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SURVEY PAPER ON :- Tweefo: Smartphone Application Used For Location Recording and Rescue Request using Twitter

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Abstract *– A prototype of an Android application named Tweefo is presented in this study. This application enables supported users (elderly, handicapped people or children) who need daily support to share their location coordinates via twitter. Supporting users (families, neighbours or relatives of the supported user) can then check the location coordinates of the supported users when required. In addition, the supported users can use this application to easily send a rescue request on Twitter when needed.*

Keywords — Data Mining, Natural Language Processing, Machine Learning, Twitter Analytics, Information Retrieval, Location Tracking

I. INTRODUCTION

The world is prone to large-scale disasters. The search for missing people becomes difficult due to lack of information. Plentiful people went missing after the Kedarnath landslide on 16 June 2013. Despite the fact that more than four years have passed, roughly 5,700 people still remain in the disaster prone area.

Plenty of methods already exist to search and rescue missing people. In the TLS system , server is responsible for gathering the data obtained from the GPS and location information is to the participants. Using a Bluetooth beacon, Hibeacon and AirTalk can send a user's current location. Furthermore, a system that allows the users to use a wearable device to send emergency was proposed. When a particular user moves from his home location to foreign location, the information and sound around him is recorded and sent to the server.

Social Media has always played an important role in providing relevant access during disasters and mishaps and during the Kedarnath incident safety information, rescue requests were posted on twitter by the users which led to their rescue using those coordinates. Lately, the use of Twitter for retrieving information when dealing with disasters gained a lot of attraction. Twitter plays a vital role providing additional functionality of a hash tags in posts for emergency situations and wider access

Taking the above situation into consideration, we developed a precursor of an Android Smartphone application named "Tweefo". Using this application users can share their coordinates periodically via Twitter and the supportive users can check their coordinates when necessary. Also, the application provides an option to send rescue request on Twitter.

II. PROPOSED SYSTEM

The logic behind our system makes use of Twitter is as follows: First, Twitter has numerous users worldwide. Second, Twitter is an open social Networking Service and a system which uses Twitter is helpful for public support. Lastly, as the information is posted on Twitter, the application does not require dedicated servers which enhances reliability and delivers the application at low cost.

III. SCOPE

The project provides two sections which consist of the user end and administrator panel. Here the user who uses the android application is giving his/her location coordinates as the primary input. Twitter API is used as a middleware and social

media exchange entity to access Twitter functions. If the user is using the application for the first time he/she needs to sign up providing personal details which are stored securely in the admin back panel. The application is first linked with Twitter in order to fetch periodical tweets while the application runs in the background. The Application provides several emergency options which user can access whenever needed. If the Web Panel is considered, the admin has to login to manage tweet request, respond with confirmation, check logs etc.

IV. System Outline

Android Studio 2.0 was used to develop the android application. For accessing this application, the service provider must create a Twitter account for receiving rescue requests from the user. The user must create their own Twitter account if they don't have one for using the application. Privacy measures should be taken to ensure security. Once done, the user must download the application on their Android Smartphone and supporting users should follow the Twitter account of the supported user.

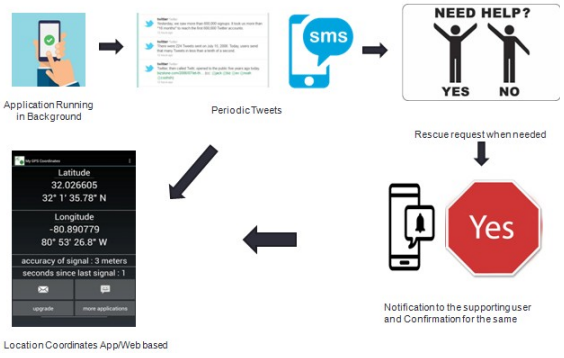

Fig. 1 System Architecture

The figure shows the architecture of the system. The application runs in the background which fetches the location coordinates using the location services on the smartphone and sends them periodically to the user's Twitter account. The supporting user can check the coordinates at any point of time. Additionally, the tweet consists of a hyperlink of the fetched location on Google Maps providing ease of access. In emergency situations, the user can send a request of rescue by simply tapping the "rescue request" button. Also the application provides an option to directly send rescue request to emergency numbers such as Police, Ambulance, and Fire Brigade. The posted tweet is a mention tweet which indirectly notifies the supporting user about the request. The hashtag includes emergency related information. Also, The application provides a functionality to send the coordinates via SMS when the Internet facility seems to be unavailable. Using the above functions communication is done between the supported and the supporting user in an emergency situation.

V. Conclusion

In this study, we developed an Android Smartphone application named "Tweefo" which allows supported users to send their location coordinates periodically and also send rescue request when needed. We will carry operational tests once the project is completed to test the functionality. Furthermore, we will study function to automatically detect abnormalities based to the achieved coordinates and submit it on Twitter. We also plan to add the safety confirmation system into this application. Also, we intend to introduce voice and gesture recognition functionalities to make it more user friendly.

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