International Journal of Scientific Research in Engineering and Management (IJSREM)
Volume: 05 Issue: 07 | July - 2021 ISSN: 2582-3930

Disaster Mitigation and Vulnerability Reduction System

Shweta Chaku, Sangya, Sanjay Singh, Prateek Singh, Rishi Maddheshiya

Department of Computer Science and Engineering
Inderprastha Engineering College
Ghaziabad, UP, India

***Abstract*— Disaster is a very well-known word that disrupts life, livelihoods, economy etc. in short, everything that makes society work. The Global Climate Change and Vulnerability Index reveals that India is ranked as the second most vulnerable country in the world to natural hazards. The most vulnerable areas of the country are located in the Himalayan and sub-Himalayan regions including Uttarakhand.**

Online portal system for Assisting NGOs is a software system which is designed without considering their social intentionality and the software process changes required to accommodate them. Motivation behind this software to develop their corresponding effect on the real world proble m and also help them to manage in a very efficient manner so that all the needy people are benefited by it. The aim of this paper is to present the design of a Website which is a computer program which conducts a conversation via textual methods that can be used by the NGOs for the purpose of Disaster management and many more things. In Particular, the system is the implementation of a Website as a domain specific which will be used by NGOs in Disaster management, queries related to donation for the NGO and further conveniences and provides enhanced aid to the needy people which are affected by disasters.

***Keywords*- Website**

I. INTRODUCTION

Due to the lack of quality infrastructure, dearth of qualified functionaries, and non- access to basic internet facilities and basic computer usage. A majority of areas in rural and urban areas, where the condition of social work facilities is deplorable. Considering the picture of grim facts there is a direct need of new practices and procedures to ensure that a quality and timely Social work facility reaches the deprived corners of every area.

Though a lot of policies and programs are being run by the Government but the success and effectiveness of these programs is questionable due to gaps in the implementation and due to lack of presence of social interaction between them. Motive of these types of software are that their corresponding effect on the real world problem helps to manage them in a very efficient manner so that all the needy people are benefited by it. And also this software helps to maintain the transparency of the donations being made that where money is being utilized.

II. Literature Survey

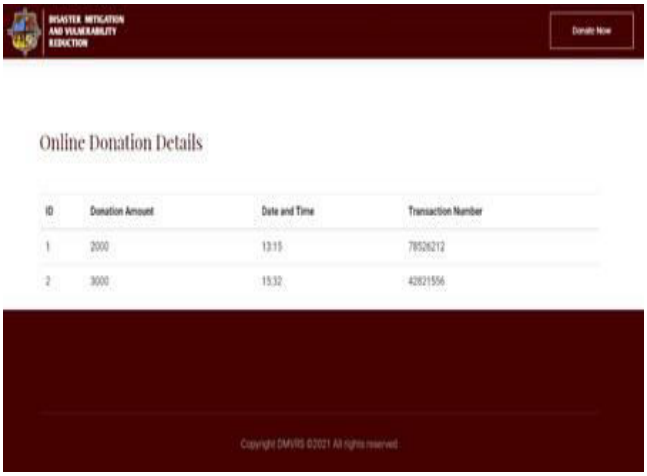
The study has concluded that natural hazards (73%) are more predominant in research than man-made hazards (14%). Of the man-made hazards covered, terrorism is the most prevalent (83%). The most frequent disaster types are climate related, and in this study hydrological (20%), geophysical (20%), meteorological (15%) and climatological (5%) were the most frequently researched. Asia experiences the highest number of disaster events as a continent but in this study was only included in 11% of papers, with North America being the most recurrent (59%).

Disasters affect millions of people annually, causing large numbers of fatalities, detrimental economic impact and the displacement of communities. Policy-makers, researchers and industry professionals are regularly faced with these consequences and therefore require tools to assess the potential impacts and provide sustainable solutions, often with only very limited information. This paper focuses on the themes of “disaster management”, “natural hazards” and “mitigation”.

III. Proposed System

There are so many NGOs which are doing their work in different locations and situations. In any situation like disaster all NGOs need to come in one place for better results. If any person wants to donate in any of the NGOs then they face problems, because they don't have any platform from which they can get through and also they cannot track about the same. Some NGO also want to communicate with other local NGOs for better understanding of disaster situations but there are not any systems which can connect them. Also, there is no social work interaction, which could help in the best manner to get through out of it. So, we propose a website that will help to overcome these problems which occurs during the disaster mitigation process.

It will be a software system which is designed without considering their social intentionality and the software process changes required to accommodate them. Firstly we will improve the social Interaction between the users and the software through which we could have a great impact on it. We are adding most number of NGOs at a single place so that users can easily connect to it and donate through them. Some local NGOs have better understanding of the situation of any particular location rather than bigger NGOs, if the local NGOs connect to big NGOs then it will be good for both. It will be a Website portal as a domain specific which will be used by NGOs that will help users in various fields such as in Disaster management, queries related to donation for the NGO and many more things.

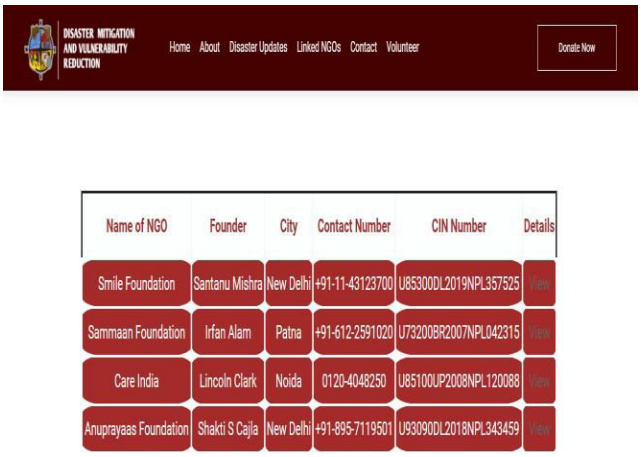


IV. System Features

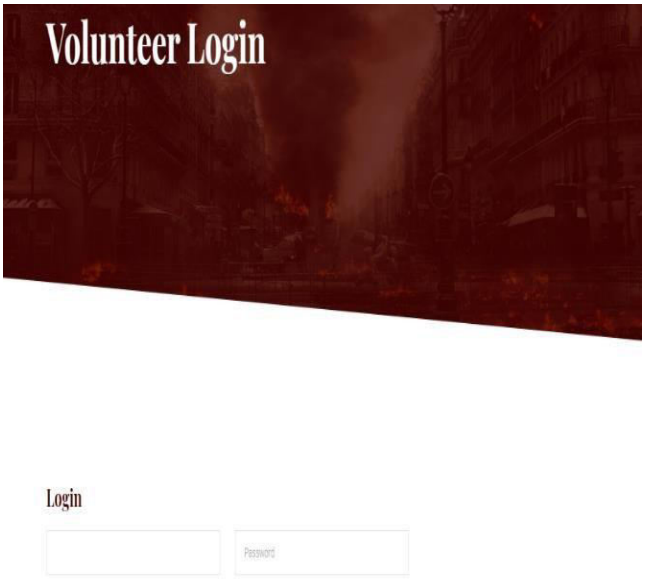
DISASTER UPDATE: In this section, the online system for assisting NGOs biggest potential benefits is to help people at time of disaster. System provides news about disaster, working NGOs at that location. Any disaster news and update can be shared by anyone to the online system for assisting NGO's website. The admins at the website publish the news and make options for optimal services that can be given to the people in the affected areas by anyone throughout the country in a systematic manner and deploy the nearest disaster relief teams in the area.

DONATION: The people in the affected area get exhausted from basic needs of life. Through the donation option on the website anyone can easily contact us and make any donation in the form of money, daily usable things like soaps, clothes, candles, matchboxes, blankets etc. online system for assisting NGOs will act as a hub for those who deliver these things in the affected areas and the ones who are willing to donate. In this way, all the donations will reach the required places at an inconvenient time.

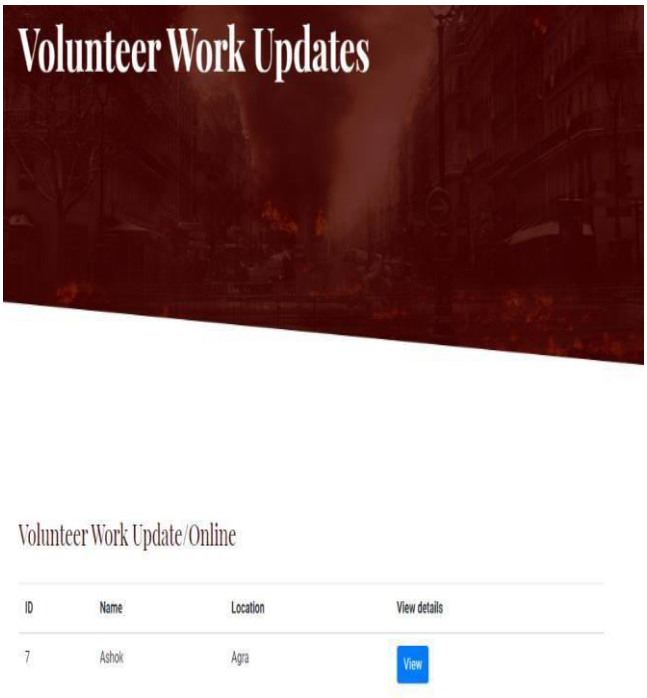
LINKED NGOs/SOCIETIES: We will list out all NGOs and Societies that work for disaster related things. There will be regular updates regarding their contact, general information, region of working, etc. With this we will be able to establish a good link that will become active to help the affected in the shortest possible time. The time within which help and rescue reaches at the time of disaster is a thing that makes disaster management efficient.



VOLUNTEER ALERT: The volunteers registered on this site will be intimated as soon as we receive any disaster related information. A short information will be shared with them regarding the place, disaster type, etc. with the volunteer. This will help to provide help and rescue in minimum time. The type of help the volunteer can give in a particular disaster may also be intimated with them like if a person is far away from the place of disaster then he may be asked to send some monetary help or send usable things.



VOLUNTEER UPDATE: The volunteers registered on this website will do the donation work in their nearest disaster affected locations from the donation money. And also volunteers will collect the goods from their nearest donation locations. And after helping the needy people the volunteers will update the work on this website which shows the details of the utilized money and goods.



V. CONCLUSION

In summary, this paper proposed Disaster Mitigation and Vulnerability Reduction System that allows the users the transparency of donations being made. In which user can register into the application and then can use their user id to login into the system and then they will have the various functionalities such as if any user want to donate for the NGO's or to the needy people who all are affected by the disaster then this will act as a proper platform for the donors who all are interested for the donation, also after few days of donating the donators can navigate about where the donated money has been utilized . If some disaster occur then user have to just simply login into the system and can just update the system which can automatically connect all the NGO's which are nearest to the disaster affected area, and will receive the mail about the same and also various volunteers connected to the application will receive the mail about it. The main focus of this study is to introduce the most significant way to help the needy people to overcome their problem.

VI. QUALITY OF SERVICE REQUIREMENTS

Usability –The user works in a stressful situation, under high pressure and in an exhausting environment.

Autonomy – Disaster missions are unpredictable with respect to the availability of any local infrastructure. Hence, the system has to be able to work autonomously.

Reliability – Basic functionalities need to work even if parts of the system fail because of unpredictable conditions or events (graceful degradation).

Integrity – Any decision making crucially relies on the integrity of the provided data. Therefore, the system needs to represent the reliability of the source and the credibility of the information.

Frugality – Resources are generally limited in disaster relief, the system needs to implement an efficient and economical way to select the most favorable network link.

REFERENCES

[1] [Online]. Available: http://www.w3schools.com/php/php_mysql_intro.asp

[2] Anderson, E. (2008). Central America probabilistic risk assessment. Presentation.

[3] *Annual Disaster Statistical* Review 2010 – *The numbers and trends*, Belgium.

[4] D. Bandyopadhyay, "Bridging risk management deficits in India using a geo-ICT based tool. ITC working paper series," *in Atlas of natural hazards and risks in* 2011.

[5] National Disaster Management Guidelines, National Disaster Management Information and Communication System 2019.

[6] Disaster Management in India, Ministry of Home Affairs Government of India, GoI-UNDP Disaster Risk Reduction Programme (2019).

[7] [Online]. Available: https://www.wampserver.com/en/

[8] [Online]. Available: https://javascript.info/

[9] [Online]. Available: https://getbootstrap.com/docs/4.5/components/navbar/