

MOBILE APPLICATION FOR EMERGENCY SERVICES

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ABSTRACT

This paper introduces Mobile Emergency Services Application using Geolocation for Command Centres. It is a combination of a mobile application for responding to emergency requests for ambulance, fire truck and police by people in a certain area or city. The mobile application would detect user's current location through geolocation and sends to the web application deployed in a command centre the name, age, mobile number and location of the user for easily dispatching of emergency units.

KEYWORDS

Command centres, emergency response, emergency services, geolocation.

1.INTRODUCTION

Actions and responses taken in the first minutes of an emergency are critical. These life-threatening events may happen any moment. Being always prepared and ready can save lives. A call to help public emergency services that provide complete and accurate information will help the sender send the appropriate responders and equipment. The purpose of this systematic response is to protect public health by minimizing the impact on the event on the community and the environment.

One of the world's most popular and well-known emergency services is America's 911. This program is designed to provide a universal number, easily remembered by people who receive police, fire, or emergency assistance on any phone call, except for specific phone numbers. The technology, regulations, and funding that make this program possible depend largely on the technology that was available when 911 was introduced in the late 1960's - that is, cell phones in residential and commercial areas. The Philippines has launched its 911 version called PATROL 117. Patrol 117 is the national and official emergency telephone number in the Philippines. It aims to establish a simple

number of memories that can be accessed by anyone, anytime, anywhere in the Philippines in an emergency, and to monitor the efficiency of its responsive network. However, it does not compete with other emergency numbers established locally or locally.

through geolocation, the location is mapped and user details will be sent to the command centre.

2.Literature Review

2.1 Survey on Smartphones Systems for Emergency Management

The author Hafsa Maryam has proposed a model using different emergency methods to predict system of emergency management. The role of smartphone technology in emergency management has greatly improved in emergency monitoring, and users can be tracked with GPS-enabled. With an Internet connection, users have the ability to send and receive updates related to any disaster situation. Modern smartphones have a computer platform with sensors installed such as location mapping, to feel the power of the geomagnetic field. Modern styles related to Emergency

Management on Smartphones. The Wireless Sensor Network (WSN) is used primarily for embedded systems. WSN strongly regulates short-term protocol and wireless communication uses long-distance protocol between two communication devices. Hand-held gadgets such as Personal Digital Assistants (PDAs) facilitate users in many useful ways such as sending or receiving information, playing games etc. When using various smartphone applications, we use various embedded sensors such as a magnetometer, accelerometer; this is embedded directly into our smartphones. The person in trouble cannot report an emergency. If the victim is aware of it, they may try to evacuate the situation, otherwise, if the victim is unconscious, there should be some way to request, find an emergency and report it to the response teams. Being on time, taking action and responding to these situations is a major challenge.

In this paper, we carefully analyse the prospects for smartphones and mobile devices that can respond effectively and effectively in emergencies and that emergency management systems / teams can be notified in a timely manner. In addition, various users and practices are analysed in this research paper on the basis of smartphone emergency management applications and the ingenuity used by various mobile phones to respond to emergencies and problems are also part of this research paper. On smartphones, a number of emergency requests are available that benefit from emergency response. Thanks to innovation in GPS technology, this can be very helpful in tracking goods and helping to send information. The emergency team will then be on hand to assist the paramedics. To achieve this automated response, we rely on embedded sensor hardware technology [9].

2.2 Mobile Emergency Response Application using Geolocation for Command Centres

The author Jethro B. de Guzman has proposed a model using different emergency methods to predict Emergency Response Application using Geolocation for Command Centres. In this paper, the mobile and web technologies are used to add another option and

medium for emergency response. The proposed method used the current trends in mobile and web technologies for fast and efficient dispatching of emergency units the ultimate goal is not to create a new protocol in emergency response. It has just maximized the use of smart phones to act as medium and to help people save their lives in case of disaster. Command centres will also benefit in a way that the location of the user can easily detected and plotted on a map. Ultimate proposed system supposed to lessen the response time it takes to respond to emergency events. It also provides reliable information that might help in identifying accidents.

Technologies Involved: The core concept of the researchers focuses on a mobile and a web application. The major goal is to provide information such as name, age, type of emergency response needed and location of a person using the mobile app and to be retrieved by a system on the web and plotting the equivalent latitude and longitude on a Google map in order to pinpoint the exact location of the person who uses the mobile app.

In the initialization of the mobile application, it detects the current position of the user through geolocation. The user can navigate in three tabs namely home, info and hotlines. The home tab contains the current location of the user. It is displayed on the map. Geographical points are converted into human-readable address. For the web application, the dashboard contains a map and a side bar where emergency reports are appended real time. The user can respond, decline and view the report on the map [10].

2.3 Emergency Notification Services Application Design for Mobile Devices

The existing application Limitations of system 108/100 are, all the basic information required such as caller name, location, type of emergency is collected orally. Typical response time when the police station is nearly 30min. India has different emergency numbers like system 100 for police, system 102 for medical, and system 101 for fire, so lack of a unified approach. All these systems have very low response times and low efficiency. Also, if an emergency occurs in other states of India, then problems like language barrier and unknown areas to the victim can occur. There

is no use of GPS in these systems. Limitations of Unalert-Disaster Alert are, there is no need to use social networking sites at times of emergency because due to the posting of video and pictures a lot of time will consume and prompt rescue operation will be delayed. So, the main aim of the emergency system will not meet its goal of saving people.

The author Rupali Aher has proposed a function include Record, Search, Locate, and Emergency Contact. In the Record function, one can save or modify emergency corresponding people's information and default short messages. In Search function, it is designed to enable automatic search of nearby hospitals/police offices and provide contact information. In the Position function, the position information is provided via GPS or networks. Under this function, users can send messages with position information at the same time. The Emergency Contact function allows the user to click on the photo to call for help. In this application, there are 3 modules User Application, Admin Application, and Web-based Application for Reporting. The emergency is first reported in User and the user will track the location and the Current location report is sent to the server for further assistance. The server responds to location-based Emergency Contact numbers to the user application [13].

2.4 Efficient Emergency Services Using Mobile and Web Technologies

The author Suvitha Wilson focuses on solving two very critical problems faced by the various emergency service departments in our country. The first one is that different emergency service departments are unable to coordinate with each other due to unavoidable time and technological constraints. Whenever there is some disaster or any other major emergency, the traditional modes and means of communication such as telephones are either disrupted, or sometimes the situation does not permit their use. In such situations services like the one that has been presented in this paper come handy and prove to be life-saving. Many such emergency services management systems are available at present but they all have some shortcomings and this paper aims at overcoming those shortcomings.

The Proposed work of the application is Once the user register control will be transferred to the server. There will be one more table for storing the location of the person, i.e., latitude and longitude for showing their location on the map. After that, he can broadcast a message to the rescue team and ask for help. In addition to the chat, the location of the trapped person will be added to the chat editor. The rescue team can view the location of the person and assist [14].

2.5 Android System for Public Services

The author Komal R. Wani gave the main aim of this technique is to create an Android application that helps the users to urge the emergency service as fast as possible. In our day-to-day life, we use different types of application based on Android. In the market, there are various SOS apps that are being developed using the Android platform. The SOS application is Google—Map based application which helps in finding emergency services. The SOS tracking system uses the situation tracing system by using GPS based Localization so as to assist people. Emergency occurs anywhere at any location, at any time and in various ways will make one at risk and require a speedy response. The emergencies include Fire, Medical Emergencies and accident, etc. In this paper we present a system for Emergency Services, which enables location-based service available in smart phone. Location Coordinates are sending on each request. The commoner can make use of this technique just in case of any emergencies. As a part of literature survey, we have gone through women safety applications that already exist in the market. The motive is to observe the working of these applications and in what way they can be improved and how they are different. In the survey, it is been observed that the Android App for women safety are better and are offering relatively similar service.

In system, we have used three emergency departments. In this an Emergency Button (EB) is also used for sending an instant message to Fire, Police, and Ambulance. The victim/user can also send the separate message to particular system. At the same time the number saved by the victim in the system also gets an alert message for instant help. It uses the GPS for locating the situation of nearest

service. The application needs GPS service to be available in the mobile phone for full functioning. If the mobile phone does not have GPS service, then this application will show an error message, but still sending the message to the registered contact numbers. This feature is very useful for those users who don't have GPS enabled mobile phone. This System is motivated by the observation that police and ambulance units often reach too late on crime scenes and people are unknown to victim are often helpful. The Proposed system is an SMS based system which is simple and fast mechanism to call for help in necessary situations. We propose system which overcomes the so-called bystander effect. Nearby people often don't recognize or take responsibility for ongoing emergency situations[15].

2.6 AMBULANCE EMERGENCY RESPONSE APPLICATION

Emergency Medical Service (EMS): Emergency medical service (EMS) could also be a service which is responsible for leading the department in providing proper planned and arranged emergency management resources which is capable of responding to public emergencies whenever it's need. Ambulance is often categorized as a limited resource in EMS and since the congested and rapid development of urbanization and jungle in each and a neighbourhood of the earth, the route to seem and rescue for human shelter is extremely complex. This reflects the performance of the ambulance driver to achieve the emergency spot on time (Kumar & Benedict 2011). These issues help to identify that the need and responsibility of an EMS is critical and equally important many |to avoid wasting"> to save lots of lots of lives, utilizing and improvising this technique will sure helps the community to be safe and worry less on the service provided by the authority.

In the survey, author Joshua Samual have given various social emergency alert service which selects nearby members of the social group of the victim and notifying them about the victims need for help and the victim's location. When an accident happens, the message is sent by the user/victim to control room or a rescue team by using GPS Technology. GPS may be a group of

quite 24 communications satellites that transmit signals globally round the world. Using a GPS receiver, anyone can quickly and accurately determine the latitude, the longitude, and in most cases the altitude of a point on or above Earth's surface can determine. Due to short circuits in many areas, there are chances of fire generation. So, at that time Fire service is required. If the service isn't provided at moment, then there's possibility of great loss. In most of the countries, there are senior citizens who stay alone, away from their family in old age homes or alone by themselves. Suppose we look at emergencies as a fire in the home because of certain adverse conditions and as living alone or sleeping at home leads to serious injuries and sometimes even death. The security of girls in the dark and sometimes even in day when travelling alone may be a concern. If in any case the emergency situation occurs, the ambulance and other service had reached the spot late hindering emergency medical treatment, and then any heinous crime may happen with the women. In this situation the nearby police can help to the helpless women in that area. They can access very quickly using an emergency system [16].

3.PROPOSED SYSTEM

3.1 PROPOSED APPROACH

In launching the mobile application, it finds the current location of the user using the location identifier. The user can navigate to three tabs namely home, details and phone calls. The Home tab contains the current location of the file

user. It is shown on a map. Location points are converted to a readable address. Three emergency buttons are available: ambulance, police and fire truck. The info tab contains information such as user name, age and mobile number. You need to enter once and the data will be saved but can edit if necessary. The hotlines tab contains some emergency phone numbers. Since the app relies on the Internet for location, emergency dialling numbers enable the user to call an emergency offline.

3.2 PROPOSED ARCHITECTURE

enabling the user to call for emergency even without an internet.

4. METHODOLOGY

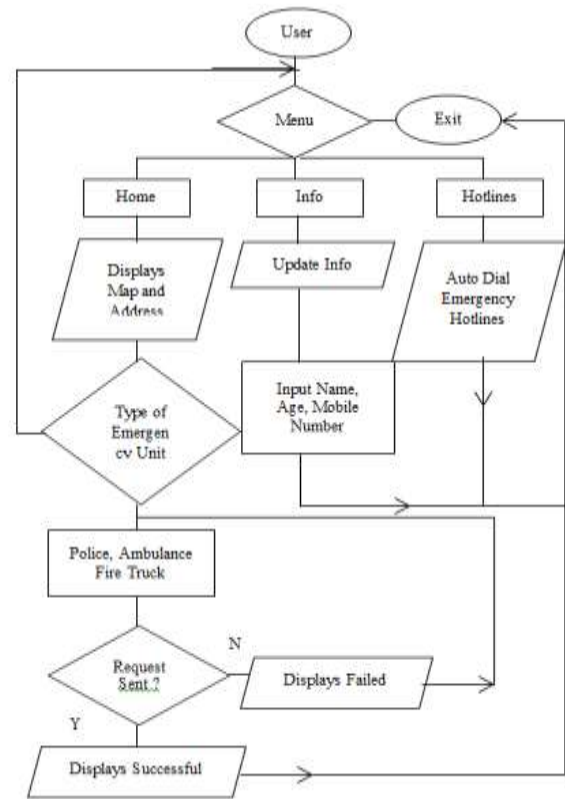
4.1 Modules

1) Home: Contains the current user location. In launching the mobile application, it finds the current location of the user using the location identifier. The user can navigate through three tabs namely home, details and phone calls. The Home tab contains the current user's location. It is shown on a map. Location points are converted to a readable address. Three emergency buttons are available: ambulance, police and fire truck.

2) Info: Contains user information. The info tab contains information such as user name, age and mobile number. You need to enter once and the data will be saved but can edit if necessary.

3) Hotlines: Contains some emergency phone numbers. The hotlines tab contains some emergency phone numbers. Since the app relies on the Internet for location, emergency dialing numbers enable the user to call an emergency offline.

5. RESULT



In the initialization of the mobile application, it detects the current position of the user through geolocation. The user can navigate in three tabs namely home, info and hotlines. The home tab contains the current location of the user. It is displayed on the map. Geographical points are converted into human-readable address. Three emergency buttons are present: ambulance, police and fire truck. The info tab contains details like name, age and mobile number of the user. He/She needs to input once and data will be saved but he/she can edit if necessary. The hotlines tab contains other emergency hotlines. Since the application is internet dependent because of the geolocation, the emergency numbers are pre dialed

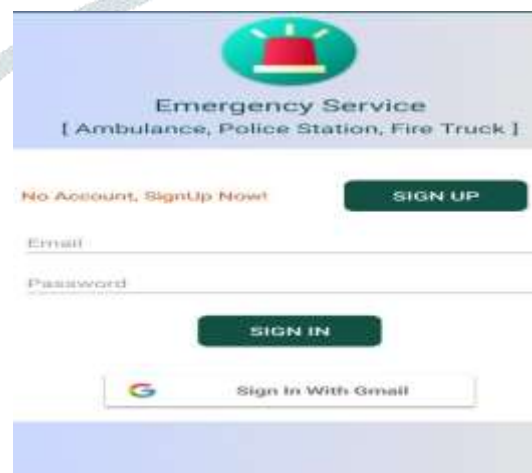
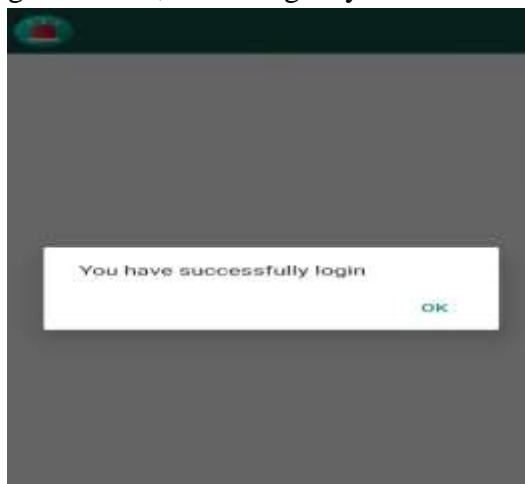


Figure1: Screenshot of Sign-in Page

By inserting e-mail and password, user can sign in or user can directly sign in using Gmail.

Figure 2: Screenshot of Successfully login message

After signing in, a successfully login message will invoke.



Figure 3: Screenshot for permission

A pop-up will arise to allow the application to access the devices' location.



Figure 4: Screenshot for permission

A pop-up will arise to allow the application to make and manage phone calls.



Figure 5: Screenshot for permission

A pop-up will arise to allow the application to send and view SMS messages.

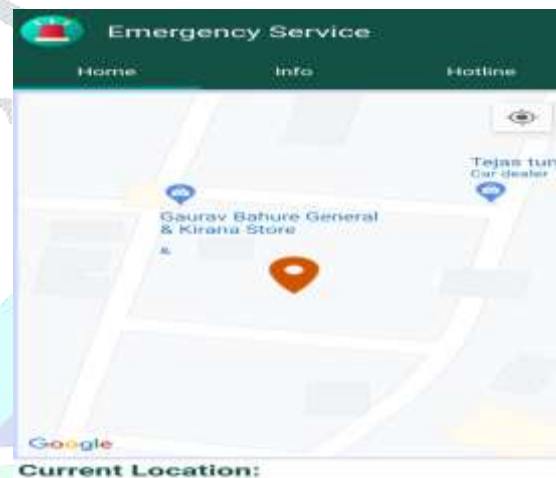


Figure 6: Screenshot of Location

After providing the permission, it will take the users current Location.

6.FUTURE SCOPE

We believe that upcoming smartphones will be pre-loaded with emergency and disaster requests. In addition, these applications must be given access to full resources on the smartphone in order to an emergency can be handled properly.

We and aim to assess the status of users with a high offer rights and controls for this type of request you will respond to an emergency.

CONCLUSIONS

In this paper, we proposed the use of mobile technologies to add another option and medium for emergency response. The proposed method used the current trends in mobile technologies for fast and efficient dispatching of emergency units. Our goal is not to create a new protocol in emergency response, we have just maximized the use of smart

phones to act as medium and to help people save their lives in case of disaster. Command centres will also benefit in a way that the location of the user is easily detected and plotted on a map.

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