

# CRISES MANAGEMENT NOTIFICATION SYSTEM

**Dr. Renuka Deshpande<sup>1</sup>, Arpita Koli<sup>2</sup>, Snehal Kothe<sup>3</sup> and Shruti Nikalje<sup>4</sup>**

Associate Professor<sup>1</sup>, Computer Engineering Department, SSJCOE, Maharashtra

Student<sup>2,3,4</sup>, Computer Engineering Department, SSJCOE, Maharashtra

## ABSTRACT

*In the global odysseys of android application designing a system that aims to provide emergency service at the accidental spot, faced or witnessed by the user, using a single click of a button. Many android applications are available for intimate emergencies. Our android app provides emergency service is provided to the patient who has met with an accident in an unknown location through the GPS inbuilt. Inculcating cloud computing to manage and maintain the patient's medical records in the EMS server. This system also proposes interesting functionalities such as blood bank services, acknowledging relatives through message text and doctor provided prescription if the user faces uneasiness in health, It also includes a special alarm system in emergency cases to inform parents or relatives This security application is designed to be an aid during distress or panic for women or accident. It acts as the emergency application that alerts your family and friends in possible moments of danger and helps you. This paper proposes Android Based Tracking for Emergencies. This android system focuses on providing emergency service to users who are registered with the android based Application.*

**Keywords:** - Application Program Interface (API), Data Flow Diagram (DFD), Global Positioning System (GPS).

## 1. INTRODUCTION

Crises Management Notification System (CMNS) is a revolutionary approach to medical treatment in case of emergency. A user encountering or witnessing an accident can use an android application to call an emergency service on the spot just by the simple click of a single emergency button. This button will trigger the process of emergency help that will direct a message to the administrator who will confirm that the alarm isn't a false alarm and send an ambulance aid to the victim as soon as possible. The administrator will also acknowledge relatives of the victim about his whereabouts. With the main objective being to provide immediate help to a victim in case of an emergency, the system also proposes other secondary functionalities.

It will also provide all health-related information including a medical prescription for common diseases to registered users. It will also maintain a blood bank directory which will maintain updated information on the blood groups available in different blood banks.

The goal of our application, is to easily locate a woman in trouble and ensure her safety. It normally establishes a link between the traveler and the one who is tracking the traveler. Our security application is designed to be an aid during distress or panic for women and acts as an emergency application to alert our friends and family. In our application we have features to ensure women safety includes a panic button, traceroute, track location, spot capture, and emergency calls.

## 2. PROBLEM DEFINITION

When an incident generates demands on the response system, the issues addressed first are usually demands created by the hazard itself—crises-generated demands. For example, in a highly contagious situation outbreak, crises-generated demands include the need to evaluate and treat victims, while sending alerts. Simultaneously, the response system itself creates response-generated demands.

In the same example, these demands include the need to coordinate disparate resources, to process widely dispersed data into accurate epidemiological information, to coordinate the public message, and to protect healthcare workers.

With well-developed emergency management support, the incident response proactively addresses both types of demands and, in fact, reduces many response-generated demands to routine status.

## 2.1 PROPOSED SYSTEM

### A. User authentication

In this module, role-based access control method is used for authenticating a user. The new user has to sign up before using the application. Each user will be provided with unique credentials after sign up. If a new user uses the application initially a prompt message to fill the registration form will appear. Once the user registers, he can view the previous detail and edit them whenever he wants to. The registration form consists of personal information like name, address, age, gender, and so on and medical information like blood group, medical history, etc. of the patient. Personal information shows the information which the user has given while registering. This medical history and Information can be useful for doctors.

### B. Medical History

They are a modern approach to medical care and go beyond the standard clinic data collection can:

- Contain a patient's medical history, diagnoses, medications, treatment plans, immunization dates, allergies, radiology images, and laboratory and test results.
- Allow access to evidence-based tools that providers can use to make decisions about a patient's care.
- Automate and streamline provider workflow.

### C. Cloud Server

The database will be maintained of all the hospitals, Clinic, and Blood bank over the server cloud. The cloud servers will also be used to maintain the medical history of the users.

### D. Emergency Services

This module helps to track the nearest hospital depending on various factors such as:

- Which emergency condition arises.
- Location of the patient.

### E. Blood bank

This module will maintain the data about the blood bank located near to the user. Updated information about the blood bank regarding the location, blood groups, and quantities of blood available will be provided to the user within the application.

### F. Alerts

Alert messages will be sent:

- to the emergency contact/s of the victim if he meets with an accident.
- to the user regarding various updates and blood donation drives.

### G. Emergency Panic Button

When a user especially a woman is in a distress or a panic situation, he/she can press the panic button. As soon as the panic button is pressed, automatically the image or object in front of the user is captured by the smartphone, and then it is sent to a particular contact via message text or email id so that the victim can retrieve the image later from the text message, or mail id which will be the evidence against the offender.

## 2.2 OBJECTIVE OF IMPLEMENTATION

- To create an intuitive and user-friendly interface, aspects like layout, navigations, color schemes, and app elements should be planned carefully.
- Whenever a woman is in any kind of trouble, she will press the emergency panic button and an alert message along with the image captured at that instant will be immediately sent to her trusted contacts.
- This serves as a piece of evidence against the offender. Also, it provides the user with emergency information such as blood banks, hospitals, clinics, specialist doctors, etc. to serve as an aid during any crisis.

## 2.3 IMPLEMENTATION

The user will first download the android application. Once the user opens the application he will be asked to register. If the data he provides is right it will be saved to the database and the user will be able to login with an email ID and password. The user logs in using these credentials. Once logged in he can use any of the following four functionalities available to him:

1. Emergency Services
2. Blood Bank Information
3. Alert Family Members
4. View/Edit Medical History
5. Emergency Panic Button

## 3. LITERATURE SURVEY

Considering worldwide systems for crisis management notification we studied some unique parameters of the systems which will help us to define the strong objectives of our proposed system. Below listed systems give us a fair idea about the survey we had done.

### 1. m-Government: A Framework of Mobile-based Emergency Response Systems

A Mobile-based emergency response system (MERS) is one of the important m-Government services. A MERS under the m-Government platform is a mobile-based information system designed to let people get help from the government in an emergency. It also makes the use of mobile technologies to assist the government to get information and make decisions in responding to disasters anytime and anywhere. This paper presents a framework of MERS which has five main components (register, monitoring, analysis, decision support, and warning) aiming to provide a new function and service to m-Government. The proposed MERS framework would also offer a new opportunity to interact between government, citizens, responders, and other non-government agencies in emergencies.

### 2. Suraksha: An Android App for Human Safety

In today's world of unsafety-ness, furious incidents, human is required to act against such incidents. It's the need of the hour to act accordingly for the betterment of mankind. Today's world is relying on Technology in many forms. The most popular one is the smartphone device which is replacing almost all devices. This paper represents the idea of building an application that provides security to the people. According to this proposal, the user is asked to store the emergency contact details while signing up for the application. Later in case of emergency, the pre-loaded message along with the GPS location of the user is sent to the contacts with minimal clicks. People have come with many measures to avoid mis happenings, but the unique feature of this project is to have a "gesture" to the application, to reduce the time consumption in operating the app.

### 3. Emergency Management System Using Android Application

Communication during disaster time is very crucial for both the rescue team and the victim. Emergency never comes with prior intimation. The System is intended to function in case of emergencies in society. The emergencies include Fire, Medical Emergencies, accidents, and External Emergencies (earthquakes, Floods, Storms). In this paper, we present Emergency Management System (EMS), which enables smart-phone based Adhoc communications at disaster times over Wi-Fi. The person in an emergency or anybody at the emergency site will call the EMS at avail service. Location Coordinates are sending on each request. The system works on the principles of the client-Server system, wherein the server responds to the requests of the Clients. We have Implemented the EMS Client Application, Rescue Application, and Server. The Client and Rescue Application was Implemented as an Android Application. The Sever is implemented as a Web-Based Java Application. We tested the System using several real Android Phones with GPS on phone, clients communicating over Wi-Fi.

### 4. An emergency medical support system for patients in rural areas

This work by Li-Linchen was developed to reduce the time required for people in rural areas to reach emergency care services and prevent the tragedies like death due to lack of immediate help and convenient transport. This support system effectively transports emergency patients in rural areas to hospitals promptly to receive appropriate medical treatment.

### 5. An Android-Based Emergency Alarm and Healthcare Management System

The paper presents a system that has two main functions: emergency alarm and healthcare management. The emergency alarm can be triggered manually or automatically when an unexpected situation occurs and alert the family members and doctor of the user.

## 4. REQUIREMENT ANALYSIS

Requirement analysis is implemented to look for the application's needs and its functionalities. Requirement analysis is important to establish user and system requirements. Analysis of these requirements produces the project specifications document to develop the application.

### 4.1 USER REQUIREMENTS

#### 1. FUNCTIONAL REQUIREMENTS

- The major functional requirements for the app are:
- The user of the application should be asked to log in only the first time he uses the application on his device. The user must see the main page of the app (with the buttons to send notifications) every other time he opens the app.
- The user shall be able to send notifications with the tap of a single button.
- An option must be provided to enable/disable these buttons to avoid pressing them by mist Software Requirements
- These requirements are separated based on whether you are developing the app or running the app on a device.
- The user shall be able to see their current location.
- The user shall be able to set the contacts to send a text messages and emails from within the application. The user must also be able to set the contents of the messages. Also, the user may select these contacts from the contact book or enter them manually.

#### 2. NON-FUNCTIONAL REQUIREMENTS

- Providing a simple and elegant user interface for the main screen. This is necessary as the user would usually come on to this screen in case of a panic or emergency and hence each button should be clearly visible and easily pressed.
- In case if there is no internet connectivity on the device (both wireless and Cellular data), the application should be able to store the locations offline and send them. Once the internet connectivity is up again it can be stored in the database.
- Providing a single tap activation for emergency services and an emergency panic button.
- Displaying user-friendly dialogs for entering the contacts to send text and email messages to and to view or edit the medical history of the user.

## 5. DESIGN

### 5.1 DFD LEVEL 0: -

This is the Zero Level DFD of Login System, where we have elaborated the high-level process of Login. It's a basic overview of the whole Login System or process being analyzed or modeled. It's designed to be an at-a-glance view of Change Password, Authentication, and Login showing the system as a single high-level process, with its relationship to external entities of username, Password, and Register. It should be easily understood by a wide audience, including Username, Register, and Change Password In zero level DFD of Login System, we have described the high-level flow of the Login system.





FIG 5.1: DFD LEVEL 0

## 5.2 DFD LEVEL 1: -

First Level DFD (1st Level) shows after login in the application how many features are included in it how it deals with different features receiving data from database and sending data to the database and other features like receiving data from internet.

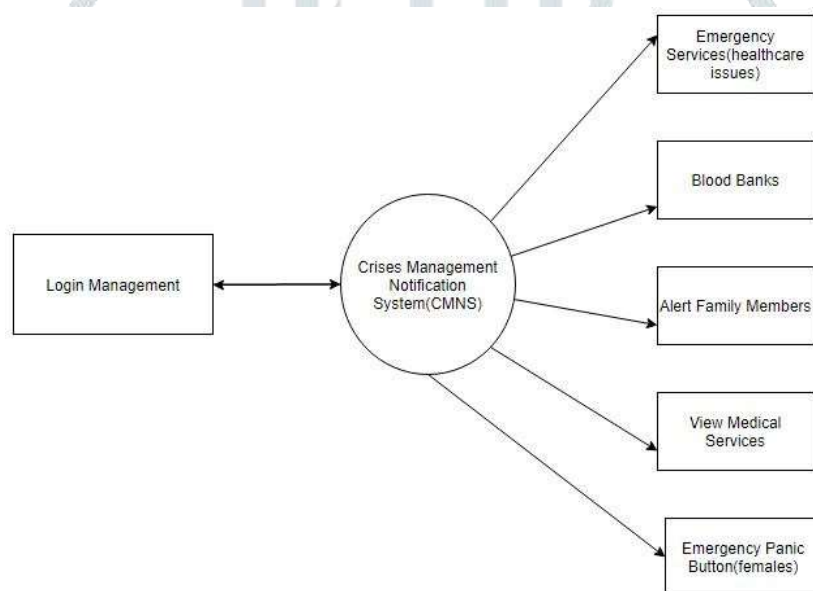


FIG 5.2: DFD LEVEL 1

## 5.3 SYSTEM DESIGN OF APPLICATION: -

As Shown in the below figure 5.3, the system design is very simple and easy to understand. When designing this, our main aim was to let user know all functionalities by looking at application itself. We have tried to make sure to make it simple for every user.

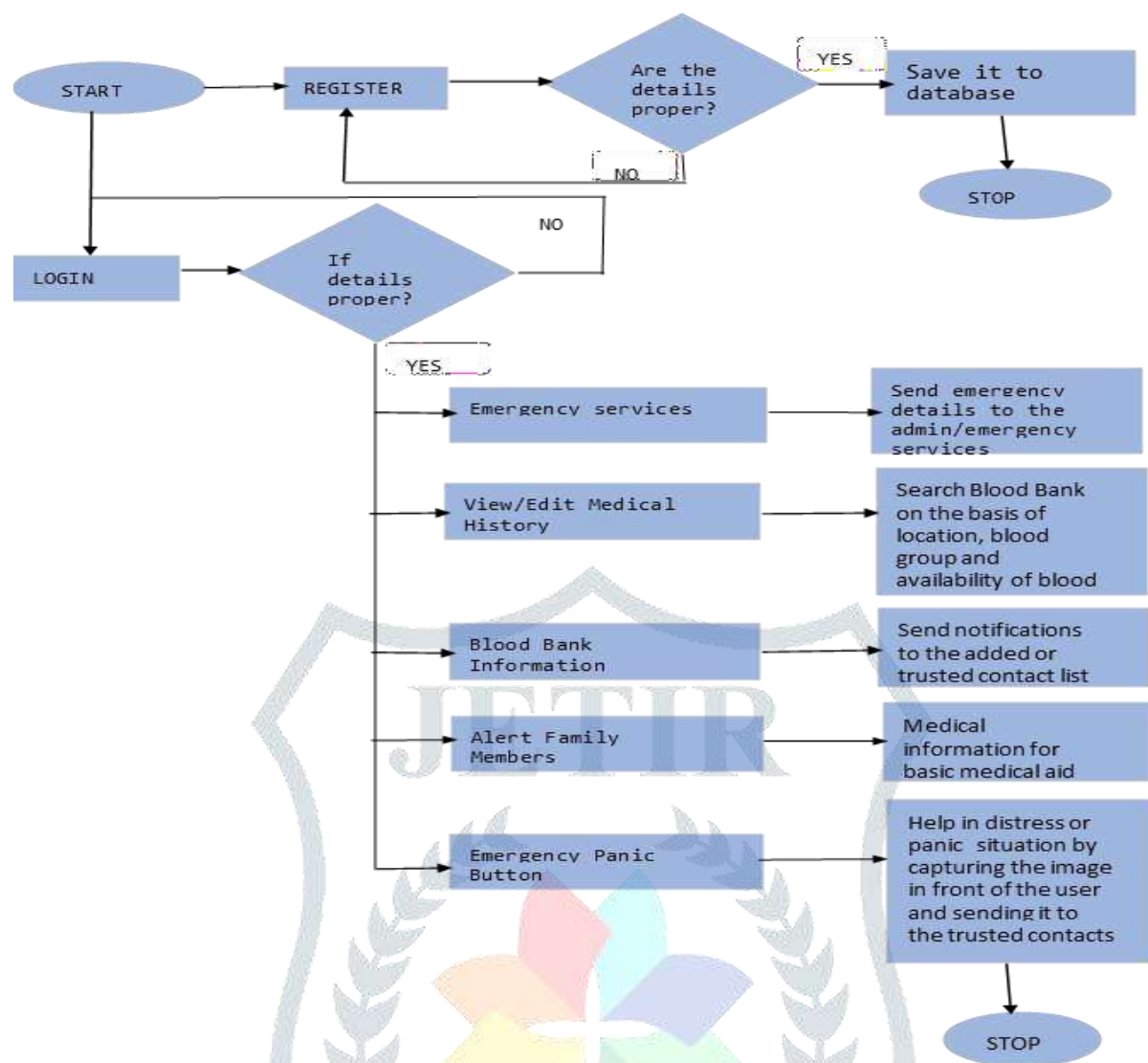


FIG 5. 3: SYSTEM DESIGN OF APPLICATION

## 6. CONCLUSION

This app can offer detailed instructions and guidance alongside various features that can help you through just about any crisis or emergency. Help you remain safe, making it an ultimate multi-purpose tool. Allocation of scarce resources is ultimately intended to preserve the functioning of the healthcare system and to deliver the best care possible under emergency circumstances. Planning for the health and medical response to a catastrophic.

## 7. ACKNOWLEDGEMENT

We would like to take this opportunity to express our sincere thanks and gratitude to honorable **PROF. RENUKA DESHPANDE** for all her help and concern. The success full completion of this project was made by her able guidance and co-operation only without which the task would never have been completed.

We also own our deep gratitude towards our extremely helpful and supportive project co- Ordinator **DR. UTTARA GOGATE**.

We would like to thank our H.O.D. **PROF. P. R. RODGE** for being so understanding invaluable help for his crucial role in completion.

We are greatly indebted to management of our institute and express appreciation and thanks to our principal **DR. J. W. BAKAL**, for co-ordination showing keen interest and providing necessary facilities in completing project report.

Finally, we extend our thanks and deep sense of respect for all professors of **SHIVAJIRAO S. JONDHALE COLLEGE OF ENGINEERING** for leading us every step of way.

## REFERENCES

- [1] Khaled Amailef, Jie Lu, "m-Government: A Framework of Mobile-based Emergency Response Systems" University of Technology, Sydney PO Box 123 Broadway 2007 Australia Proceedings of 2008 3rd International Conference on Intelligent System and Knowledge Engineering.
- [2] Anand Vaidya, Anusha H K, Apeksha A A, Rohit M B, "Suraksha: An Android App for Human Safety" Volume 5, Issue 5, May – 2020 International Journal of Innovative Science and Research Technology, ISSN No: -2456-2165, IJISRT 20 MAY,475, www.ijisrt.com999
- [3] Dashesh Vora Raj, Shah Shreya Sawant, Raksha Naik, Prof. Sejal D'mello," Emergency Management System Using Android Application" International Journal of Advanced Research in Computer Engineering & Technology (IJARCET) Volume 6, Issue 2, February 2017, ISSN: 2278 – 1323
- [4] Li-Linchen," An Emergency Medical Service Support System for Patients in Rural Areas -An Example from Taiwan" Proceedings of the 2012 International Conference on Machine Learning and Cybernetics, Xian, 15-17 July 2012
- [5] Yuanyuan Du, Yu Chen, Dan Wang, Jinzhao Liu, Yongqiang Lu," An Android-Based Emergency Alarm and Healthcare Management System" 978- 1-61284-704-7/11/\$26.00 ©2011IEEE.
- [6] C. M., Roux-Dufort, C., & Clair, J. A. 2007. International handbook of organizational crisis management. London
- [7] Perrow, C. 1984. Normal accidents: Living with high-risk technologies. Princeton, NJ: Princeton University Press.
- [8] James, E. H., & Wooten, L. P. 2010. Leading under pressure: From surviving to thriving before, during, and after a crisis. New York: Psychology.
- [9] J. Y., & Miner, A. S. 2007. Vicarious learning from the failures and near-failures of others: Evidence from the U.S. commercial banking industry. Academy of Management Journal.
- [10] G. A., & Roberts, K. H. 2001. The incident command system: High-reliability organizing for complex and volatile task environments. Academy of Management Journal.