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CRISICROSS: One Stop Application For All Kind Of Emergencies

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Abstract: *The epoch of information technology has become a pivotal part of our dynamic life of every human being in the world and usage of smartphones is rising exponentially. Although technology is advancing, but its results are seen only in fewer fields. For example, Emergency medical service in India is lagging behind other countries. This is partially because of lack of technology implementation at ground zero. This paper presents a proposed idea that tries to figure out various loopholes of the present emergency medical response system, also emphasizes to give a measure to find a substitute or an altogether different approach to ensure person's safety. Thus, this paper discusses the various issues and also gives an idea of the proposed system and its working details too.*

Keywords - *CLOUD, epoch, exponentially, GPS, SQLite, pivotal.*

I. Introduction

With the current technology era where mostly, everything runs on smartphones and applications, the need of quick and efficient services are almost as important in every aspect especially when it comes to medical services. Victims are mostly having issues on searching for an ambulance, handling the locations and availability of the limited resources at the time of emergency. The lack of such attention and information may lead to several casualties such as treatment always starts almost two to three hours after the emergency. Due to which countless lives are lost due to delay in treatment. First one hour after an emergency is extremely critical in saving a patient's life. If the required support is not provided to the victim within the first hour of an emergency the chances of recovery fall by 65%. Thus, our paper discusses various problems faced considering all the favorable cases and ways to solve them by adding more prominent and user-friendly options.

II. Literature Review

This section gives an overview of existing technologies, their methodologies and even we present a different approaches and past proposed system.

1.1 Related Works

ICE(In Case of Emergency) is an application that is made by the Mumbai police which give the basic tips on personal security and cyber threats and uses GPS for locating person in distress[1].

In Al-Suwaidi and Zemerl work, the problem was Solved by proposing an application "Locating Friends and person who requested the ambulance. If the ambulance rejects the request next free and nearest ambulance is searched and sent a request. Meanwhile the user can see the numbers of all the nearest hospitals and their addresses[2].

Google has developed API for user's ease. Google Maps gives information about hospitals nearby, with its rating and distance from user's current location. The drawback of Google Maps is that it only pins the hospitals but does not provide their detailed information. Hence user may need to access information about the hospital by going to particular hospital's website[3].

1.2 Past Proposed System

In the paper Smart Phone Based Enhancement in Health Services Using GPS, they proposed a system in which they are using GPS to track the location of the victim and GSM to send a request in case of an emergency, so that the victim can be taken to hospital and treated as soon as possible[4].

In the paper Emergency Traffic Management for Ambulance using Wireless Communication they proposed a system in which in case of an emergency the control room or the rescue team will receive a message using GPS and GSM technology to indicate about the accidents[5]

In the paper An Approach towards Traffic Management System using Density Calculation and Emergency Vehicle Alert , they proposed a system called Smart Traffic Light Control System that controls the

change of traffic lights at intersection points and gives high priority to emergency vehicles and Smart Congestion Avoidance System which chooses the shortest routes to the destination having least congestions[6].

In the paper GPS Based Shortest Path for Ambulances using VANETs, the main objective of the proposed system is to use the vehicle as efficient data collectors by getting them equipped with communication devices. Effective routing of ambulance will help to improve the performance during accidents[7].

In the paper Automatic Ambulance Rescue System Using Shortest Path Finding Algorithm, they proposed to create a system in which they will embed a RF transmitter in the ambulance and RF receiver in the Traffic lights, using Bio sensor to detect the condition of patient while travelling and GPS to find out the location of the accident[8].

In the paper called Emergency Call Application for Android, their objective is to create an application for smart phones which will use the GPS technology to send the victim's location to their saved contacts numbers by pressing a single button in case of an emergency[9].

III. Methodologies

The proposed system consists of seven modules mainly:

1.3 User window (user authentication details):

This module consists of register, login and user credentials required for the identity to provide three aspect of security i.e. Confidentiality, Integrity and Availability. It is the essential procedure to know the use of this application. Thus once the users account would be created he will be given an OTP which he would have to enter in order to authenticate his account, after which he can open this application anytime without logging in every time. Thus an account will be created for the user and his data would be saved in the CLOUD as well as in the user mobile in the form of SQLite.

1.4 Request emergency help:

As the user gets the authentication to use the app the user can pull the request only at the time of emergency cases. As user press, the type of emergency, application will notify family members, nearest hospitals and eventually doctor on duty at the destination hospital.

1.5 Nearest support:

When you seek an ambulance using crisis cross your location is shared with GPS technology. So, ambulance driver can navigate to your location easily just like cab drivers do. It share's your precise location to the five nearest hospitals and also notify the nearest helping hands.

1.6 Emergency Responder:

After calculating the nearest route for the five Hospitals from the victim's location one of them have to serve the request within five minutes of the request. If those five Hospitals do not serve the request, the radius of the search increases and searches for the next five hospitals and it repeat until the user get responded.

1.7 Emergency notifier:

It will provide the medical assistance in your fingertips such as;

1.7.1 Emergency tracker: your doctor, family and friends will receive SMS and Email, by which they can track the progress on the emergency incident.

1.7.2 Helping hands: It is a community who has a bit of training in the medical field. So, whenever emergency occurs application will notify the nearest helping hands that can set up and help the citizen in distress before the ambulance arrive.

1.7.3 Health history: It will help the doctor at the destination hospital to know your past health records so they are even better prepared before you reach the hospital. As preparedness is of great value in emergency care!

1.7.4 Blood network: It help you to create your own network of blood donors from your own contact database. One who cares enough about you to act immediately is your friends and family so they are the one who can step up for you.

1.8 Government Cloud Database:

The data here is stored for further verification and authentication. The data stored here are user name, User Id proof, i.e. Aadhar card and other information related to the user. Until the user is verified by the government authority, user cannot access the application.

1.9 Admin Panel:

Admin panel can keep record of the patients, available beds, and number of ambulances available and also to respond the request from victim. This would be then flashed on the screens of the users using the application.

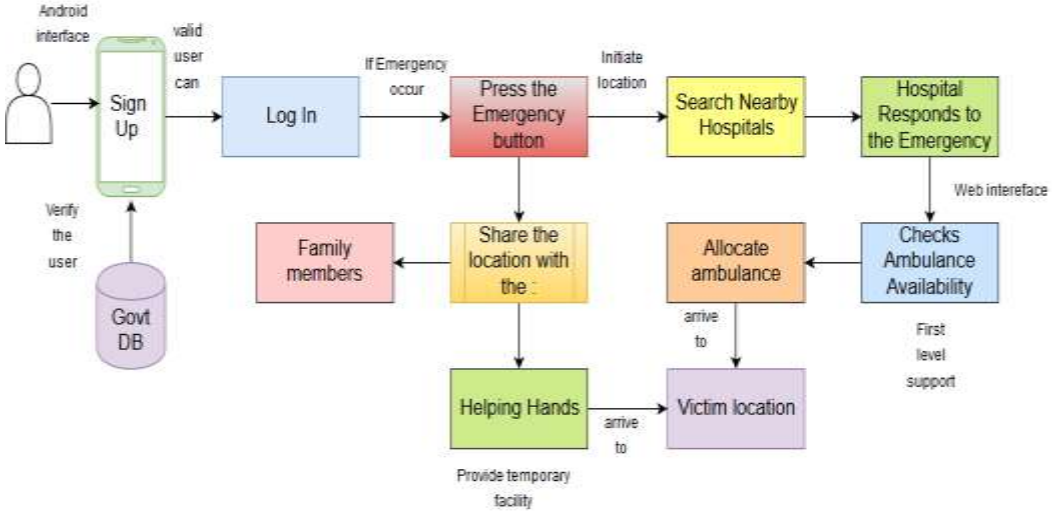

Fig1: System Block Diagram

In current scenario, emergency system is being managed by traditional way which is engaged by calling. All of the emergency communication relies on a call from the user who gives information about any kinds of accidents. These types of systems might record wrong information from the caller or enter wrong data into the dispatch system. User needs to call and give them the exact location to able them to track and reach the user on time. User need to check availability of the ambulance to ensure they get the ambulance. The time taken by the ambulance to reach the user's location will be lengthy if they stuck in traffic or the mislead address provided by the provider. There may be a fraud calls from and leads to misuse of the resources. To enhance and avoid these problems, an Android app with built in GPS technology will be utilized by the patient to send coordinate and user details to the nearest hospitals. The sent information consists of a user's details and GPS location. The admin of the system will check for available driver and will assign the task accordingly. The admin will also send the driver's details to the user so that the user will know which driver will fetch them. The driver will take the responsibility to bring the patient to the nearest hospital as soon as possible.

IV. Tables

CURRENT SYSTEM	**PROPOSED SYSTEM**
Computer Telephone system	Android apps – cheaper
Computer Aided –Dispatch: Dispatch Emergency Service to the location.	GPS – Global positioning System integration
Geographical Information System	2 taps and request for ambulance
All in one emergency line (999).	Sends notification request to Ambulance, Hospital and the helping hands.
Find nearest medical Centre and dispatches ambulance(if available)	Send GPS and details to accepted hospitals and dispatches ambulance.
Voice recording.	User receives the details of the ambulance driver.

Table1: Comparison between current system and proposed system.

V. Future Scope

Currently this application is working only on android. But if the response is good this can be developed for all possible platforms. Dynamic display of ambulance locations by fitting GPS devices on the ambulance will update the admin and this could be then flashed onto the user's screen. The user would be able to track his requested ambulance. He would be able to know the exact location of the ambulance as the ambulance knows his. As the accuracy of the Geo-location increases, the more accurate position of the patient can be obtained. In future a priority can be added according to the emergency occurred or the need of the ambulance. Multiple requests from one position can be eliminated by setting a no request zone around any user who requested. In addition, to that voice command will be implemented using the voice implementation system to allow them to straight send signal just by using voice command. To bring this system for the current smart watch era, this system will also be integrated and linked with Android watch. This will allow the user to easily tap on the watch screen to trigger the alert and send request to the admin.

VI. Conclusion

The mobile device has been positioned to become the world's leading solution for every problem. The main objective of the project is to maximize the use of mobile and web application to act as a medium and to minimize the sorrow and pain a family would go through due to the loss of the beloved once. GPS technology is used so that the hospital can take immediate action which might reduce the severity. This system is accurate and the main advantage is that it saves a lot of time. It also overcomes the drawbacks of the previous systems and inherits the advantages of them. Thus, it can be considered as an improvised version of the previous systems and the existing system.

References

[1]. Emergency Service using GPS Tracking International Journal of Advanced Research in Computer and Communication Engineering Vol. 5, Issue 4, April 2016
[2]. Ghaith Bader Al-Suwaidi, Mohamed Jamal Zemerly, "Locating friends and family using mobile phones with global positioning system(GPS)," IEEE/ACS International conference on Computer Systems and Applications, 2009
[3]. Smart Ambulance System International Journal of Computer Applications (0975 – 8887) National Conference on Advances in Computing, Communication and Networking (ACCNet – 2016)
[4]. Smart Phone Based Enhancement In Health Services Using GPS Imperial Journal of Interdisciplinary Research (IJIR) Vol-2, Issue-3, 2016
[5]. Emergency Traffic Management for Ambulance using Wireless Communication IPASJ International Journal of Electronics and Communication 2014.
[6]. An Approach towards Traffic Management System using Density Calculation and Emergency Vehicle Alert IOSR Journal of Computer Science (IOSR-JCE)
[7]. GPS Based Shortest Path for Ambulances using VANETs International Conference on Wireless Networks (ICWN 2012)
[8]. Automatic Ambulance Rescue System Using Shortest Path Finding Algorithm International Journal of Science and Research (IJSR) 2012
[9]. Enhanced Functionality Emergency Call Application for Android International Journal of Engineering Sciences & Research Technology 2015
[10]. Ambulance emergency response application International Journal of information system and engineering Vol. 4, April 2016 ISSN:2289- 7615
[11]. I AM SECURE ANDROID APPLICATION IJRET: International Journal of Research in Engineering and Technology eISSN: 2319- 1163 | pISSN: 2321-7308
[12]. Ambulance Assistance for Emergency Services Using GPS Navigation International Research Journal of Engineering and Technology (IRJET), Volume: 03 Issue: 09 | Sep-2016
[13]. Ambulance emergency response application International Journal of Information System and Engineering Vol. 4 (No.1), April, 2016