A Review on Various Emergency Medical Assistance System

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ABSTRACT

Recently there is significant increase in the number of medical incidence and in emergency cases the patients will have to be rushed to the hospital as early as possible so that they can be treated. Due to significant increase in the number of patients the hospital finds it difficult to send an ambulance from the hospital to every patient's location. In this paper we present the review of different Emergency medical assistance system. Some system uses Triage labels while some relay on RFID Modules. We discuss about the drawbacks of the system and propose a better alternative system, which will overcome the limitations of the existing system.

Keywords: Location Based Medical Assistance, Emergency Medical Assistance System, GPS, DIORAMA

I. INTRODUCTION

The huge quantities of victims in various accidents and incidence are extremely feared, and when there isn't aid at the best possible time and in the sort the wiped out individual need it that influences us to lose individual. Proper correspondence systems are the way to effective coordination of protect activities. Though the most essential and most normally utilized intends to trade data is voice, there are a few application zones in which information trade can bolster activity control. Administration of mass setback occurrences (MCIs) with IT-upheld triage and enrollments of influenced people is a case requiring both a proper correspondence design and appropriate information administration. Current best in class is that MCI administration is proficient with paper-based systems, yet an electronic approach guarantees quicker circumstance diagram and, in this way, speedier treatment of influenced people.

The outline and usage of such a system can't be completed unless a cautious examination of the prerequisites requested by safeguard experts, will's identity the clients of the system, has been performed. By and by, because of the idea of this sort of tasks, where each protect group has a characterized convention to be taken after and where the abnormal state of pressure assumes an imperative part, the presentation of new systems and strategies must be done sensibly, with the goal that the system adjusts to the present practices and not the other route round. Other than it may not build the anxiety experienced by the save faculty.

The current system eye to eye a front of a major issue with this expansive quantities of tired individual from perspective of illnesses just [2]., i.e. shouldn't something be said about this issue turn out to be more successful if there isn't who offer supporting and aiding at a reasonable time for those individuals when they are in school, shopping, with their companions, and so forth, i.e. will lose a huge

number from those individuals on the off chance that they required supporting and there isn't somebody with the individual known which compose and reasonable help required. The ailments give a perspective of the enormous issue worldwide without thinking about the infections. In this manner, without a legitimate supporting system the casualty rate may increment among that patient. Cost powerful GPSGPRS Based Object Tracking system implements a minimal effort question following system utilizing GPS and GPRS.

The targets of the paper are to depict the procedure the accessible systems that spotlights on the clients' prerequisites, to distinguish the significant highlights that the system must fuse to accomplish its usefulness, and to portray the execution procedure that mirrors the examined necessities.

II. LITERATURE REVIEW

Productive emergency administration requires from one perspective gathering disseminated snippets of data with a specific end goal to get a collected circumstance diagram, and then again dispersing and showing the accumulated data to all levels of basic leadership. IT-upheld emergency administration systems can bolster these undertakings, however should be painstakingly planned so as to mirror the genuine needs. Vigor and ease of use are evident key necessities for this zone of utilization, yet an intensive comprehension of operational techniques is compulsory, as well.

"An Interdisciplinary Approach to Designing a Mass Casualty Incident Management System" J. Chaves, A. Donner, C. Tang, C. Adler, M. Krusmann, A. Estrem,T. Greiner Mai [1] recommended that E-Triage system isolates the episode region into two sections: on-site portion and the disaster-safe fragment. The center system is worked in disaster-safe section all correspondence between these two fragments depends on satellite connection. Likewise

in this system, responder should convey a little cabin-size bag which contains numerous specialized gadgets, for example, PDA and satellite reception apparatus. In spite of the fact that the satellite connection offers the system capacities to work even in the zone with no nearby system, despite everything it requires significant investment and push to convey and set up amid clearing.

"Administration of mass loss of episodes utilizing a self-sufficient sensor organize " D. Rodriguez, S. Heuer, C. Kunze, B. Weber [2], suggested that MANET venture actualized a self-sufficient sensor arrange utilizing ZigBee. In this system, the hanging triage card is supplanted by a patient label furnished with a detached RFID module. A handheld PC is utilized to recognize labels and send the data to the system. Focal PC shows the position and the quantity of the casualties in a guide subsequent to get-together this data. An investigation and perception system is likewise given in the focal PC to the occurrence individual to examine the situation.

"Medical Support System for Visualizing Locations and Vital Signs of Patients in Mass Casualty Incident" T.Mizumoto, S.Imazu, W.Sun, N.Shibataand K.Yasumoto [3] ,The system utilizes the electronic triage tag (eTriage)that encourages emergency medical experts to get a handle on patients locations and conditions through visualization.In this paper author propose a system utilizing the electronic triage tag (eTriage) that encourages emergency medical specialists to get a handle on patient's locations and conditions through representation. This system gives the accompanying three perspectives of the patients data: (1) Inter-site see which appears on a guide an outline of the most recent status in different medical aid stations including the quantity of experts and patients of every triage classification; (2) Intra-site see which demonstrates point by point status of every emergency treatment station including the location, triage classification, and imperative indications of

every patient on a 3D delineate in light of the earth mapping strategy; and (3) Individual view which demonstrates key data of patients on a tablet PC as per its introduction utilizing the increased reality procedure. In this paper, creators portray the plan and usage of the proposed system with some preparatory assessment comes about.

Another e-Triage system portrayed in [4] proposed another intriguing part of showing an occurrence: 3D all-encompassing perspective. Utilizing the intra-site see, every patient and staff is shown as a 3D question on a 3D all-encompassing photographic foundation. Officer can screen the imperative signs and location of patients through this view and notice sudden changes of patient conditions. This 3D all-encompassing perspective is made utilizing at least three fisheye pictures of a specific guide, changed over toward a 3D square guide, and showed in the intra-site see. Subsequently, 3D show of patients and staff gives the leader a clearer and more envisioned approach to comprehend the circumstance, with the cost of setting up a camera and taking bunches of pictures.

The venture proposed by Eva et al. [5] is more like our system. The fundamental segments of their system incorporate an arrangement of PDAs for paramedics, an arrangement of tablet PCs for administrators, and a multi---touch table for episode administration authorities. The elements of PDAs and tablets go about as a similar part with those in different undertakings: gathering information, speaking to them in a guide. The multi-touch table is set in order post. Because of the extra large screen of the table, officers can work cooperatively and have a superior reason for settling on choices to designate their assets. Likewise, different experts and associations like the police or fire detachment could likewise work in cooperation on this table.

Group Help is a clien-server system proposed in [5].It's intended for persistent evaluation that utilizations mobile electronic triaging achieved by means of group sourced data. The system offers its clients the capacity to decide and present their physical conditions through a group sourced organize and in addition gives them a rundown of emergency treatment places. To get to its administration, clients need to download and introduce the application; at that point a login procedure is required, requesting that they sign in utilizing email or informal organization account. After that the application will gather all the blue pencil perusing eg .GPS with authorization and send them to the server. In the meantime, signed in clients will get cautioning push messages for anticipated risky occasions. Every one of the information gathered is spared in the Crowd Help server and can be offered to emergency experts through a machine learning programming.

In [6],the creators proposed a location based debacle readiness system that utilizations Disaster Management Server DMS), GPS bolstered Android mobile telephones, and Android Cloud to Device Messaging(C2DM) administration to give visual and sound calamity cautioning and departure help. In this system, the calamity inclined are the client points of interest are put away in an outsider server: Disaster Management Server. Provincial climate workplaces can get to the database to refresh the debacle data and the client of the Android application can get warning of any refresh. The client's location is sent to the DMS and a Ray-throwing calculation is race to decide if the client is in the territory of catastrophe. The Android Cloud to Device Messaging server (gave by Google) is the n used to push notices to the enrolled gadgets. At the point when the application discovers its client in a debacle zone, it will give him a notice and attract the briefest way to the closest safe house or safe region. In the meantime, the application will begin another administration to track the client through GPS and sends the information to DMS with the goal that the responder examine safeguard him from the hazardous situation.

Wang Zegen et al. proposed a quake agreeable emergency safeguard assistant system [7]. In this system, advances of GIS, satellite route and GSM are utilized for route and constant sharing of the save data and the helpful protect. This safeguard system comprises of a war room and some mobile terminals. The previous is accountable for the guide administration and investigation, controlling every other capacity; the last stores all geographic data for route and safeguard plotting. In the system, a protected plotting image library is created and works autonomous of the base guide information; GSM message module is likewise used to transmit safeguard data. This system is adaptable and helpful on save plotting and information transmission, in any case it attempts on enhancing the proficiency of information gathering and circumstance investigation.

Atele drug emotionally supportive network [8] is additionally created to give specific aptitude in nearby/remote influenced locales of a MCI. It incorporate spaces of mobile equipment and programming segments, which is like DIORAMA.
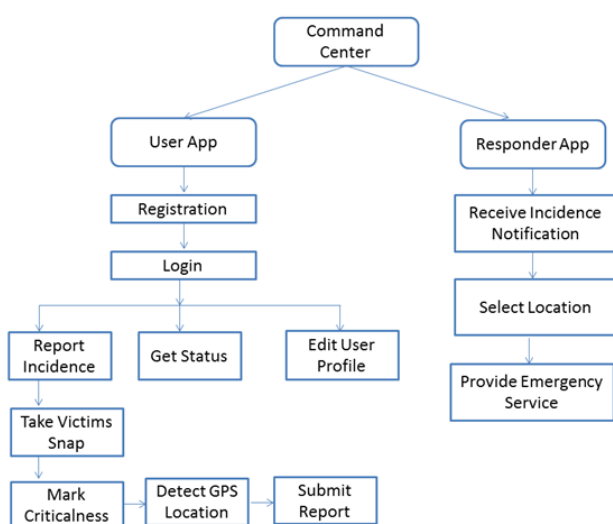
III. PROPOSED SYSTEM

Figure 1. Flow of the Proposed System

The design of the system is such that it contains two main components: Android smartphone running EMS applications, the EMS server. It provides real time tracking of victims and responders using a mobile tracking system carried by each responder. It introduces collaboration tools between the responders and incident commander. The main objectives of the system are highlighted as follows:

✓ It should provide real time tracking of victims and responders using a mobile tracking system carried by each responder

✓ It should introduces collaboration tools between the responders and incident commander

✓ It should provide novel visualization tools to responders such as Augmented Reality

✓ It should also monitors and capture all information during the incident.

An emergency caller intimates the server about the emergency or accident, it sends ambulance to pick up the person from hospital and drops the person off to the hospital. The system is based on the location provided by the GPS Module i.e The Latitude and Longitude of the position to be located. The GPS returns the Latitude and Longitude as the output to the system which displays it on the google map as well as on the screen in the system. The system also informs the hospital about the emergency (type of emergency, number of causality and how much time is required) and the hospital reverts to the server. This data is then stored into the database for record and training purposes. The very first step while developing an emergency response plan is to know all the features present in the particular area which includes road network, relief centers, hospital and landmark geo-location for emergency spot identification.

IV. CONCLUSIONS

Due to quick improvement of mobile innovation, location based emergency medical help system can as of now contribute in helping casualties of various mischances happened the nation over like India. In this paper we discussed about the process & functionality of the existing techniques & tools

available for the emergency medical aid. We saw how the RFID based system helps in emergency cases while at the same time it lacks the efficiency. Apart from it eTraige based system is also useful but had been tested and found useful in Intra-cite regions. We proposed a better and reliable system based on GPS & Android Platform which is applicable and useful for almost all medical emergencies.

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