst. Prof., Department of Computer Engineering, Watumull Institute of Electronics Engineering and Computer Technology, Maharashtra, India

<sup>2,3,4,5</sup> Student, Department of Computer Engineering, Watumull Institute of Electronics Engineering and Computer Technology, Maharashtra, India

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**Abstract** - Health Care Application is an idea to provide a use of mobile application to ease the medical assistance by providing efficient and effective responses to users. User of Health Care Application can be Doctor, Patient, and medicine, drugs, medical equipment dealer. Since the use of smart phones has considerably grown, the model 'Health Care Application' will give user the access to all the facilities anytime and from anywhere. In this modern and digital world, it is very important to solve the problem through digital and faster way, so the need during emergency must be fulfilled in user-friendly way. This application contains symptom analyzer which processes the entered patient's symptoms and gives recommendation of medicines or doctors according to the symptoms. In the present life, it's hard to remember everything, for which the medicine reminder keeps the user informed about the medicine dosage without missing any. Data integrity is highly considered because of multiple types of accounts, which helps in maintaining data security by only giving access to the data for which the user is authorized to. This application also has a chat room through which the patient can consult a doctor and can save time by avoiding the queue in the clinic and the patient can pay through wallet and also can have the benefit of health insurance service if opted. The doctor can monitor patient's health status live and can check previous medical history as well.

**Key Words**- UIDAI, Android Application, Aadhar Support authorized person, Medical assistance, SOS.

## 1. INTRODUCTION

Health Care Application is an Android application which helps the user to ease medical situations. User can Register and Login through Facebook or Google Account as well as with Mobile number or any Email-ID. The user can be a doctor, patient, hospital staff or insurance agent. It has separate patient's and doctor's Interfaces. This application has Symptom Analyzer which helps doctor to understand patient's problem more specifically. The user of this application has chat facility to communicate as well as an option to attach files, voice call and video call. In emergency case a user can use the SOS facility of which comprises of nearest ambulance finder,

Aadhar verification linked to hospital form filling system and in case of emergency also to online F.I.R. lodging system. The user can also benefit the other needful person

with SOS feature which will further directed to the ambulance authority in charge. The objective is to take care of patient safety, availability of all medicines and Medical appliances, Search for near by hospital, Full time availability of doctor consultancy, health tips ,First Aid Tips, E-wallet to make cashless transaction, decrease the death rate by providing the medical services at the earliest.

## 2. REVIEW OF LITERATURE

### 2.1 Existing Systems

#### 2.1.1. 1mg [2]:

Medicine Ordering: 1mg is an online medicine store. Order all types of medicine. Get 20% discount when a person order medicines online. Medicine Substitutes: Find Substitute of medicine. Health Information: One gets personal, useful health tips written by expert doctors that help to lead a healthier life. Medicine Side effects: Know about a medicine's impact on people and their side effects. Book Lab Tests: Book all important health tests and also get discount. Consult with India's best doctors online for free. Any user can connect with doctors online.

#### 2.1.2. Practo [3]:

Book doctor appointment easily: Booking doctor appointments is the easiest on Practo. Consult online with a doctor: Consult a doctor online for medical advice on Practo app. Chat with a doctor instantly in a private consultation. Set medicine reminders: The app will remind the user when to take their medicines. Keep your medical records handy: User can upload their medical records on Practo app to keep them safe, secure and easily accessible from anywhere in the world. Order medicines to your doorstep: User can order medicines online from the app and get quick delivery at their home or office.

#### 2.1.3. Lybrate [4]:

Consult a Doctor is Medical platform connecting over 10 million users to over 100,000 top Doctors and pathology labs. Find doctors: In the following Specialties to consult online or to book an appointment.

**2.1.4. JioHealthHub [5]:**

Secure Storage and Sharing: All of user health related files (e.g. Medical Images, Prescriptions, Medical bills, Lab Reports etc.) are available only to them and they can share them securely with their care provider and family

members who can view the data without making any changes to it. User can share information with tight control on it being shared further or being sent to a third party without their authorization. Anywhere Accessibility: User's data is stored in the cloud which is accessible from anywhere and on any device but with their secure credentials.

Easy and Automatic Categorization: Any health data that user upload, click or receive either from partner healthcare providers or other users is stored in categorized folders

**2.1.5. DocsApp [6]:**

It is an online Doctor consultation app. Ask your Health or Medical question on app. User can upload health reports and affected areas photos for the Doctor in private chat. Get diagnostic Tests at user's home. User's sample will be collected from home and diagnostic reports will be delivered on the App.

**2.2. Existing Research**

To determine specialized Hospital nearest to patient's location Information and Communication Technologies (ICTs) are commonly used in healthcare organization worldwide. There are different kind of healthcare application developed in android smartphone which help patient and their caregivers to reduce time and cost efficiency. An application is developed that locates the nearest hospital above five km radius with desired medical specialist.[7].

Smart health consulting android system helps the patient to book an appointment in a hospital, contact a doctor, search doctor according to the symptoms of the patient [8].

Dr. on click Android Application helps patient to search a hospital in nearest area and book an appointment as per the availability of doctor. It also help to book an appointment by an appointment alert message in case the patient forget to book an appointment [9].

Electronic Commerce and E-Wallet helps to make payment anywhere in the world and saves time with online money transfer [10].

Study of Google Firebase API for Android analyses, stores, authenticates and retrieves data with the help of firebase [11].

**3. OBSERVATION**

Comparison between the situation with and without using Health Care Android Application

	Without use of app	With use of app
Contact Doctor	Search for a doctor then get an appointment and then get there through transport and then get consultation.	This application allows the patient to connect to the doctor from any location.
Symptom Analyzing	One may not easily find out the health problem with the symptom the one is going through	With the help of symptom analyzer one can easily find out the health problem
Buy Medicines/ Medical Equipment	One has to go to medical shop to get the medicines or medical equipment.	One can get the medicine or medical equipment with prescription anytime at door step by ordering online.
Blood Donation	A person comes to know about a blood donation camp only when advertised or being passed through the camp.	User can easily find out blood donation camp with simply searching through application
Save our Soul	At the time of emergency it becomes difficult to get reach on time at hospital.	User can easily call an ambulance just by pressing a button.
Monitor Patient Status	The Doctor needs to visit the patient at regular intervals to be updated.	Doctor can monitor the patient's live health status through this application anytime.
Form Filling at Hospital	Long queues, which consumes time that might also been used for looking after patient.	This Application saves time by filling the form online.

### 4. System Flow Chart

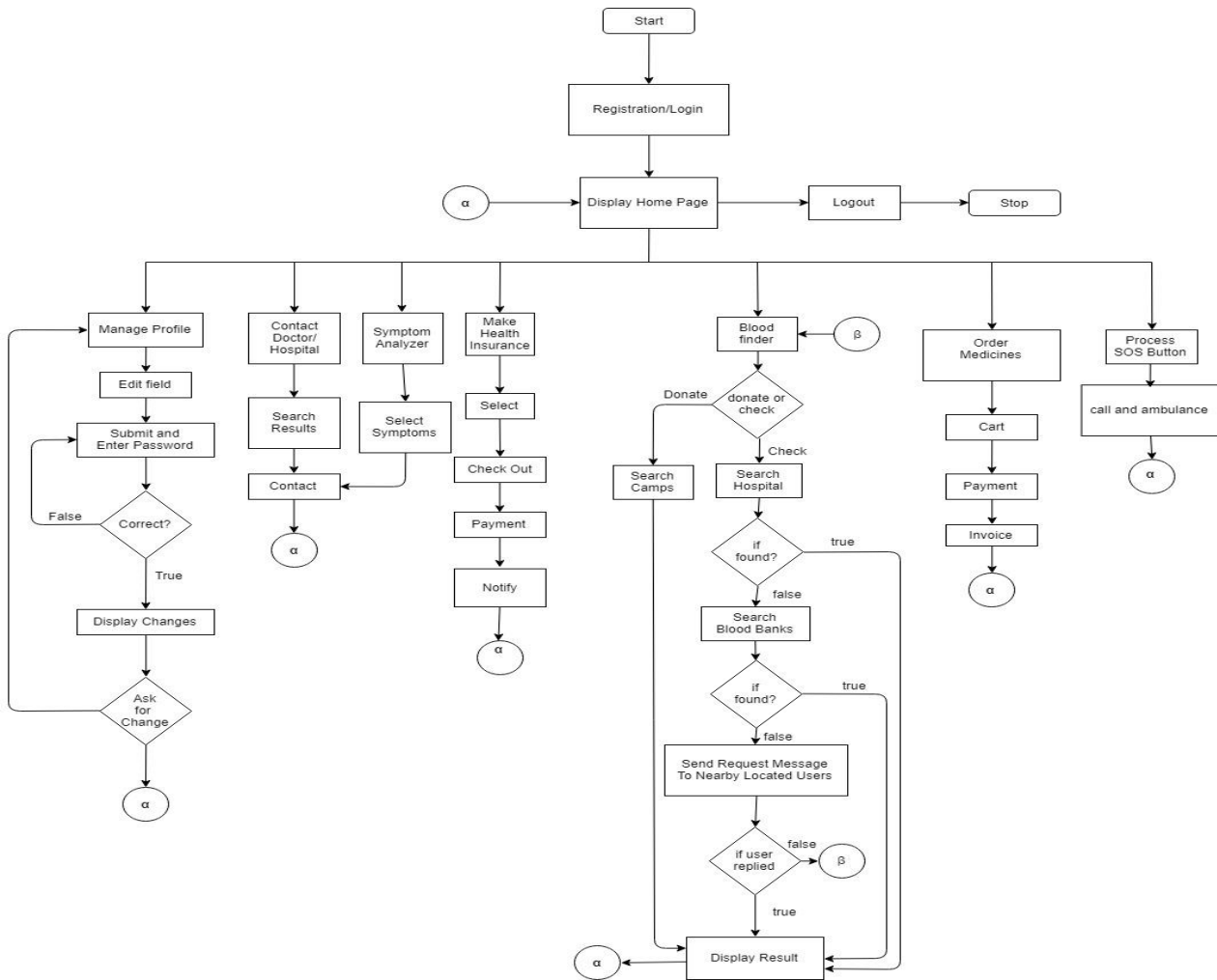


Fig - 1. System Flowchart of 'Health Care Android Application'.

System Flowchart of 'Health Care Android Application' shows how data flows in Health Care Android Application. We can manage profile, Contact and search hospital and doctor, Patient can analyze his/her symptoms of particular disease, One can find blood at hospital and nearby blood banks and if not found then the notification is send to the individual using this application. User can order medicine and can make payment through E-Wallet, User is provided with Save Our Soul (SOS) Button.

### 5. IMPLEMENTATION

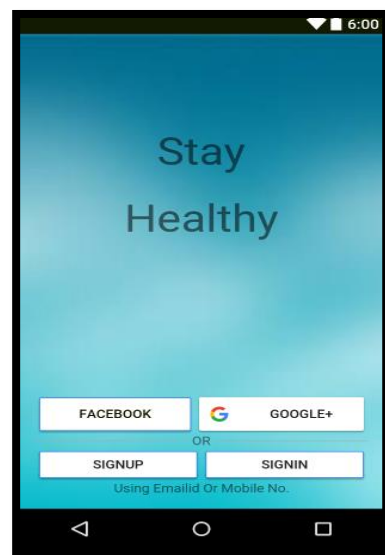


Fig - 2 Main screen of Register and Login

The above section mainly performs following 2 functions: Register, Login. Registration can be processed using Email-Id or Mobile number. This Module provides Multiple Login option through Facebook or Google+ which connect with authorization and save time of the user.

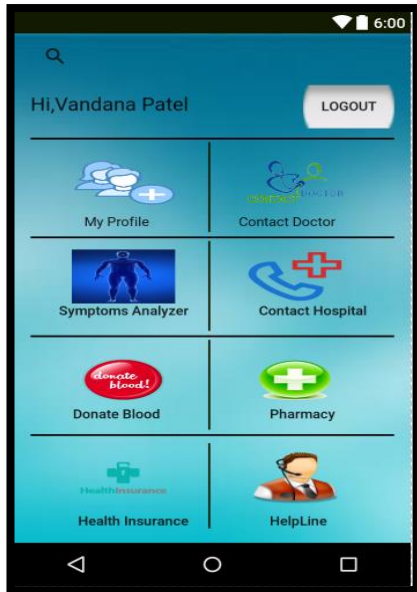


Fig - 3 Home screen

It is the Home screen of the Health Care Application which provides multiple services to the user. The user can update his/her profile. User can contact doctor via Chat room or by calling the doctor. He can also contact to hospitals.

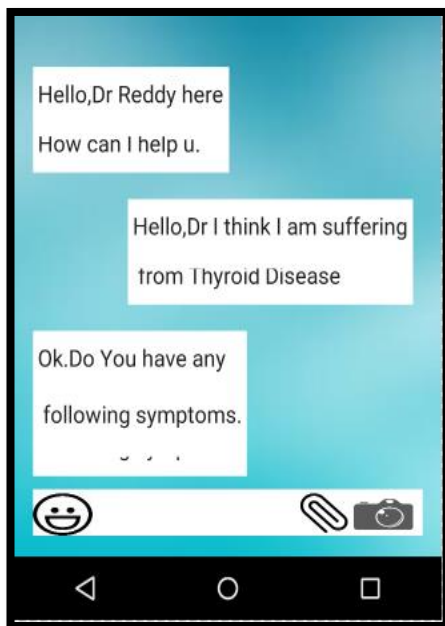


Fig - 4 Chat room with Doctor

User can directly chat with the available doctor via chat room which save the user time and get the remedy on a fingertips.

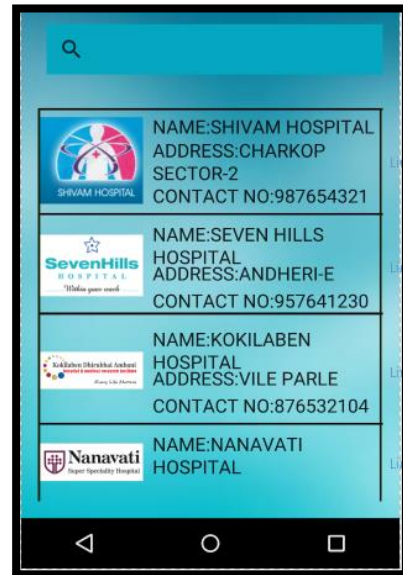


Fig - 5 List of Hospital's

User can search near by hospital with the detail information of the hospital and also gets the contact number of the hospital.

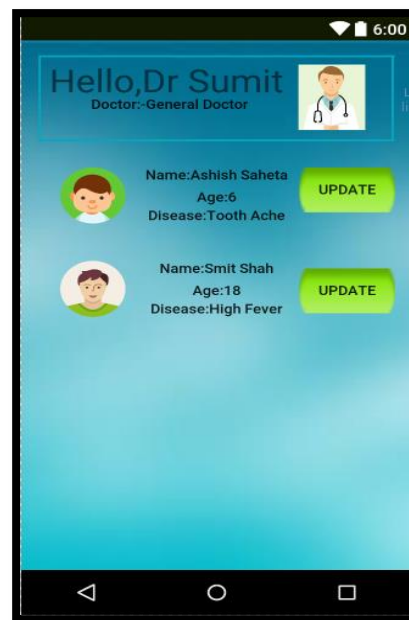


Fig - 6 Update Patient Status

This module helps Doctor to check and update status of the patient even if they are not present at the hospital.



Fig - 7 Donor Information

We fetch the donor information for blood donation

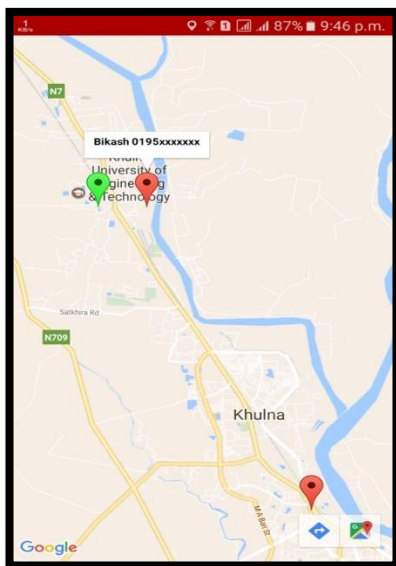


Fig - 8 Map view of Blood Donor from Hospital



Fig - 9 SOS Button

Save Our Soul (SOS) Button is used at the time of emergency to save life at the right time.



Fig - 10 Select Emergency Type

There are different type cases of at the time of emergency



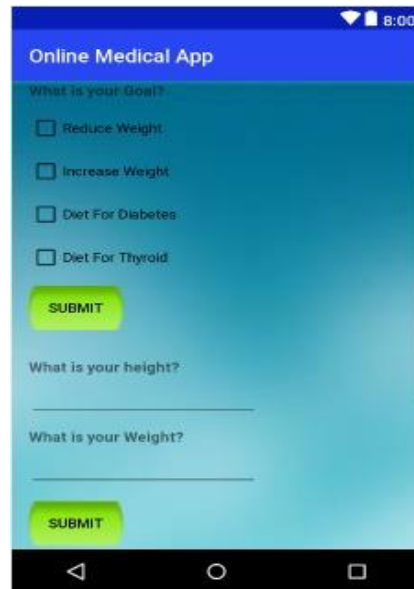
Fig - 11 Select Relation

Selecting the relation with patient at the time of emergency which helps doctor to plan the further process accordingly



**Fig - 12** Symptom Analyzer

Symptom Analyzer is used to analyze various problem of patient



**Fig - 14** List of Possible Health Symptoms

Its displays the selected disease of the patient and analyze the symptom of particular disease. Which makes doctor to understand the problem more clearly



**Fig -13** List of Disease to analyze the symptom

It displays the list of common diseases to analyze a symptom of patient

## 6. ADVANTAGE & DISADVANTAGE

### 6.1 Advantages

1. Consult a Doctor: Consult with doctor online for any kind of medical assistance.
2. Symptoms Analyser: It helps to find out the list of possible causes of symptoms.
3. Order Medicine:User can order medicine from anywhere, with wide range of medicine and other health products.
4. Blood finder provides number of options through which it becomes easy to find the needed blood group
5. E-Form Filling at Hospital connects to the electronic form filling of hospital management system.
6. E-Wallet:It also provides money security, loaded in the wallet.
7. SOS (Save Our Soul):It is an Emergency Button in Health Care Android Application, should be pressed when an accident occurs to call the nearest ambulance at the accident location.
8. First Aid Tips & Health Tips :Health Care Application provides first aid articles because it is a life saving, critical help given to an injured or a sick person before medical aid arrives.

## 6.2 Disadvantages

1. Internet is required for running this application.
2. Firebase being flexible, No SQL database needs strict rules for data integrity to be implemented.

## 7. CONCLUSION

Thus we conclude on our research and finding that health care application will provide us the medical assistance at Faster rate. Symptom Analyser analyses the symptoms of the patient which helps the doctor to treat their patient in more beneficial way. As chat room service is provided in this application it adds an feature to connect the doctor and patient directly. Use of Health Care android application can ease the Medical Assistance in case of emergency. It helps doctor to monitor the patient status via this application .Authentication ensures the security of data of doctor and patient. Finding of blood donor nearest from the hospital become more easier and efficient.

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