

ANDROID APPLICATION FOR EMERGENCY MEDICAL ASSISTANCE (DOCTORS NEARBY)

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Abstract— The time lapse in medical help to accidental victims is a concern of increasing urgency in India and other countries. Doctors Nearby (an android app) fills the gap between the doctor and the person in need. It provides the information of all the doctors present in nearby locality. From the specialists to an OPD doctor, this app provides all the necessary information regarding the selected hospitals, such as location and working hours. Other than all this Doctors Nearby app has a special Emergency button for accidental cases. The Emergency button when pressed will direct the user to the nearest accidental hospital working on the current time and will call the contacts chosen as Emergency contacts and also will send an SMS to the contacts providing the current location and the location of the hospital the user is being directed to. This paper describes the application, its development, and its technical implementation.

Index Terms — accidents, android application, clinics, doctors, emergency, hospital, medical.

1 INTRODUCTION

As per the data cited in the report, the country recorded at least 4, 80,652 accidents in 2016, leading to 1, 50,785 deaths. The number suggests that at least 413 people died everyday in 1,317 road accidents [1].

This paper is about an android application, which helps people to find the nearest hospitals and available doctors to their present location. This application not only helps a patient by locating them to a nearest hospital but it also provide an *Emergency Service*. However, there are several applications available in the market; they do not provide all the facilities at a single place, whereas this application includes all the services required and it is free to access. The existing system do not provide any services in case of *Emergency*, whereas proposed system not only provide users details of the nearest hospital but also sends a notification to Emergency contacts including current location of patient and location of the nearest hospital to the patient, just by a single click. The key idea behind this project is to provide list of all the hospitals, clinics, and the available doctors nearby a user, including details about the doctors such as his/her *Degree, nominal fees, working hours*.

2 PROBLEM STATEMENT

Doctors Nearby provides personalized solutions in real time, for Emergencies and Doctor's appointments by directly calling to the reception. Users can also post a Feedback about Doctors.

1. **Emergency Services:** Users get access to emergency medical services 24X7. Your family members can be notified at the time of medical emergency within seconds. All you need to do is, tap the 'EMERGENCY BUTTON' and a ping notification goes to the emergency contacts saved in your phone by you.
2. **Appointments:** DOCTORS NEARBY makes it easy for you to book an appointment with a doctor, based on

your medical condition, sitting at home, with the help of contact details of doctors provided in the app you can call a doctor and fix an appointment. You can also search specialist based on your sickness or illness. It enables you to choose and book appointments for the best-rated doctors nearest to you, 24X7.

3. **Best Reviewed Doctors:** Medical services now made more transparent, accountable and patient friendly. The Doctors here are rated based on certain parameters, ensuring most authentic and effective assessment of a health care professional. While the patients get to choose from the best-rated doctors, the Doctors stand a chance to promote their practice by constantly working towards getting higher rating on this APP.

3 Relevance of the Project

- This Application helps a user to find a Doctor through GPS Navigation and locates this clinic's current location using Google map.
- This application lists out the various Medical Specialties, so that a user can search for the Doctors according to the required specialist. Any doctor, who is the specialist in that area gets located on the map.
- On a Google map, it provides a List View for Doctors, which lists out the Doctors.
- When a user selects a particular Doctor, he can make a voice-call to him, request for an appointment with him and can ask him for any medical related queries.
- A user can register himself as a Patient, who can fill-out the required details in a form which includes Three Emergency Contacts.
- A user can also get Directions to visit at particular Doctor's clinic. The application uses Navigation Functionalities using Google Maps, which calculates the distance between the user's current latitude-longitude position and a clinic's latitude-longitude position.
- This Application also provides SMS service to a user,

who can send SMS to the Emergency Contacts in case, if he is in any kind of Emergency.

4 SCOPE

The Scope of this android application is to help the user in times of emergency such as an accident by providing useful and necessary information to the user about the nearby hospitals, clinics and doctors for fast medical assistance and treatment. In case of emergency when the user presses the “emergency button” present in the application, a list of nearby hospitals and clinics using the latitude and longitude of the present location and destination location are fetched from the internet using Google maps API and displayed on the screen of the cell phone, using this information the user can select the desired hospitals or clinic and the routes to that hospitals or the clinic will be provided.

Along with this function, an SMS service will also be provided in this application which will send an emergency message to the three contacts saved by the user in emergency situation.

5 LITERATURE REVIEW

In the past, most research on reading Android focused on the problems faced to develop an Android application, which are mainly focused on emergency situations so that the idea of implementing the emergency based android application can be smoothly be implemented.

One work focuses on an optimal procedure for the basic development of an android application. So that the interface of application can be implemented and the idea to implement can be clearer^[3].

Another paper uses the Google Maps API to set a location based remainder. More recent work has addressed the use of Google maps API relevant to the application. In, the user is assumed to have a GPS supported android device; although the user also need to have a working internet connection so that the exact current location can be accessed using Global Positioning System (GPS)^[1].

The third paper is completely focused on the most important feature “EMERGENCY BUTTON”. The third paper is based on the android application developed to focus on Women Safety^[2].

6 SYSTEM DESIGN

6.1 System Block Diagram

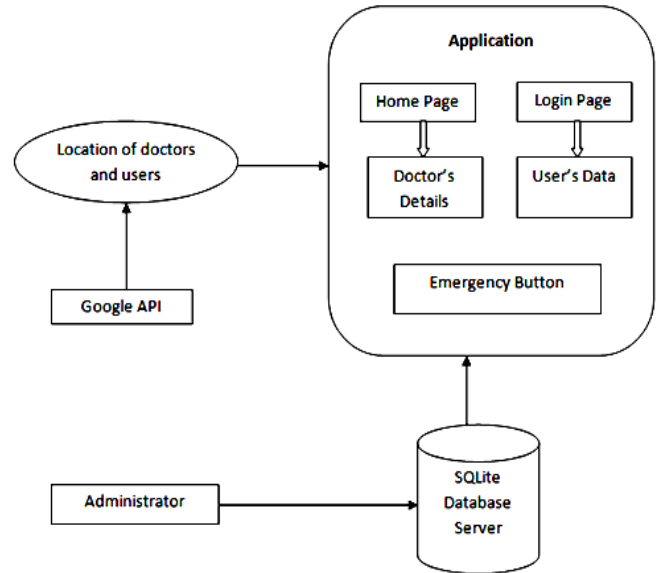


Fig. 6.1: System Block Diagram

This is a diagram of a system in which the principal parts or functions are represented by blocks connected by lines that show the relationships of the blocks.

6.2 Use Case Diagram

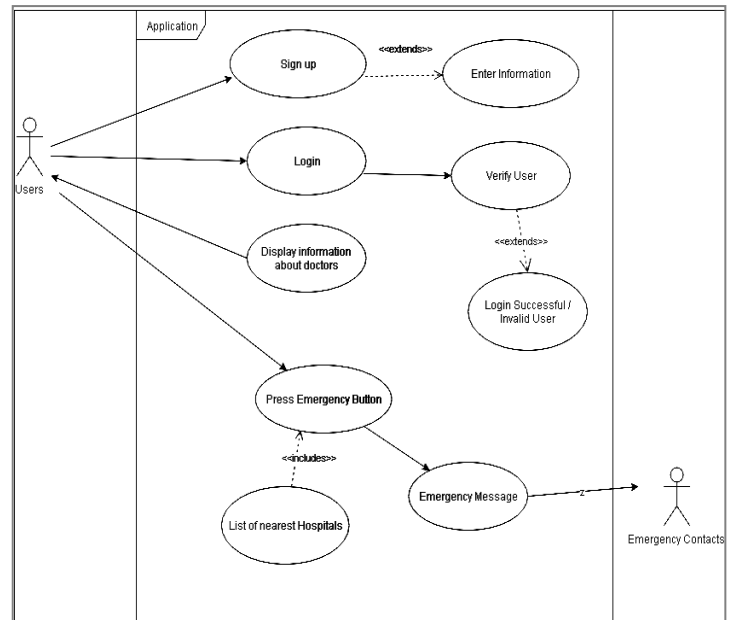


Fig. 6.2: Use Case Diagram

This use case diagram is a graphic depiction of the interactions among the users and the application of the system. The boundary defines the scope of the system.

6.3 System Requirements

6.3.1 Hardware and Software

Windows:

- Microsoft® Windows® 7/8/10 (32- or 64-bit)
- 3 GB RAM minimum, 8 GB RAM recommended; plus 1 GB for the Android Emulator
- 2 GB of available disk space minimum, 4 GB Recommended (500 MB for IDE + 1.5 GB for Android SDK and emulator system image)
- 1280 x 800 minimum screen resolution

Software:

- JAVA
- Android SDK

6.4 Modules

1. Login Module

Login Module consists of the login and the sign up page along with the database connectivity of both the page. The Sign up page is the page used to create the user name and password along with specifying the emergency contacts which will be used later for the further processes. The login page will check the entered credentials with the database to check for valid username and password.

2. Emergency Module

The Emergency Module has the emergency button, which is the major part of the application. The Emergency Button when pressed will navigate to the nearest working hospital and a ping notification through SMS, which will include the current location of the victim and the location of the nearest hospital where the victim is being directed.

3. Google API Module

The start screen after the login part we will be using the Google Maps\Places API. Google API will be used to display the doctors nearby along with the nominal fees. It will also be used in the case of emergency to find the nearest hospital.

4. PHP\Firebase (Database) Module

The Database will be used to store the user data such as the contact number of the user and the emergency contacts and also the Doctor's information such as the nominal fees.

In the reference section, give all authors' names; do not use "et al." Do not place a space between an authors' initials. Papers that have not been published should be cited as "unpublished" [4]. Papers that have been submitted or accepted

7 CONCLUSION

This project represents a solution that will be useful in emergencies. The situations may include accidents, natural or human-made calamities. The android app will have facilities such as storing user details and the contacts of the receiver in emergencies. Moreover, the app will have a button, which will trigger the activity of sending SMS to the emergency contacts. Furthermore, it will display the lists containing addresses, contact details of the nearby hospitals and clinic centre. It is a one-touch solution for all the health related issues in time of need.

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