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Enabling Efficient Sensor Rescue Service in Mobile Cloud Computing with Assisted Sensor

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ABSTRACT: We implement system that can be helpful to integrate rescue schemes as varied as Disaster prediction, Evacuation planning & Emergency broadcast. In this system we implement multiple sensed mobile devices for personal awareness so that flexibility and reliability of rescue services are improved. Reliability and scalability of rescue services are modified by cloud computing. The system shows advantage of power efficiency and scalability of rescue service architecture.Rescue services are play important role in emergency services to minimize the damage. Current rescue systems (of Emergency Calls) have significant problems in emergency; the victim may not be in a position to activate/initiate the required help and in-efficiency during massive casualty situations.

KEYWORDS: Wireless Sensor Network, Cloud Computing

I. INTRODUCTION

Rescue services are vital in emergency services to minimize the damage & the damaged. Delivering quickly& accurately collected information to rescue centers Via wireless/fixed networks is very crucial for dispatching rescue work to different. Teams like Polices, Fire-fighters or Medicos as per the rescue planning & decisions. Current rescue systems (of Emergency Calls) have significant problems in emergency; the victim may not be in a position to activate/initiate the required help and in-efficiency during massive casualty situations.Rescue system such as E-911 services [1], emergency people calls to the rescue center then rescue center assign work to local rescue location as shown in fig1. Current rescue system has two major problems. First individually collected and reported emergency information. Second, a rescue center becomes a bottleneck for emergency events. The example of the attack on the World Trade Centre in New York on September 11, 2001 is that heavy emergency call caused severe congestion in the phone system, preventing the quick and efficiently collecting of emergency & damage information by government authorities.

These problems can be overcome by Mobile-sensing Cloud rescue service. Architecture which incorporates multiple-sensed mobile devices with cloud computing. Current mobile phones equipped with multiple sensors like visual, audio, motion, Location, ambient & other physiological sensors are capable of sensing the situational information of local environment & behavior status of user.Instead by wireless ad-hoc and sensor networks (WASNs) that have made significant contributions in surveillance and health care, we used the concept of personalized Situational Awareness by using multiple-sensed mobile phones in our rescue system for automated monitoring and up-dating personalized emergency information.

OBJECTIVES

1. To improve the efficiency of rescue services by providing personalized situational awareness through the integration of mobile devices and sensors.
2. The system improve the reliability and scalability of rescue services by dynamic scaling of cloud computing.
3. To reduce heavy emergency call caused sudden and sever congestion in phone system.

II. LITERATURE SURVEY

L. Chu and S. Wu [1]proposed building fire is a common disaster happening in our daily life that causes unfortunate casualties and deaths. Successfully escaping from fire depends on the design of evacuation route and time, as most of

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the damage of fire is caused due to lack of evacuation equipment's or poor design of the emergency route. In this research work, we designed a hybrid building fire evacuation system (HBFES) on a mobile phone using Radio Frequency Identification (RFID) techniques and Cloud Computing.

C. Wang, Q. Wang, K. Ren, and W. Lou [2] proposed cloud computing is the long dreamed vision of computing as a utility, where users can remotely store their data into the cloud so as to enjoy the on-demand high quality applications and services from a shared pool of configurable computing resources. By data outsourcing, users can be relieved from the burden of local data storage and maintenance.. To securely introduce an effective third party auditor (TPA), the following two fundamental requirements have to be met: 1) TPA should be able to efficiently audit the cloud data storage without demanding the local copy of data, and introduce no additional on-line burden to the cloud user; 2) The third party auditing process should bring in no new vulnerabilities towards user data privacy.

S. George, W. Zhou, H. Chenji, M.Won, Y. Lee, A. Pazarloglou, R. Stoleru, and P. Barooah[3] proposed disaster responders require timely delivery of high volumes of accurate data to make correct decisions. To meet these needs, we present DistressNet, an ad hoc wireless architecture that supports disaster response with distributed collaborative sensing, topology-aware routing using a multichannel protocol, and accurate resource localization. Sensing suites use collaborative and distributed mechanisms to optimize data collection and minimize total energy use.

R. SONG, S. HE, and L. ZHANG [4] proposed computational experience on the application of hybrid genetic algorithms, artificial neural network and hill climbing heuristic algorithms. Two evacuation strategies as single stage and two-stage transit routing plan have been analyzed based on the survey data from Gulfport, MS, to illustrate the proposed modeling technique.

J. Reed, K. Krizman, B. Woerner, and T. Rappaport [10] proposed FCC created the rules for wireless Enhanced 911 (E-911) service, a flurry of research and development activities dedicated to locating the position of emergency callers followed. The current deadline for this capability is we review the unique challenges and some of the proposed approaches for each of the major wireless standards.

III. PROPOSED METHODOLOGY

Our proposed systemintegrates rescue schemes for different purposes, including disaster prediction, evacuation planning, and emergency broadcast. In the proposed system, multiple-sensed mobile devices are designed to provide a personalized situational awareness, thereby further enhancing the flexibility and efficiency of rescue services.The designed composed of multiple-sensed mobile device, emergency cloud, nearby people, and rescuer. The following subsections detail the functionality of the four components.

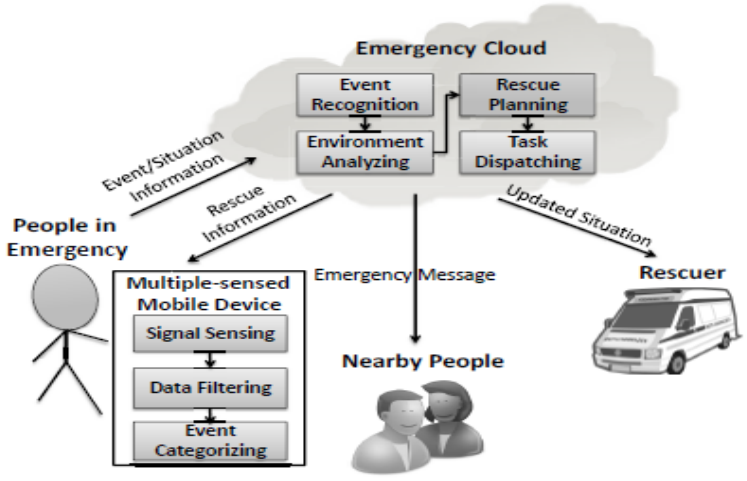

Fig:System architecture of MSCloud

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Multiple-sensed Mobile Device: They can be used to collect different sensing data for rescue team during emerging visual,audio,motionlocation sensing data from the environment and people behaviours can be used for effective decision making by rescue authority during emergency.

Emergency Cloud: Due to local perspective in emergency situation the event information is incomplete. Hence to support rescue planning the associated environment within the range of emergency event is analysed to obtain more specific rescue information. According, rescue tasks are dispatched by emergency cloud to appropriate units depending on work loading and locations.

Nearby People: Nearby people, can be of more help, instantly, than the remote rescue units; hence emergency message is broadcasted to such people primarily along with prediction or evacuation during disaster.

Rescuer: Situation information during emergency need to keep updated after sending event information to the cloud by mobile devices. Rescue units can get immediate and analyzed situation information.

IV. CONCLUSION

In this proposed work a sensor assisted rescue service architecture used multiple sensed mobile devices and cloud computing. Multiple sensed mobile devices applied in system to provide a personalized sensing scheme that improve flexibility and efficiency of rescue services. The proposed system improved reliability and scalability of rescue services.

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