

Disaster Alert Notification System

Rohit H. Zambare
Department of Computer
Engineering
Sanghavi College of Engineering
Nashik, India

Rahul S. Sharma
Department of Computer
Engineering
Sanghavi College of Engineering
Nashik, India

Dnyaneshwar R. Jadhav
Department of Computer
Engineering
Sanghavi College of Engineering
Nashik, India

Kshitij P. Parcha
Department of Computer
Engineering
Sanghavi College of Engineering
Nashik, India

Puspendu Biswas
Department of Computer
Engineering
Sanghavi College of Engineering
Nashik, India

Abstract: *The devastations of natural disasters and emergencies are the lashes of mother nature that hit us every year with a whip. These are inevitable. There are no alternative ways to prevent this incident, but we can take proper steps to reduce its damage and saves human life. Now a days a great deal of attention has been given to the potential applications of mobile communication technology. This system proposes an android application which can alert people before a natural disaster such as cyclone, earthquake, building collapse and flood strike, and system also helps in extreme emergencies such as accidents, hospital emergency, and tell them the all information. In evacuation process, we have used mobile GPS for exact location, Pictures of disaster, short description which used to give help and save lives.*

Keywords: *Natural Disaster, Emergency, Notification system, Android, Location based.*

I. INTRODUCTION

Disastrous occasions are the results of ordinary hazards. It happens an authentic breakdown in the viability of human animals, animals, and the property. It in like manner happens economic hardships and unsettling influence of money related and social progress. The overwhelming number of dead or truly hurt and homeless people are impacted by the occasion of a natural disaster. A tremendous proportion of money ought to be spent for diversion and recuperation after the trademark disaster.

As indicated by the Annual Disaster Statistical Review 2010, 330 catastrophic events were enrolled worldwide in 2003. It was accounted for that there was a sum of 21,610 individuals died. And among them, 9,871 individuals passed on in flood, and 8583 people died because of the tempest. The evaluated harm was 118.6 billion dollars. It feels terrible to know these insights. Yet, the most exceedingly awful part of actually it is extremely unlikely of forestalling these natural disasters. The best way to our endurance against it is to prepare ourselves for what can occur. Various specialists had attempted to build up an early debacle cautioning framework for limiting the potential misfortune. They thought of some splendid approaches to do it. In this cutting-edge time, the cell phone has truly changed the method for communications. It is currently the most utilized communication tools. A portion of the analysts attempted to utilize Short Message System (SMS) as a cautioning framework for the calamity. SMS is utilized in present day handsets began from radio telegraphy in radio reminders pagers utilizing institutionalized telephone protocols. These are defined as the piece of the Global System for Mobile Communications (GSM) arrangement of gauges as a means of sending messages up to 160 characters to and from GSM supported gadgets. In any case, by this strategy, it is extremely unlikely of evaluating the degree of the fiasco in light of the fact that no databases are used. This strategy just sends messages to the subscribers. But a few supporters might be visually impaired, so this technique would not be useful for those incapacitated individuals. Once more, researchers used the android innovation to facilitate the framework. They used a calculation to ascertain ideal courses to the shelter for departure at the hour of fiasco and demonstrated the information into google map.

II. LITRATURE SURVEY

1. Md. Fahim Sikder et al[1]

They proposed technique is an android based application that takes the weather updates from websites and calculates the disaster level. Subscribers data can be stored in this applications database. It calculates the optimal route to the shelter from the subscriber's current position and sends voice call/SMS with the warning and the shelter-locations to them. It is able to send the voice call or voice alarm so that the blind subscribers can also get the alert. This is GSM type alerting system, so the subscribers do not need to have an android device in order to receive the service. It also stores previous weather statistics data in the database. Using these data and real-time data, it can predict the upcoming weather by using machine learning techniques. Here it uses the naive Bayes algorithm to predict the weather by analyzing the previous and real-time data.

2. Bernie S et al[2]

The paper focuses on the application of Information Communications Technology (ICT) in a form of an android based mobile application that gives victims the capability to seek help when a disaster or incident strikes. In addition, people can notify others of the danger ahead through AppLERT and Facebook so that they can avoid the area where the danger is through crowd sourcing.

3. Mohamad Sukeri et al[3]

This paper describes the issues relating to the role of the delivery system provided by the government to the flood victims in Malaysia, pre-disaster, during and post-disaster caused by flooding. Presently, the delivery system in flood management was predominantly an official strategy based on a technology centered approach emphasizing the application of new technologies in flood control, forecasting, warning and evacuation systems. In Malaysia, the National Security Council (MKN) has responsibility for controlling the national disaster management system and this organisation will provide an effective relief machinery for recovery following flooding disaster. Further to that, this paper will attempt to describe the type of flood delivery system that has been used in Malaysia and to draw comparisons with delivery systems in other countries.

4. Nuwan Waidyanatha et al[4]

This paper reports on findings from a series of field tests conducted in Sri Lanka to compare the reliability of the two GSM solutions with their relative effectiveness in terms of alert and notification capabilities in the last-mile of an early warning system.

5. J.G. Lee et al[5]

In this paper, they propose a new partition-and-group framework for clustering trajectories, which partitions a trajectory into a set of line segments, and then, groups similar line segments together into a cluster. The primary advantage of this framework is to discover common sub-trajectories from a trajectory database. Based on this partition-and-group framework, we develop a trajectory clustering algorithm TRACCLUS. Our algorithm consists of two phases: partitioning and grouping. For the first phase, we present a formal trajectory partitioning algorithm using the minimum description length (MDL) principle. For the second phase, we present a density-based line-segment clustering algorithm. Experimental results demonstrate that TRACCLUS correctly discovers common sub-trajectories from real trajectory data.

OBJECTIVE

- To track the location of disaster.
- Fetch Pictures of disaster, short description which used to give help and save life.
- Get notification about disaster.

MOTIVATION

The system provides information regarding disasters this can be provide location, Pictures of disaster, short description which used to give help and save lives. Information can display socially which is user-friendly. A disaster alert notification system will inform about disaster.

PROBLEM STATEMENT

Natural disasters are the consequences of natural hazards. It does occur a serious breakdown in the sustainability of human beings, animals, and the property. It also occurs economic losses and disruption of economic and social progress. The overwhelming number of dead or seriously injured and homeless people are affected by the occurrence of a natural disaster. A massive amount of money needs to be spent for reconstruction and rehabilitation after the natural disaster. These are nothing but extreme environmental events that impact human activities. Hurricane, earthquakes, tsunamis and volcanic eruptions, as well as floods, are the most frequent threats This system provides in- formation regarding disaster locations, this can be collected, Pictures of disaster, short description which used to give help and save lives.

III. PROPOSED SYSTEM

A. Architectural design



Fig. 1 Architecture diagram

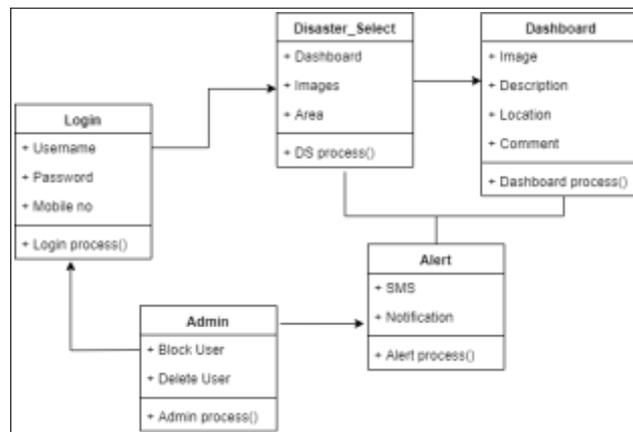


Fig. 2class diagram

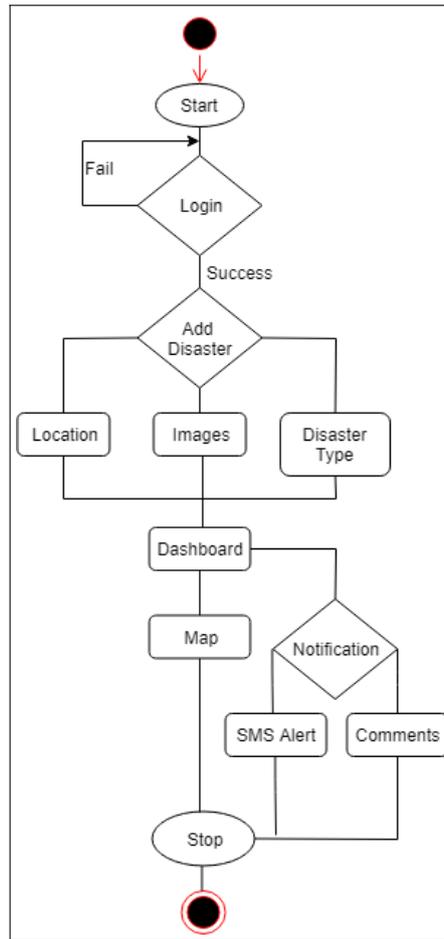


Fig. 2 Activity diagram

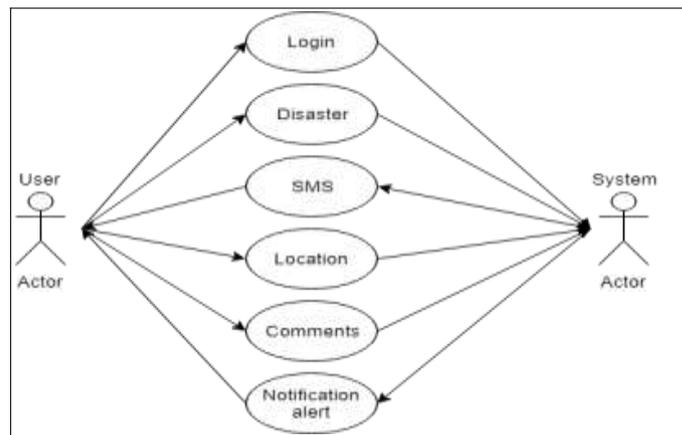


Fig. Use case diagram

CONCLUSION

Disaster does not consider any geographical boundary. To minimize the losses in these natural phenomena we should prepare ourselves. Android technology allows us to get information of the disasters easily. And our disaster notification system must be a solution to help and give the necessary instructions to the people that would save many lives. This application gives alert any potential disaster like heavy rain, flood, wildfire etc. This also provides the optimal route to the nearest shelter.

ACKNOWLEDGMENT

We take this opportunity to express our hearty thanks to all those who helped main the completion of the Project and Seminar on '**Disaster Alert Notification System**'. We express our deep sense of gratitude to our project guide **Prof. Puspendu Biswas**, Computer Engineering Department, Sanghavi College of Engineering, Nashik for his guidance and continuous motivation. We gratefully acknowledge the help provided by his on many occasions, for improvement of this Seminar with great interest. Their valuable suggestions were very helpful.

We would be failing in our duties, if we do not express our deep sense of gratitude to **Prof. Puspendu Biswas**, Head of Computer Engineering Department, Sanghavi College of Engineering, Nashik for permitting us to avail the facility and constant encouragement. We express our heartiest thanks to our known and unknown well-wishers for their unreserved cooperation, encouragement and suggestions during the course of this Seminar report of Project.

Last but not the least, I would like to thanks to our All **Computer Department Staff Member's, Family and Friends** who helped with the ever-daunting task of gathering information for the seminar ands project Report.

REFERENCE

1. Md. Fahim Sikder, Sajal Halder, Tanvir Hasan, Md. Jamal Uddin Smart Disaster Notication System, September 2017.
2. Bernie S. Fabito, Fran- cis F. Balahadia, Jade Devin N. Cabatlaao, AppLERT: A Mobile Application for Incident and Disaster Notification for Metro Manila,2016.
3. Mohamad Sukeri Bin Khalid and Shazwani Binti Shafiai, Flood Disaster Management in Malaysia: An Evaluation of the Effectiveness Flood Delivery System, April 2015.
4. Nuwan Waidyanatha, Second D. Dias, and Third H. Purasinghe, Challenges of Optimizing Common Alerting Protocol for SMS based GSM Devices in Last-Mile Hazard Warnings in Sri Lanka,2008.
5. J.G. Lee, J. Han, and K.Y. Whang. Trajectory clustering: a par- tition and group framework. In Proceedings of the 2007 ACM SIGMOD international conference on Management of data, pages 593–604. ACM, 2007.
6. List of natural disasters by death toll [http://en.wikipedia.org/wiki/List_of_natural_disasters_by_death_toll].
7. Duke H Jeong., *National disaster warning system in Korea.*