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Determination of COVID-19 Relief Centers by using Facebook Json data and Providing Information Analysis

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Abstract - *An interactive system that will allow users to find the nearest relief centers by using an amalgamation of geo-positioning, GPS and multimedia data collected from the user's smartphone and using Social media Information analysis of Facebook JSON data. The user will be able to share the information taken by the app with patrician on the social network. Our paper is based on collecting the JSON data from Facebook and geo-tagging to the location of users to find nearby food and night shelters and combines them with various social media analysis tools to determine the quickest path to relief centers. It provides an approximation of the nearest relief center by using Google Maps API to determine the legitimate location of the user and point in which the direction of all the relief centers being set up by The Indian government and help him reach there. Thus in the difficult times of pandemic spread by applying various social Information analysis techniques, we will be able to determine the relief centers.*

Key Words*: *Infectious disease, COVID-19, Clustering, Social Media, Facebook

1. INTRODUCTION

Today the greatest risk of global catastrophe is not a nuclear weapon but it is a highly infectious virus that has the capability of killing millions of people in a very small span of time. Most of the countries have invested a huge amount of money in nuclear deterrents but very few on a system to stop pandemics. Whenever a new disease emerges, most people lack the natural immunity to fight it off. This can cause an unexpected quick, spread of the disease between people around the globe. These follow a growth or spread pattern described as exponential growth. This means that the spread is at a rapid rate. The risk of a pandemic is hugely driven by the combined effects of stimulation that is from where a pandemic is likely to arise and spread risk that is how likely it is to disperse widely through the human populations. The best way to prevent and slow down transmission is to be well informed about the virus, and take preventive majors and to know the disease it causes and how it spreads. The major step to stop this pandemic spread is the lockdown of the entire suspicious area which has a negative side as well. In such a situation of sudden lockdown first thing which anyone is going to look for is help as a relief center. The arrival of a new pandemic cannot be stopped but their after-effects can be minimized. In this paper, we are proposing a solution to efficiently reduce the ill effects of the pandemic, which can help in saving many lives. Staying at the same place for a long span of time is somewhat a mental stress and for people from weaker sections of society no food or work which may result in making many poor decisions. This project attempts to solve a real-world problem with the help of technology. There is no complete solution without an application thus this project is an attempt to give relief to many lives. It takes input from the user in the form of his/her location using the third- party application that is using Facebook. Thus, the app manages things easily. Thus, our project aims to treat these problems by providing the various points mentioned below.

2. PROBLEMS WITH EXISTING SYSTEMS

The governing committee currently using conventional methods like being dependent on army, non-governmental organizations and other service authorities for relief aids. Everyone has to go through suffering during the spread of the pandemic. In India, everyone is suffering from the after-effects of COVID-19's unprecedented lockdown but this is wreaking havoc on the economically weaker section of society leaving many hungry and jobless. Many buying food with the money they have saved. Initiatives from the national level have been taken like setting up relief centers comprising of food centers and night shelters but many were not able to find the nearest relief center forcing jobless migrant laborers to flee cities and walk hundreds of kilometers to their native villages. But many are getting help as well. We can use such a population to help themselves by reaching to the nearest relief centers so that the entire situation can be managed in a more efficient way. These people will be provided with safe routes and directions to reach relief centers. Once some people reached the centers they can help in this world crisis. This is a revolutionary idea as there is currently no commercial application to solve this problem instead the existing app only tells about the COVID-19 affected area and not the utility places. This will reduce all the chaos around and may result in reducing the diffusion of the virus. This

interactive system model can also be used to get an insight and what it looks like in the future or how it is going to be. At this time there is no application to assist the user dynamically in a sudden aberrant condition. The closest system is the Arogya app by the Indian government which tells about the corona infected areas. There is no system to help users reach safely to the relief center so that they don't have to think about food and shelter. Now , Fig1. Shows the proposed app design.

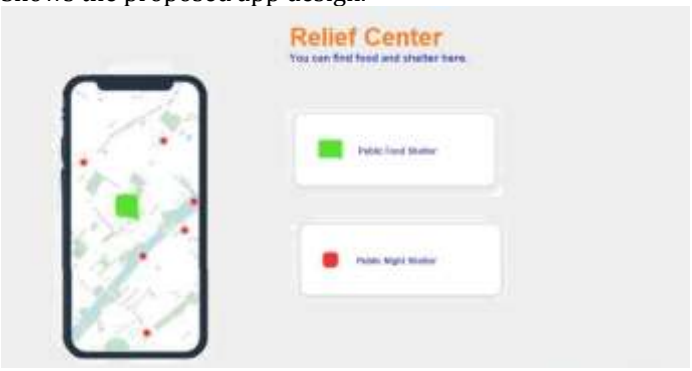


Fig 1. Proposed App Design

3. LITERATURE SURVEY

It has been noted that social media rostrum, for example, Twitter, Facebook, are such a rich source of data about dynamic occasions especially during the time of pandemic crisis from the native perspective. The magnanimous idea of display of information is a standout among the other sources to reduce early alerts or recognize a crisis. Social Media is like a loudspeaker that provides alerts at rudimentary stages and national perception, with visual and chiefly writings and helps in building up the best resource amongst its counterparts. Here, the creator of the system made a social media observer system that investigates, speaks to the content obtained from social media and then verify whether the content is connected to a catastrophic event or not. This is system uses a combination of Deep Convolutional Neural Networks on visuals and Random Forests on textual features. As a result, Social media gives meaningful findings[6][11], opening the door for helping the individuals.

[2] In an abstract manner, to make crowdsourcing an invaluable device, we must deliver few difficulties to use information including coordination, sense- making. To handle these issues, we can utilize data mining and social information processing by seeing tweets or status of the victim affected by the disaster.

[3] Lately, Twitter has assumed there is an increasing job as a clearinghouse of data identified with the crisis, for example, tropical storms, seismic tremors, and tidal waves. Despite the fact, that such data is available using social media, for example, Twitter, there might be the faulty validity of data. To verify the credibility or the validity of the data retrieved from Twitter, Castillo, et al proposed utilizing features[4] from clients tweeting and re-tweets and references from the external source. When Westeman, et al inspected, he found an arcuate example validity of twitter users and amount of supporters with an expected result that few or a large number of devotees influence twitter user to be less tenable.

4. PROPOSED SYSTEM

Product Perspective

It maps the real-world problem and the relative locations to the digital environment. Provided with a column for putting relevant information that can be used later. It also has online storage of data of nearby surroundings and the availability of relief centers nearby. The web app needs the following information:-

- *Application Details*

User's Real-Time Location and Geographical coordinates. The whole Geo-tagged points are stored in the single JSON type file.

- *User Description*

It includes the User's name, contact, gender. This information may be used for keeping the records of the user for any emergency or for any other kind of Notification.

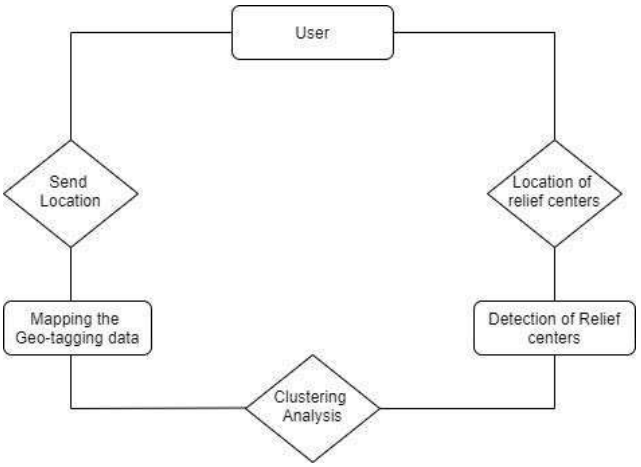
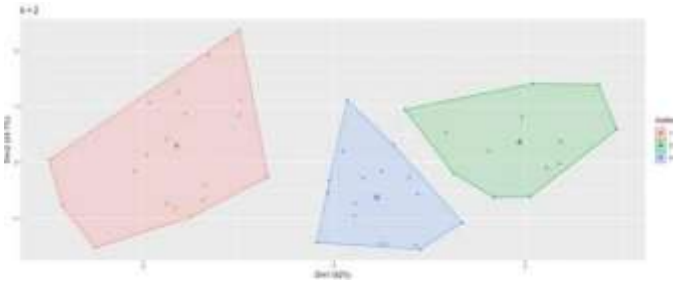


Fig 2. Proposed Algorithm Flowchart

User Function

The users of the system should be able to send their location through the mobile application. They will also be provided with a column to broadcast any kind of information. The system will support two types of the user authorized personnel and the end-user. Users will only have access to the user functions, and the administrator will have access to both the user and administrator functions.



The Employee should have following management functionalities:

Administrative Functions

1. Compile the data received from different source accordingly

2. Make a JSON format file

3. Confirm the total number of relief centers.

4. Limit the gathering of people at a center.

5. Broadcasting Service

System Functions

During the tough times by applying various algorithms and specific techniques we will be able to determine the relief centers by Facebook's JSON data and also be able to save the life of population which is the real asset of a nation. This model of a fully interactive system allows users to get the gateway to the nearby relief centers using the amalgamation of geo-positioning, weather and multimedia data retrieved from the user and analyzing this information of JSON data.

Functional Requirements

Easy User Interface and User Experience

Using primarily the app or the existing Facebook app, which is there on mostly everyone's phone, we will be collecting the data. The users will mark their location to help other people. and the user will be directed with the best path and real-time data to reach the nearest relief center and simultaneously the government will be able to get a clear picture from the people facing the problem and work accordingly.

Non-Functional Requirements

1. During the time of a crisis finding the nearest relief center.

2. Provide social media analysis and simplifying the determination and direction.

3. Providing an approximate about the utility estimates and the general population of individual nodes and how suitable it is to individuals.

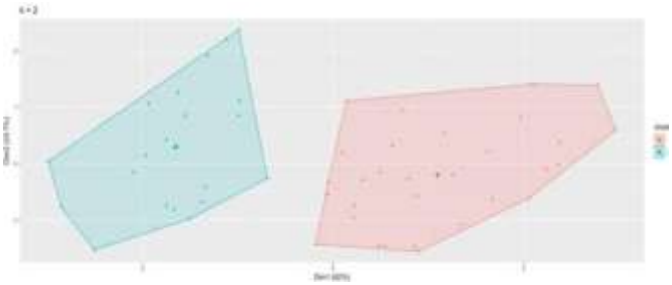


Fig 3 Clustering Performed

5. CONCLUSIONS

We have established a fully interactive system that will allow the users to access real-life data virtually in times of real suffering using the amalgamation of geo- positioning, weather, and multimedia data collected from the user's smartphone and zipping them together to generate a heat map. This web application is more interactive and will be more detail specific which will provide geo-tagging places from Google maps API. Thus in difficult times by applying various social Information analysis techniques we will be able to determine the nearby relief centers by using Facebook JSON data and be able to mark themselves safe.

REFERENCES

1. G. Andrienko, N. Andrienko , P. Jankowski, D. Keim, M.-J. Kraak : Geovisual analytics for spatial decision support 4. Otte, Evelien; Rousseau, Ronald (2002). "Social network analysis: a powerful strategy, also for the information sciences". Journal of Information Science. 28 (6): 441–453. doi:10.1177/016555150202800601. Retrieved 2015- 03-23.
2. R.Lokeshkumar, P.Sengottuvelan, An Intuitive Approach for Web Scale Mining using W-Miner for Web Personalization, International Journal of Engineering and Technology (IJET), Volume 6 No 4,PP.1615-1622, Aug-Sep 2014, ISSN: 0975-4024.
3. Grandjean, Martin (2016). "A social network analysis of Twitter: Mapping the digital humanities community". Cogent Arts & Humanities. 3 (1): 1171458. doi:10.1080/23311983.2016.1171458.
4. Nasrinpour, Hamid Reza; Friesen, Marcia R.; McLeod, Robert D. (2016-11-22). "An Agent-Based Model of Message Propagation in the Facebook Electronic Social Network". arXiv:1611.07454 [cs.SI].
5. Pinheiro, Carlos A.R. (2011). Social Network Analysis in Telecommunications. John Wiley & Sons. p. 4. ISBN 978-1-118-01094-5.
6. D'Andrea, Alessia; et al. (2009). "An Overview of Methods for Virtual Soial Network Analysis". In Abraham, Ajith. Computational Social Network Analysis: Trends, Tools and Research Advances. Springer. p. 8. ISBN 978-1-84882-228-3.
7. Grandjean, Martin (2017). "Complex structures and international organizations" [Analisi e visualizzazioni delle reti in storia. L'esempio della cooperazione intellettuale della Società delle Nazioni]. Memoria e Ricerca (2): 371–393. doi:10.14647/87204.
8. Jiebo Luo, Dhiraj Joshi, Jie Yu, Andrew Gallagher- Geotagging in multimedia and computer vision.
9. Yan-Tao Zheng, Zheng-Jun, Zha, Tat-Seng Ch - Research and applications on georeferenced multimedia