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Emergency Notification Services Application Design for Mobile Devices

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Abstract:
In most recent years, many interesting applications for mobile devices are designed to improve our living quality and deal with house care issues under Android framework. Communication during disaster time is very crucial for both rescue team and victim. Emergency never comes with prior intimation. In this paper, an Emergency Notification Services Application for Mobile Devices will be designed to enable to automatically search nearby hospital/police office and provide contact information. This System is intended to function in case of emergencies in society like Fire, Medical Emergencies, accident and External Emergencies (Earthquake, Floods, Strom, etc) and it will be designed using a Freeware, named APP Inventor. In Position function, the position information is provided via GPS or networks. In the application, the position function of GPS and an easy used interface capable for sending emergency notification messages or phone calls are included.

Keywords: Emergency Notification Application, APP Inventor, GPS.

I. INTRODUCTION

Emergency notification system is an important tool for personal security and safety. Recently, there are two kinds of common emergency notification systems. One is designed to allow the user wearing a designed button with a connection to the device host at home. Another is specially designed single-function phone (the phone for elders) whose back has an SOS button. When unexpected something happen, users just need to push the button to secure, systems could send a message to some specific institutions or people setting in advance. However, these two kinds systems mostly do not embed GPS functions and information may not clear enough in an emergency, which motivates this project. In this paper, an emergency notification application for mobile devices will be designed using a Freeware, named APP Inventor. In the application, the position function of GPS and an easy used interface capable for sending emergency notification messages or phone calls are included. Users can quickly push the designed buttons for help via sending (short) messages or phone calls, both of which automatically include position information, to default emergency corresponding people or institutions.

II. RELATED WORK

System 108 is a free telephone number for emergency services providing integrated medical, police and fire emergency services in Indian states. System 100 is emergency service number in India for calling police. When an emergency is reported through 108, the call taker gathers the needed basic information and dispatches appropriate services. UbAlert - Disaster Alert: UbAlert-Disaster Alert android app for emergency provide Street map, Report an event and submit a photo or video, share events by email or post links to face book and twitter, provide feedback regarding credibility of post to prevent fraudulent posts.

III. EXISTING SYSTEM

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 in metros when the police station in nearly is 30min. India has different emergency numbers like system 100 for police, system 102 for medical and system 101 for fire so, lack of unified approach. All these system have very low response time and low efficiency. Also if emergency is occurred in other states of India then problems like language barrier and unknown area to victim can occur. There is no use of GPS in these systems. Limitations of UbAlert-Disaster Alert are, there is no need to use social networking site at time of emergency because due to posting of video and pictures lot of time will consume and prompt rescue operation will be delayed. So, main aim of emergency system will not meet to its goal of saving life of people.

IV. PROPOSED SYSTEM

The main functions of the application include Record, Search, Locate, and Emergency Contact. In Record function, one can save or modify information about emergency corresponding people and default short message. In Search function, it is designed to enable to automatically search nearby hospital/police office and provide contact information. In Position function, the position information is provided via GPS or networks. Under this function, user can send short (default) messages with position information at the same time. In Emergency Contact function, it allows user to click on the photo to call for help.

V. ARCHITECTURE

This application drives to and responds to emergencies. It serves as the head for emergency preparedness. It also plans, organizes

and mobilizes the emergency rescue efforts of the agencies (i.e. Public Health, Mental Health, Public Works, Police department, Fire department, Volunteer agencies etc.) during emergencies. In the end, it compiles data and prepares a variety of records and reports. Along with this it prepares public information materials i.e. analyses the services and materials required for emergency preparedness, response and recovery operations, and suggests for the development of the same. The system consists of a Web server and smart phone based application, these currently implement as an android app. The app operates in two modes. Network mode and GPS mode.

General users:
There are three kind of user as follows:

1. User Application
2. Admin Application
3. Web Based Application for Reporting

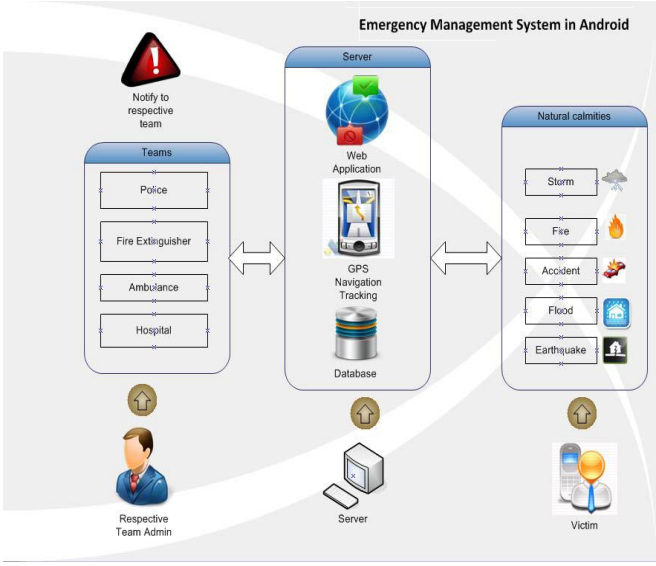

Figure.1. Architecture of emergency Notification Application

1. User Application: User Raise the issue in case of any emergency from his Android Application with description and nature of issue severity. User's location tracking is done with the help of GPS is OFF then location tracking is done in Network mode. All the details of user like Title, Description, Priority and Current location report is send to the server for further assistance. Server respond location based Emergency Contact numbers to the user application.

Admin Application: Admin gets notifications n his Android application with Emergency Issues. Admin can also view the person details and his/her location that has raised the issue. Admin can view the optimal path on Google map with marker to reach the victim who raised the issue in case of emergency. After resolving the issue, admin can marked the issue as resolved with certain comments.

Web Based Application for Reporting: Web Application is useful for generating the reports such as, Area wise issues report, Priority wise issues report, Location wise issues report.

VI. FUTURE WORK

We are implementing this application using Ad-hoc network currently. If resources permit, we can implement this using cloud computing techniques as a future work. This would give leverage to global access by expanding the scope of the application from an ad-hoc network to, say WAN.

VII. CONCLUSION

This paper gives an architecture which will help the people in the any emergency using its android smart phones which is designed using APP Inventor. In the application, It responds to public emergencies with the position function of GPS and an easy used interface capable for sending emergency notification messages or phone calls are included.

VIII. REFERENCES

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