Available Online through   *Research Article*
www.ijptonline.com

RESPONSE MECHANISM FOR CRISIS TIMES FROM SOCIAL NETWORKS

V. Vinoth Krishnan*[1], M. Sai anand[2], J.S.Vimali[3]
[1,2] U.G Students, Department of Information technology,
[3]Assistant Professor, Department of Information Technology, Sathyabama University, Chennai, India.
Email: vinothkrishnan3@gmail.com

Abstract

In real time, learning and analysis which makes us explore the information is vital. Even a single word can be a keyword and it contains much greater meaning which conveys us the message relating to the activity that is going on around us. One of the main source of information in recent times is from social networks like TWITTER. People uses social networks for wide range of application like one-to-one chat on application, information sharing via post. But we are making use of this platform to classify the information which he/she posting &process it using various algorithmic procedures, we dig up the information from the source data set which we get through by user's post. As we are aware that in this existing overall system we are not a having proper response mechanism for disaster management. A proper alert system is what we need to ensure us the safety from the disaster like both natural and man-made. So in our proposed model, we are analyzing the tweets posted by the registered tweet users from an android-based social network site. Datasets has various classification algorithm with different feature resulting in the effectiveness of disaster response from the antinomy of tweets in the twitter application. In our modification process, after when we get information provided from the tweets an emergency alert message (SOS) Via short messaging service or email is sent to the application registered tweet users as well as the resource providers or to the nearest rescue team to aid help the needy ones who are affected from the disaster. It evaluates raw public tweets which is fetched from the real time streaming tweeted data. Disaster related keywords are used to identify the location so that quick emergency support can be given to them swiftly. This approach results in efficient and proper usage of social networks in a smart way.

Keywords: Streaming tweet analysis, disaster response, fiasco, community.

1. Introduction

Cluster, as an imperative unit all in all general public eye, expect a semi-official part with some kind of social bound

especially suitable for sending nearby fiasco association. Precisely when cataclysm comes, inhabitants might endure life-undermining, basic effect, or cash related episode. Right now, group changes into the battlefront for calamity helping and gives starting help to disaster reaction and salvage. All around, social events might endure through standard fiascoes or man-made disaster. Trademark calamities solidify fire, surge, snowstorm, hurricane, typhoon, seismic tremor, and scourge inclined sickness. Man-made disaster wires open accident, social issue, or terrorist snare. To guarantee the accommodation of correspondence amidst calamity reaction, there exist balanced requirements to make crisis structure for emergency reaction. The change of crisis structure can depend on upon the most dumbfounding motivation behind smaller interpersonal affiliation exhaustively known on the impelled cell phone clients. As the PDA gadgets can give moved figuring asset and area care association, we can turn out a versatile interpersonal relationship. The structure is masterminded assembling based use, so it turns out with a couple central focuses. In any case, the territory calamity salvage and reaction can be encouraged with the country over or city disaster association framework. Group asset and national asset can be cleared up and sidestep the favorable circumstances copy engagement issue. Second, disaster reaction can team up with neighborhood through the advantageous get-together masterminding association, which is submitted expected for social occasion occupants' utilization. Third, the disappointment reaction can be subtly sorted out and sensible to redesign the area and practicability. At long last, not just for disappointment reaction, the framework can associate into other new measures taken by disaster evading, help, status, and recuperation. Despite the way that we manufacture a making neighborhood structure for fiasco reaction, some surprising condition still ought to be considered. There are an excess of individuals utilizing a wealth of structure gobbling up applications in front line cell phones where the zone remote system does not have ability to persevere, particularly in a disaster emergency. Content lighting up rather is an unrivaled course for correspondence particularly when system blockage happens. The rule reason is that substance teaching utilizes less system assets than a voice or remote broadband information session. Second, notwithstanding when the system is congested, the substance exhorting structure will keep continuing attempting to send the message. These sections make it a more proficient to go on when the system data trade point of confinement is constrained. Subsequently, we search for our catastrophe reaction framework after correspondence depends on upon substance lighting up and embedded as clear as could sensibly be typical. Catastrophe Management Communication System (DMCS) in context of a web stage. They out and out examine the refinements that can be found in an Internet application, customer server application, and adaptable application. They prescribe that telephone customer with web

applications can be the best working for calamity structure. We concur this perspective, and clutch this idea when in doubt to organize our answer. In context of the discernible nature of Wi-Fi access with bleeding edge cells, long range easygoing correspondence has shift their foot shaped impressions into adaptable handset contraptions. Aoki et al. use moved cell phone with Social Networking Service (SNS) to illuminate "neighborhood cataclysm data sharing issue" in a fiasco suspicion and avow that telephone is the most suitable contraption for SNS on catastrophe avoidance. The important distinction between desktop-based and cellular telephone based easygoing correspondence is the smallness, the limit of interfacing system in the outside space at whatever time and wherever. Another capability is about the point of confinement of affiliation care, the limit of relentless and perceiving nature to get required setting from the physical world. Around the day's end, Mobile Social Networking Service (MSNS) makes it conceivable to give client experience on egocentric associations. Regardless, the as routinely as could be permitted change of client setting is a test, it require snappy and real thinking instrument to regulate affiliation data. The taking care of utmost on PDA gives such authenticity.

2. Literature Review

This article [1] gives the detailed information about how to create the android application and to overcome the hurdles while developing an application. It provides the basic steps for application development and in which it has four phases as setup, Development, Debugging, and Testing, publishing. It also provides detailed information about the installation of the software.

This article [2] gives the detailed information about how to tweet the post in the twitter. Normally twitter used for create a feed to send real-time information to emergency responders. And the responders would have a real-timeline of what happened and when. Tweets are text based posts of up to 140 characters in length which are displayed on the user's newsfeed and it gets shown to other user who are following him or subscribed to this user.

This article [3] gives the detailed information about geo-social networking. In disaster scenarios, geo-social networking can allow the rescuers or victims to coordinate around activities collaboratively since geo-location information could assist people to detect and track potential dangers for disaster response and rescue.

This article [4] explores social media uses during a natural fiasco. This paper also builds on a growing body of research in various fields, including environmental communication, crisis and risk communication, information technologies, and disaster management among others, that focus on the role of social network in disaster and crisis times.

This article [5] describes "the Efficient Approach for Consolidating Big Data Applications" for recovering a data

from a huge volume of data which gets put away in

the back-end database.

3. Existing System

In our existing system, there is no proper disaster alert mechanism to report about the fiasco which our community undergoes. As a result of not having a proper mechanism, responses which our community needed is hindered resulting in heavy loss of life and properties.
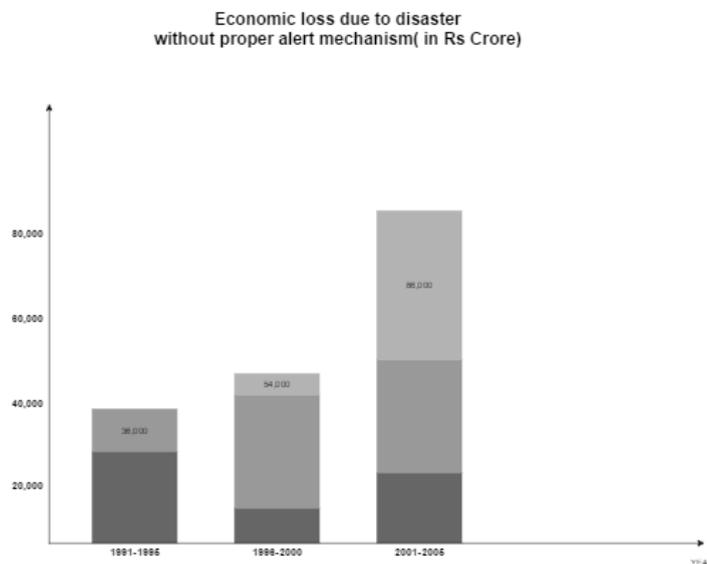
It's a time consuming process as there is no proper mechanism. We majorly depend on others to expose the information regarding response yet we that forget each of us can contribute to the source of disaster alert mechanism. People uses social networks for application such as one-to-one communication chat or information posting regarding themselves.

4. Proposed System
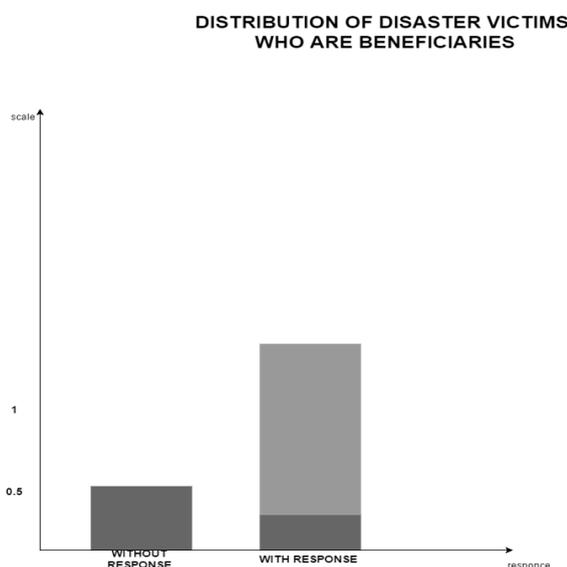
In this model, we use an android-based social network application in order to perform various forms of analysis to get

information from the data set which gets stored in the database. It's a twitter-like application where the user register himself like any other social networking sites. He/she login with their respective information. The registered tweet user tweets as a community from various location, posts a series of tweets regarding the encountered disaster those tweets from his or friends will be analyzed based on this android based social networking site. It also considers the tweets posted from an android phone which access this application. The application has its easy interface buttons for the users. The tweets in the data set get processed by algorithmic procedure via stemming algorithm. If it's related to the disaster about particular region. Then the message is sent to all the registered tweet user.

In the modification process, an emergency alert message is sent to the nearest resource providers or to the rescue team and to the health-care centers in order to help the needy ones to provide necessary resource to them. Disaster related keywords which we use in the tweets helps the system to analyze it and find the location of the disaster where it took place so that emergency support can be provided to the need ones swiftly.
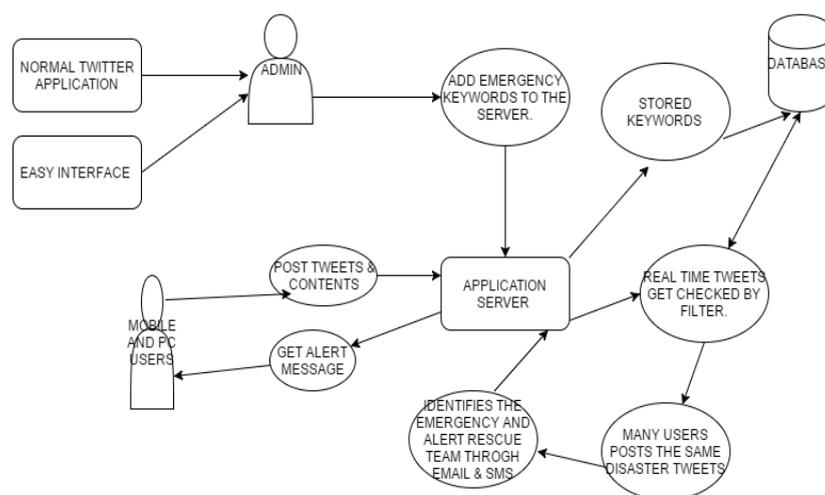
5. Architecture Diagram

Fig.1. Architectural diagram for tweet analysis.

In this architectural diagram, the normal twitter application which is of easy interface is monitored by the admin group. These admin group is responsible for adding disaster related emergency keywords to the application server. Then the application server stores the disaster keywords into the database. When the registered tweet user posts his/her tweets in the application, it reaches the application server and gets stored in the database.

Each tweets which gets posted in the application gets collected by the server and stores it in the database. In this, we use algorithmic procedures to normalize the tweets and applies filter to get the information which rests in the tweet. All the real time tweets which are getting posted gets checked. After all the real time tweets gets analyzed and when the desired count reaches.

The user can be both of pc as well as an android mobile phone user. As many users posted the same content regarding the disaster, an emergency alert is sent to all the registered tweet users. The modification process is that an emergent short messaging service or email is also sent to the nearest rescue team to provide needed help to the community.

6. Methodology

6.1 Modules

Application Creation

In this module we will make an application to tweet with our companions. For making an Application, we will be utilizing Advanced Java Concepts like JSP and Servlets. While making the application, we'll allot the outline fields like Username, Password, Phone and other data. Once the made the user is permitted to enter the information. Additionally, the server will store the information and permit the client to enter into the visit application. The User will enter the tweets through this application.
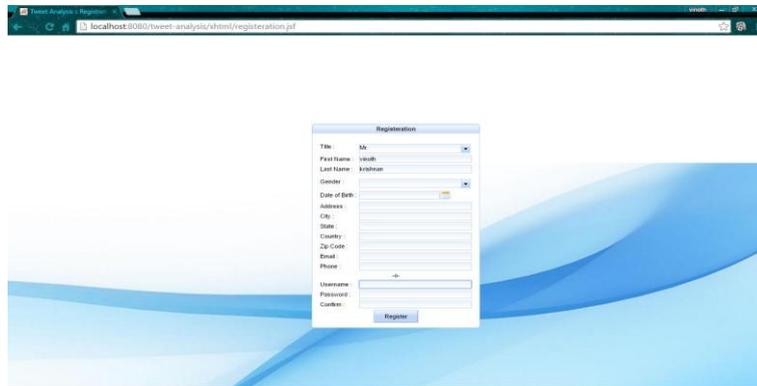
Server Process

Server is utilized to confirm the client data and permit the User to Tweet with their companions. Additionally, the Server will break down the substance client. So that we the server will extricate the Keywords. Server gets the keywords from the admin who is monitors. Like-wise the Server will be recovering the client data like Access time and area which is utilized to discover the User's area and we can give the any vital help to them
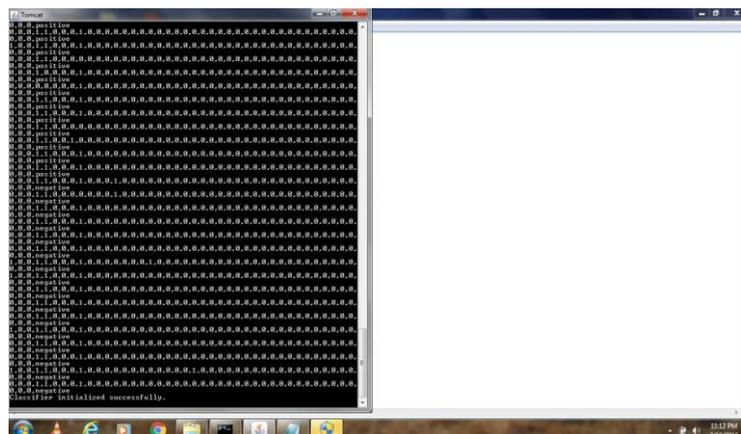
Applying Filter for Keywords Extraction

The Server will investigate the Tweets between the Users and the concentrate the Keywords utilizing Particle Filter. The Particle Filter will concentrate the Keywords and channel alternate words utilizing the Stemming Algorithm.

Stemming algorithm does the normalization from the tweets which gets stored in the database.

A more perplexing way to deal with the issue of deciding a stem of a word is by using stemming algorithm. This procedure includes first deciding the grammatical feature of a word, and applying distinctive standardization rules for every grammatical form. The grammatical feature is initially distinguished before endeavoring to discover the root subsequent to for a few dialects, the stemming rules change contingent upon a word's grammatical feature.

Text Processing is very contingent after getting the right lexical classification (grammatical form). While there is cover between the standardization rules for specific classifications, recognizing the wrong classification or being notable create the right class confines the additional advantage of this methodology over postfix stripping calculations. The essential thought is that, if the stemmer can get a handle on more data about the word being stemmed, then it can apply more exact standardization rules (which dissimilar to addition stripping tenets can likewise alter the stem). By utilizing this Stemming calculation, we can channel the undesirable words in the talk with the goal that we can figure the removed words numbers. So we will create a programmed SMS caution to the Rescue Team.

Automatic SMS Alert to the Nearest Rescue Processing Team

In this module we send the SMS alarm and Email to the salvage group once we accomplish the Maximum Peak of the separated Keyword. To produce a SMS ready will incorporate the Java Archive record called "JSMS " and will get the Rescue group's data in by means of Coding. So we'll create the SMS. For Email Alert we will create the email utilizing Email Coding and it will be send to the Rescue Team by means of Internet. For sending a SMS will interface the Samsung driver is arranged versatile by means of Data link with Server. The Samsung driver designed versatile will transmit the SMS to the salvage group.

7. Performance Analysis

Conventional gathering of systems connected by individuals' social association can offer individual some assistance with connecting with their neighborhood more efficiently. It is a solid social association in the middle of individual and group significant in numerous measurements, which incorporates sharing and learning living knowledge, offering common backing and joint effort, and giving a war room to neighborhood advancement. As we would like to think,

on the off chance that we can depend on the conventional group systems and base on top of them to make "Community Social Networking" administration, the new group quality can be remake and broadened. This is the fundamental vision of this work. In light of the emergency network administration we can build up the Community-based Disaster Response System with survive ability and adaptability. The framework engineering contains customer specialists and server-side entrance cooperating to give catastrophe reaction arrangement. Through this Community-based Disaster Response System, the missions of catastrophe administration can be satisfied.

8. Conclusion

In our proposed paper the categorization of disaster related information used in context of tweets in the twitter is classified. It creates a bond between the social media like twitter and the application software that enable access towards the context of conversation from twitter and able to analyze and work on it as response mechanism. The texts that are classified in accordance with the trained server application present in the system that is personalized for this analysis. As this algorithmic procedure eliminates all the other unwanted content used thus to avoid turbulence caused during analysis. Thus the experiment results in classifying the tweets and the vital information present in the context of conversation which is extracted. Then an alert message is sent to all the registered tweet users and to the nearest rescue team via short messaging service, email notification to the appropriate users and to the team for response. Thus it paves a feasible way to classify tweet analysis for disaster management.

9. Future Enhancement

Also, some related future works should have been taken after: Further examination the execution of the catastrophe reaction administration. Scanning for the quality included application space of Mobile Group Networks. Bring explores different avenues regarding reasonable calamity emergency to approve in this present reality.

10. References

1. Cell service jammed after East Coast earthquake, http://www.cnet. Coml. news/ cell-service-jammed-after-east-coast earth quakel.

2. E. Aoki, T. Kikuchi, K. Korida, N. Yoshiyama, Y. Shibata, M. TakahashI, et aI., "Study on the Social Networking System of Disaster Prevention Using Smart Phones," 2011 International Conference on Complex, Intelligent and Software Intensive Systems (CISIS), 20 II, pp. 691-696.

3. E. Sobanski and B. Nicolai, "Mobility of a Disaster Recover Communication System," 2011 IEEE Global Humanitarian Technology Conference (GHTC), 20 II, pp. 450-461.

4. Y. Zhiwen, L. Yunji, X. Bukan, Y. Yue, and G. Bin, "Towards a Smart Campus with Mobile Social Networking," 2011 International Conference on and 4th International Conference on Cyber, Physical and Social Computing Internet of Things (iThings/CPSCom), 2011, pp. 162- 169.

5. Vimali.J.S, Z. Sabiha Taj (2015), "FCM based CF: an Efficient Approach for Consolidating Big Data Applications", IEEE International Conference, in the proceedings of International Conference on INNOVATION, INFORMATIONIN COMPUTING TECHNOLOGY (ICIICT '15 ISBN: 978-1-4799-8787-0), conducted by Department of IT, Saveetha Engineering College, Chennai on February 19th & 20th , 2015 at pp. 284-291.

6. Brownlee, B. Liang, Y., Mobile Ad Hoc Networks: An Evaluation of Srnart phone Technologies. Royal Military College of Canada Kingston (ONTARIO), 20 II.

7. M. Gaynor, S. Brander, A. Pearce, and K. Post, "Open infrastructure for a nationwide emergency services network," International Journal of Information Systems for Crisis Response and Management (IJISCRAM), vol. I, pp. 31-46, 2009.

8. P. Ghosekar, G. Katkar, and P. Ghorpade, "Mobile ad hoc networking: imperatives and challenges," lJCA Special Issue on MANETs, vol. 3, pp. 153-158, 2010.

9. TASC:Topic-Adaptive Sentiment Classification on Dynamic Tweets IEEE TRANSACTIONS ON KNOWLEDGE AND DATA ENGINEERING, VOL. 27, NO. 6, JUNE 2015 by Shenghua Liu, Xueqi Cheng, Fuxin Li, and Fangtao Li

10. J. Rana, 1. Kristiansson, 1. Hallberg, and K. Synnes, "An Architecture for Mobile Social Networking Applications," First International Conference on Computational Intelligence Communication Systems and Networks, 2009. CICSYN '09., 2009, pp. 241-246.

Corresponding Author:

V. Vinoth Krishnan*,

Email: *vinothkrishnan3@gmail.com*