Rescue Wings –An Android Application on disaster rescue

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Abstract— An Android application through which the user, during any disaster can seek help from the rescue team .The disaster location is spotted via this application .The GPS locator is used to spot the appropriate location providing an alert notification to the administrator. The administrator immediately conveys a message to the servant (rescue team) about the nature and location of the disaster .The "rescue wings" will reach the affected location with the essential requirements. The administrator and the person in the affected area can simultaneously track the location of the rescue team. The GPS locator connects the administrator , user and the rescuer to the google map thereby pointing out the exact location of disaster. The GIS locator tracks and finds out the approximate location of the disaster occurred zone and also paves the shortest path to the zone through the satellite, thereby helping the rescuers reach the location in a short time. Therefore this application serves as a helping hand in the times of disaster.

I. INTRODUCTION

Disaster events are natural or man-made which is very dangerous and difficult and complicated to handle ,manmade disaster like fire accident and other disasters .The rescue process is very difficult .If a natural disaster occur, then all networks get disturbed and no signals passes through the mobile or any other devices. In man made disaster there is a possibility of signals passing through devices so that it is easy to identify the places of disaster. GPS and GIS are used to identify the disaster places exactly . These are called as locators. Time and target based information, details and exchanges could provide great help to the more population in difficult and complicated environments.

Occurrence of disaster is fatal. This leads to great loss of life. Rescue is done during these situations only when someone reaches out the spot live or through phone calls. But communication links are affected during these occurence. Online communication is very much tedious though. The mobile phones commonly possess GPS locators which may work only if they are activated by the user. So, during the time of a huge disaster it is not acceptable The GPS and the GIS locators play a very vital role in monitoring the locations and connecting people to the google maps online. These are often called as survey maps .Here the automatic simulation of the GPS and GIS provides a quick connection between users in different locations thereby rescuing thereby rescuing and saving the needy.

This also simultaneously pushes notifications so that the affected people can get an idea on the location of the rescuers. The allotted rescuers who are the so called servants reaches the location rescues the people and migrate them safely.

II. RELATED WORK

In the existing system, when people encounters a disaster they call the rescue emergency number and provides the location through voice only. If the call to 108 is made, then the rescue team communicates with the user and identifies the locations. User provides the location but doesn't know the rescue team. Access is very difficult as of the existing system.

As per the literature survey, A service allocation approach[1] uses an algorithm for computing edge resilience and computing node resilience which can only cover a desired topographical zone and map the same. Improving heterogeneous SOA[2] an algorithm involving shortest processing time (SPT) rule for prioritizing messages are equipped. This improves heterogenity to process time. The dynamic discovery and IEEE invocation of web services, Boyer-Moore's algorithm is used. Here the requested location is alone discovered and its path is tracked. Agent based cloud computing[4] uses an algorithm based on focused selection contract net protocol that does a focused cloud computing. Flood Disaster Response

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and Decision-making support system based on remote sensing and GIS[5] uses theme oriented management and service technology for the Multi-temporal differ-structural spatial data as an algorithm to detect the flood affected area and make decisions on rescuing using remote sensing. This application has over gone all the failures and has successfully implemented a system that system that works in a more comfortable way as proposed. [3] proposed a system about Efficient Sensor Network for Vehicle Security. Today vehicle theft rate is very high, greater challenges are coming from thieves thus tracking/ alarming systems are being deployed with an increasingly popularity .

Back-end is managed by a cloud API called PHP. PHP is a mobile and web application platform with tools and infrastructure designed to help developers build high-quality apps. PHP is made up of complementary features that developers can mix-and-match to fit their needs. The team is based in San Francisco and Mountain View, California. The company was founded in 2011 by Andrew Lee and James Tamplin. PHP's initial product was a real time database, which provides an API that allows developers to store and sync data across multiple clients. Over time, it has expanded its product line to become a full suite for app development. The company was acquired by Google in October 2014 and a significant number of new features were featured in May 2016 at Google I/O.

Messaging formerly known as Google Cloud Messaging (GCM), PHP is a cross-platform solution for messages and notifications for Android, IOS and web applications, which currently can be used at no cost.

GPS is a service that can authenticate users using the location discovery principle. It supports social login GitHub , Twitter and Google maps. Additionally, it includes a user management system whereby developers can enable user authentication with email and password login stored with PHP.

PHP provides a real time database and backend as a service. The service provides application developers an API that allows application data to be synchronized across clients and stored on database. The company provides client libraries that enable integration with Android, IOS, JavaScript, Java, Objective C, swift and Node.js applications. The database is also accessible through a REST API and bindings for several JavaScript frameworks suchas AngularJS, React, Ember.js and Backbone.js. The REST API uses the Server-Sent Events protocol, which is an API for creating HTTP connections for receiving push notifications from a server. Developers using the real time database can

III. PROPOSED METHODOLOGY

In the proposed system, Rescue wings works automatically to share location from servant to user and user to admin . Admin allocate the servant that is the rescue team to the particular disaster affected location . The user track the location of servant

Admin can track the location details , servant details passed to the other needy through the GPS locator by notifications.
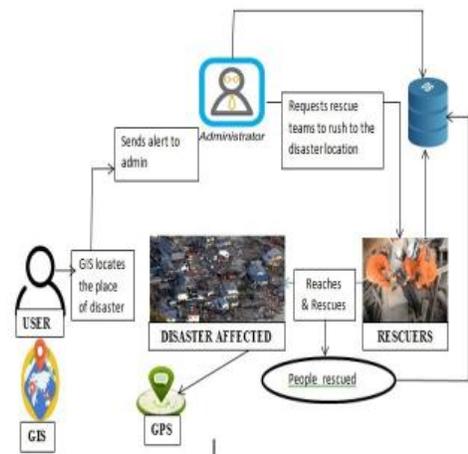

Fig. 1. Design of the Proposed System

User sends disaster alert to admin. Every user has a separate id. User Logins to the system and sends an alert to admin and receives response from admin as depicted in fig 1. Alert will be processed. Admin allocates the servant. If many requests are received from the same location, then the admin allocates the rescue teams accordingly where the process is very quick. Admin adds new servants for serving disaster affected people. The alert details sent by the users are shown.

As the admin receives the request list, it immediately sends the servants to various locations. Each and every request is noted approximately by the GPS locator. Admin allocate the servant for rescuing the affected. All the servants are added only by the admin. The admin get request from user and allocates servant to the specific location. The nearer servants from the rescue wings are sent to the easy to access the disaster areas. Servant continuously checks the

notification if any work is allocated or not. If a work is allocated, then the servant accepts the job immediately and moves to the location marked.

IV. RESULT AND CONCLUSION

The disaster prone zones are located easily and the affected are rescued in a very short period of time by the rescuers through this system "RESCUE WINGS". Thereby the exact user details are tracked and servants are identified. This system works offline, providing exact location and shortest path once it is fed with the alert by the user.

The screenshots represented in fig.2 depicts the login, registration processes of the user, servant and the admin. The google map shows the exact location of the disaster and pushes the notification immediately. This helps the rescuers reach the location and rescue people.

It is enhanced in such a way that the immediate need of the victims can be fetched. The GPS and GIS locators makes up connection between the system, user and the rescuers through satellite , thereby providing them the needs through the application. In future it is to be enhanced in such a way that an alarm is to be set on the walls of the houses present in the disaster prone zones so that human attacks and damages can be prevented before the occurrence of disaster.
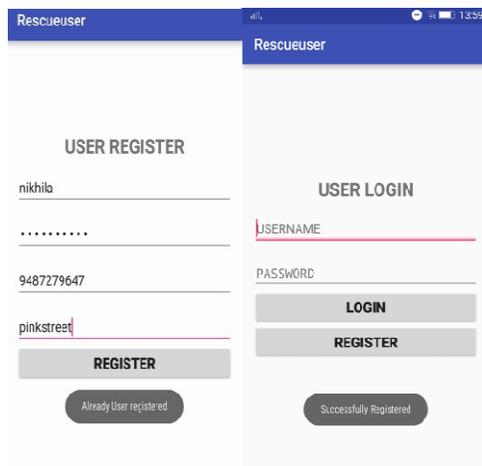
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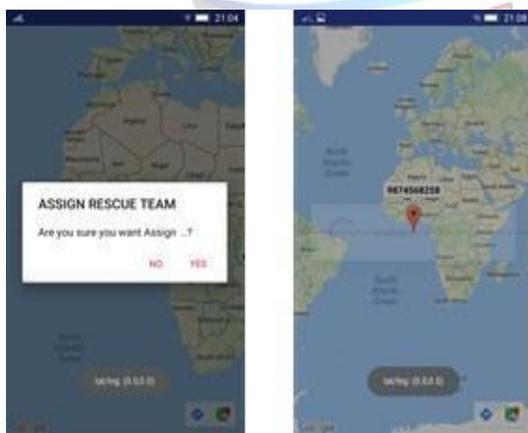
Fig 2. Alert Notification and Location Discovery