



IJIRSET

International Journal of Innovative Research in
SCIENCE | ENGINEERING | TECHNOLOGY

e-ISSN: 2319-8753 | p-ISSN: 2320-6710



INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH

IN SCIENCE | ENGINEERING | TECHNOLOGY

Volume 10, Issue 7, July 2021

ISSN INTERNATIONAL
STANDARD
SERIAL
NUMBER
INDIA

Impact Factor: 7.569



9940 572 462



6381 907 438



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24*7 Automated Hospital Assistance for Health Emergency

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ABSTRACT: Smart phones are now ubiquitous. The most popular operating system these days is Android. It is easy to use and affordable to all classes. We can find lot of applications coming up for android based phones. In today's world, everyone is struggling to prioritize their health in their busy lives. The phenomenal popularity of healthcare apps bears witness to the fact that more and more people increasingly rely on technology to take care of themselves and meet their health goals. An emergency patient is not able to select the optimal hospital for his emergency in an unknown area. 24*7 AUTOMATED HOSPITAL ASSISTANCE FOR HEALTH EMERGENCY is an android application. The application has been developed to deal with various medical emergencies like heart attacks, paralysis, pregnancy, accidents, insect bites etc in an efficiency way and to search the nearby hospital to deal with that emergency when he/she is in remote area. This helps people to find the nearest hospitals and available doctors to their present location. Users get access to emergency medical services 24*7. Patient's family members can be notified at the same time of medical emergency within seconds. The nearest position of hospitals is calculated with a built-in feature of Global Positioning System (GPS) in Smart phones.

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I. INTRODUCTION

Health Buddy is an android application which is developed to deal with the various medical emergencies in an efficient way and to search the optimal hospital to deal with that emergency. The person in an emergency or anybody at the emergency site will use this application to avail the service. It has three main functions: emergency alarm, locating optimal hospital for the emergency and healthcare management. The alarm action will send emergency messages to user's care taker and the hospital. Emergency message can include the location information, in order for the rescue staff to locate the user. Here the patient gets help in an emergency situation when he is alone or in a remote area. The user has to register to the application by providing Name, Contact, Caretaker Contact, Email, Address and Password. Once he registers, he will get an OTP to his email for verification. The user can login to the application at any time to update or view his details. When he is in emergency he can open the application either manually or by giving the voice command as open health buddy app. At that time he will get the list of hospitals nearer to his location. Once he selects the hospital a message will be sent to the hospital and the caretaker with the location.

II. OBJECTIVES

- Maintaining security standards and ensuring the protection of sensitive personal data.
- To make sure that the app is user friendly, can satisfy all customer needs at any time.
- Helping people in an emergency situation without expecting any profit.

III. RELATED WORK

- [1] The user has to register to the application by providing Name, Contact, Caretaker Contact, Email, Address and Password.
- [2] When he is in emergency he can open the application either manually or by giving the voice command as open health buddy app.
- [3] The alarm action will send emergency messages to user's care taker and the hospital. Emergency message can include the location information, in order for the rescue stuff to locate the user.
- [4] A message will be sent to the hospital and the caretaker with the location which will in turn provide help to the user.

IV. METHODOLOGY

4.1 This module consists of three modules:

1. USER: He is the one who uses this app and who avails services during an emergency.
2. CARETAKER: He is basically the primary contact of the user who can be his family member or any close person. This person gets notification when the user is in emergency.
3. HOSPITAL: When the user is in emergency a notification is sent to the nearest hospital and the hospital then responds to the emergency accordingly.

4.2 Pre-requisites

ANDROID SDK:

Android is a mobile operating system based on a modified version of the Linux kernel and other open source software, designed primarily for touchscreen mobile devices such as smartphones and tablets. On top of the Linux kernel, there are the middleware, libraries and APIs written in C, and application software running on an application framework which includes Java-compatible libraries. Development of the Linux kernel continues independently of Android's other source code projects.

NETBEANS:

NetBeans is an integrated development environment for Java. NetBeans allows applications to be developed from a set of modular software components called modules.

XAMPP:

XAMPP is a free and open-source cross-platform web server solution stack package developed by Apache Friends, consisting mainly of the Apache HTTP Server, Maria DB database, and interpreters for scripts written in the PHP and Perl programming languages.

FIREBASE:

Firebase is a Backend-as-a-Service — BaaS — that started as an YC11 startup and grew up into a next-generation app-development platform on Google Cloud Platform. ... Firebase is your server, your API and your datastore, all written so generically that you can modify it to suit most needs.

4.3 Proposed System

In this paper, it is proposed to simplify the procedures involved in providing hospital support in hands directly feasible, while at the same time maintain paramount and for-sure security methodologies. We wish to do the above by means of a mobile application. This application will allow users to send an emergency request to hospital with single button. Also, it simplifies all the processes of intimating caretakers' when user is in emergency. The user registers with necessary details and he has options to send emergency request to nearby hospital and message to caretaker regarding his location. The hospital end can take the patient information and treat him, after treatment hospital person can write a review on his condition within patient profile.

4.4 Architecture



Figure 1: Architectural Diagram

Architectural design is a graphical representation of a set of concepts that are part of architecture including the principles, elements and components.

Health buddy shows the function patient, admin, doctor, and searching nearby hospitals.

V. RESULT

Login page: After registering to the application, he will be able to login by providing the correct username and password. If the user details are not registered in the database, then they will not be allowed to login.

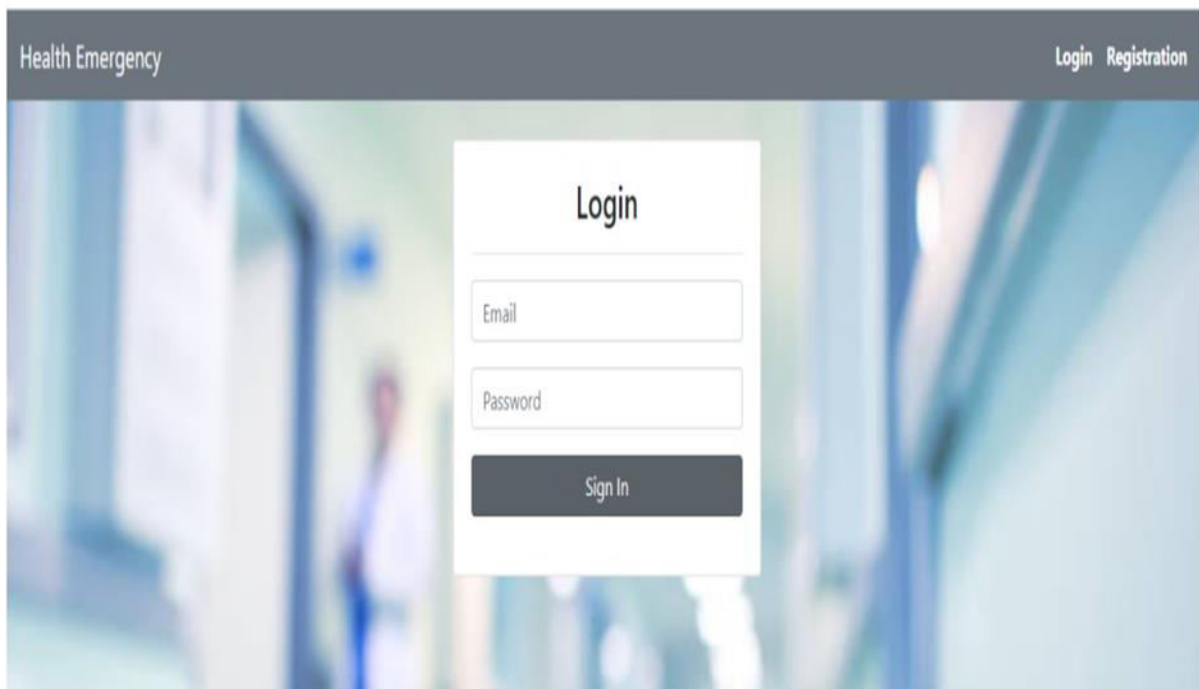


Figure 2: Hospital Login page

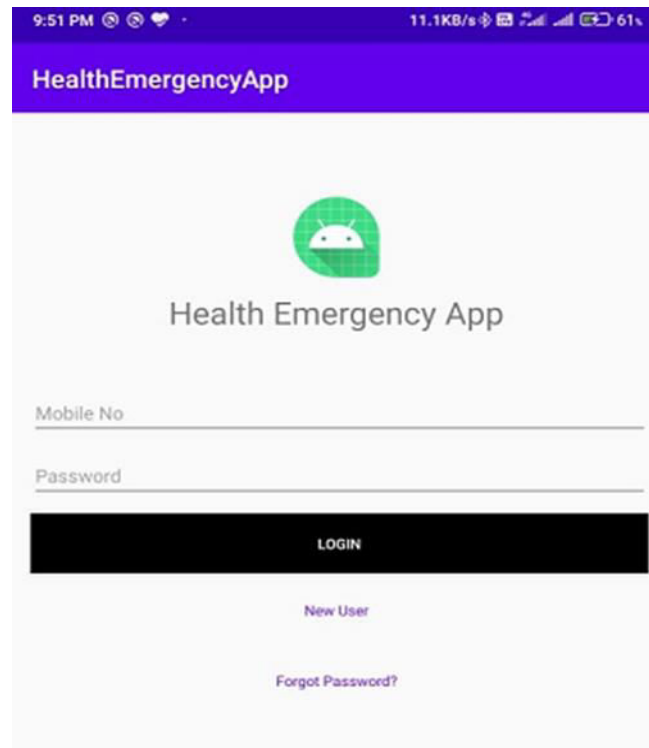


Figure 3: Android application user login page.

Home page: This is the home page for users. It consists of Emergency request, nearby hospitals and profile.



Figure 4: Home page for Hospital end.

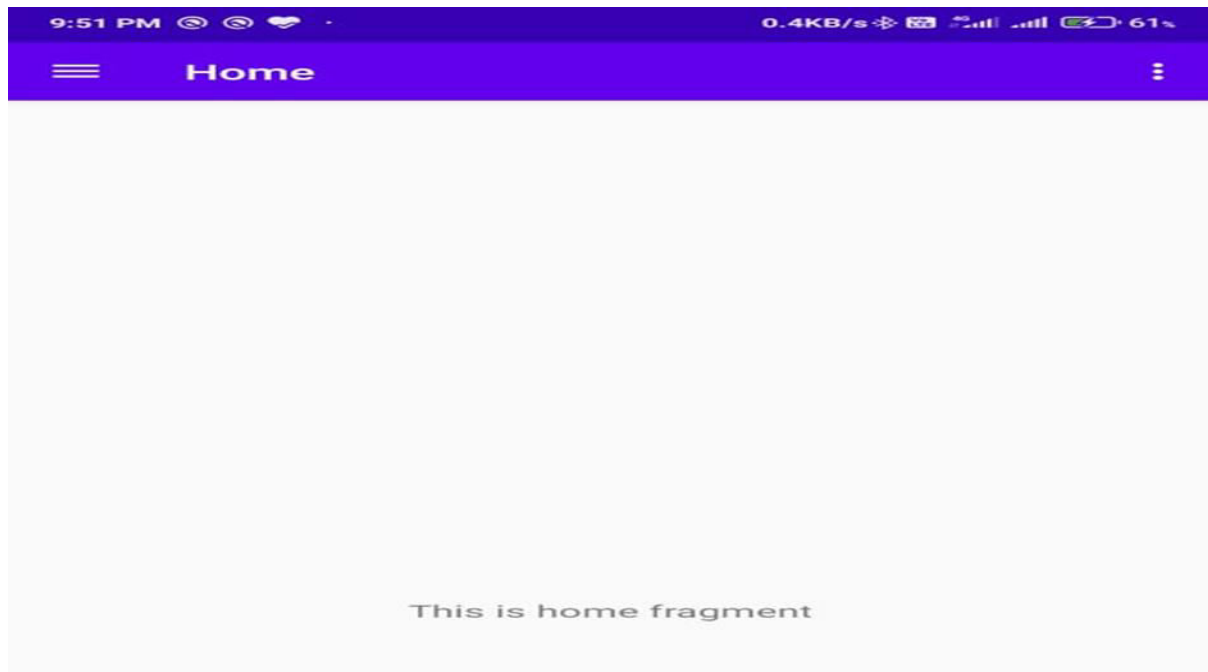


Figure 5: User Home page.

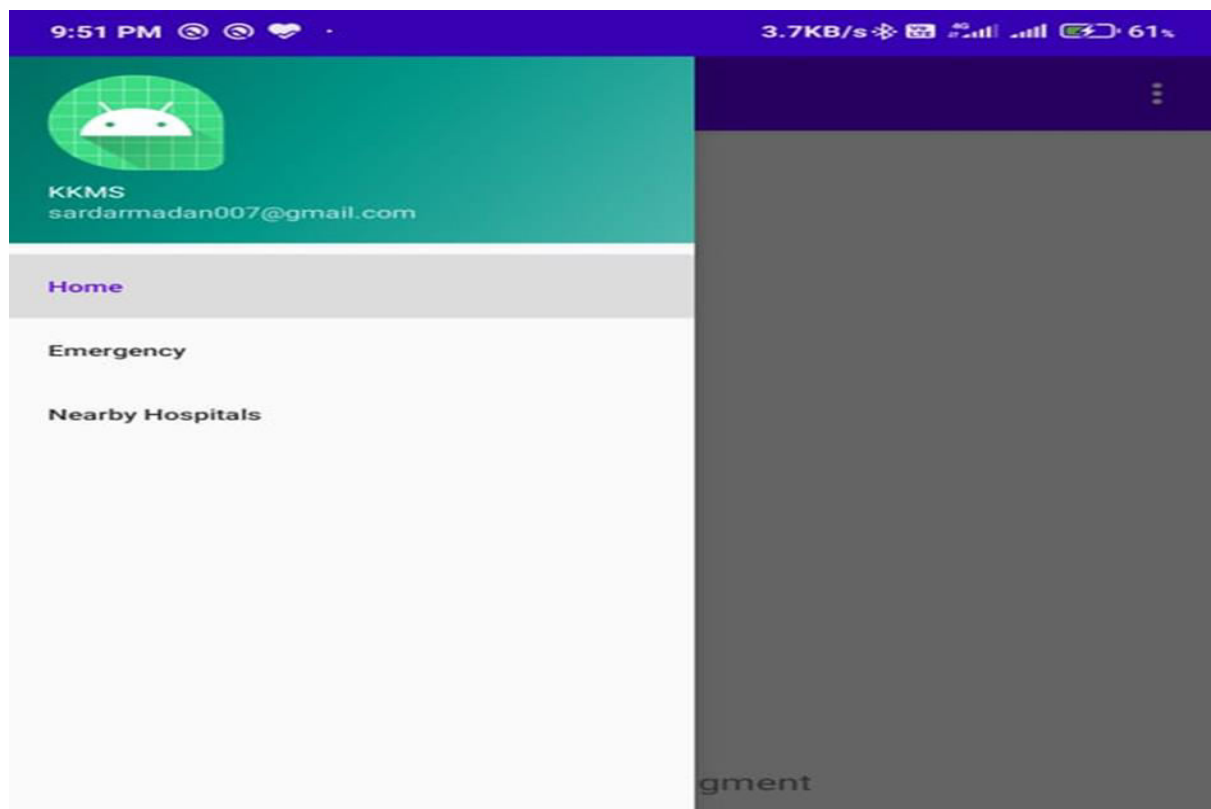


Figure 6: User homepage with navigation bar.

Emergency Page: Here Users can avail option to send emergency request to hospital people.

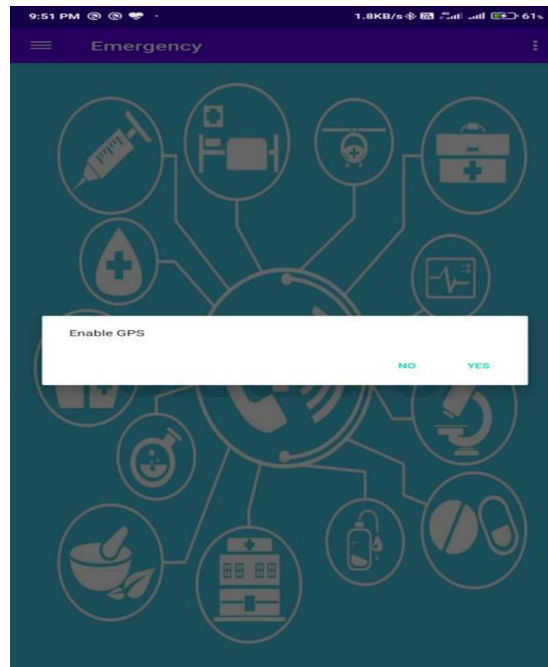


Figure 7: Emergency page.

Nearby Hospital Page: Can select nearby hospital given with location results.

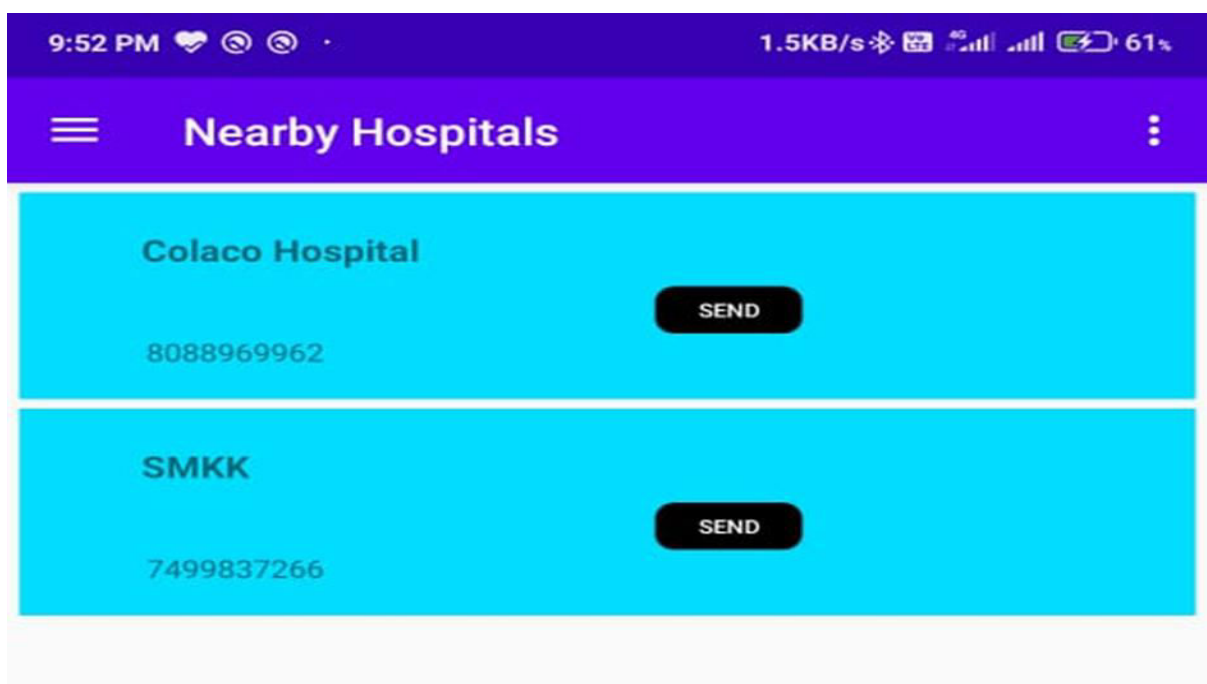


Figure 8: Nearby Hospital Page.

Hospital Request response page: Hospital representative person can check the request from user and get ready to admit the user and treat him.



#	Patient Name	Hospital name	Date	Time
1	KKMS	SMKK	07/07/2021	4:55 pm

Figure 9: Hospital request page.

VI. CONCLUSION

This Emergency Application for Android with Enhanced Functionality is immensely useful for the people who fall into the critical situation when they come out of home or go in unknown areas. People might face health emergency when they are in remote area, so this application will help in such situations. This application is user friendly and takes less time to trigger. It is freely available and runs on Android handsets. Thus it increases the importance of mobile phones and provides best security to the people. Wide range of people can use this if they know how to operate android smart phone. Various issues related to hospital management will be solved by providing them a full-fledged system. The future scope of the project is to design this application for iOS, windows OS and other popular mobile operating systems.

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