

ANDRIOD MOBILE APPLICATION FOR AMBULANCE SERVICE

¹SASIKALA.K, ²Mrs.S.AMUDHA

1P.G STUDENT, 2ASSISTANT PROFESSOR, COMPUTER SCIENCE ENGINEERING, SRIRAM ENGINEERING COLLEGE

ABSTRACT

The internet of things is used to connect many smart objects into the internet this technique is used by many departments like automobiles, banking sectors and healthcare. The internet of things is very much helpful for healthcare to provide the treatment to the patients in an efficient manner. In the existing system they used the sensor in the people residential places to monitor the status about the environment. With the information from the sensors they check for any causes of earthquake or fire accidents. Healthcare seven protocols is used to provide the emergency services to the people. The proposed system will provide the ambulance Service using the android application. With the help of global positioning system and the radio frequency identification kit the healthcare data center will send the ambulance to the requested place.

Keywords: RFID, GPS, Android operating system.

I INTRODUCTION

The internet of things can be used for remote healthcare monitoring and emergency notification systems. The healthcare monitoring system includes blood pressure and heart rate monitor. Specialized sensors can be used in living spaces to monitor the health and general status of senior citizens. (A. Dohr, 2010). In Mumbai the government announced the cell phone companies should Collect the customer blood group and related health details of the customers while Activating their SIM. A small waterproof sensor system that is worn like a Alarm. Between the intervals of 15 to 20 seconds, the system would send a positioning signal to the ultrasound receiver which communicates with standard.

Wireless WLAN connects to the homecare gateway. The advantage of ultrasound-generated positioning signals is that it is highly precise and delivers three-dimensional data accurate to 3 cm. The smart homecare gateway will monitor these measurements. Only relevant data is broadcasted, and as soon as any critical event is identified, the built-in wireless wide area network connection is used to send a notification to the helpdesk. The admitted (Niewolny, 2013) patients whose physiological status requires a close attention that can be constantly monitored using IoT-based, noninvasive monitoring. This type of solution makes sensors to collect comprehensive physiological information and uses gateways and the cloud is used to analyze and store the information and then send the analyzed data wirelessly to caretakers for further analysis and review. It reduces the process of having a health professional to frequently checking the patient's vital signs, instead providing a continuous automated flow of information. With this way, it simultaneously increases the quality of care through constant attention and reduce the cost of care by eliminating the need for caretakers to actively work in data collection and analysis. The sensors wore by persons (Vandana Milind Rohokale, 2011) will periodically monitor the health parameters like blood pressure, heart rate, sugar level, body temperature, pulse rate.

If any problem is detected then the sensor will send the gathered information to the remote computer after that the remote computer will send the data to the healthcare center the necessary care is taken by the hospital representatives. The patients information such as dosage of medicine taken and the diseases are stored and maintained periodically, this will increase the quality of service to the rural people.

II PRELIMINARIES

1 RFID

The RFID device works like bar code or a magnetic strip at the back of a credit card or ATM card; it provides a unique identifier to the object. The bar code or magnetic strip must be scanned to get the information; the RFID device should be scanned to retrieve the identifying information. RFID tags are intelligent bar codes that will talk to a networked system to trace every product that you put in your shopping cart.

2 GPS

Global positioning system technology is used to predict the location of the person in the emergency situation. From the gps assisted android mobile when the user send the request to the data center ,then the location information also gathered .so that we can provide the service to them in a timely manner.

3 Android OS

The android is a mobile operating system which is widely used in smart phones and it also supports many applications which are useful for the users. The applications are developed using java programming language.

III RELATED WORK

A private (chenguang he, 2013)cloud platform architecture includes six layers according to the specific requirements. This platform uses the message queue as a cloud engine, and each layers are loosely coupled for communications with publish/subscribe mechanism. using this method the user can upload their medical reports such as ECG and blood test details via TV, computer or the mobile phone. Once the data is uploaded then the corresponding suggestion on that data will be sent by health care center. The autonomous body sensor network (BSN), (lei wang, 2010) which is developed with the help of analog transmitters and the MOSFET.and the body sensor chip also includes the pH and the value of body temperature so that it will completely fit with the human body. and the sensor which is circuited with the chip will gathered the information from the human body the it send the information to the laptop where the special software developed using MATLAB can convert the sensor information into the actual information. the body sensor chip is also made up of the ionic pH value, system on chip. To provide (Woochul Kang, 2012)the continuous communication between the publish and subscribe method during the heavy workload and unstable communication ,a real time data distribution service architecture id developed with this method we can give good quality of service to both publishers and the subscriber. The RESTful web service is the new service which is widely used by everywhere. Other web services belongs one particular protocol where as the RESTful web (Fatna Belqasmi and Roch Glitho, 2011)service will work with all kind of protocol such as http. REST includes a wide range of representation formats, including plain text, HTML, XML, and JavaScript Object Notation (JSON). REST resources are accessed through a uniform and standard interface. A uniform interface provides a number of advantages, such as familiarity and interoperability. To get access with the different databases of different data, data (Kun Wang, 2009)service mash up technique is used. This helps the user to send the query, which collects the information from heterogeneous databases. With the help of query translator an original query can be converted into a unified internal representation which will collects the data from different databases. Presentation Mash up supports the users to customize the layout and views to visualize the data and information. The result analyzer analyzes the consistency of the cross query results and identifies the controversy or contradictions. It also filters the duplicated records, and produces a cleaned results set. AJAX technology is frequently used in visualization mash up to improve user experience and increase the efficiency of interaction. A request parser is developed to handle the original query and get the keywords.

IV PROPOSED SCHEME

A. DATABASE FOR UBIQUITOUS DATA ACCESSING

This module consists of the databases for various activities such as available ambulances, supporting staff, doctor details, equipment information and the hospital database. It helps the health care data center to analyze the request and check the availability of ambulance to the nearby location. So the decision making process requires less time and the request is processed in an efficient manner. These databases are reflected in all the hospitals of that particular region.

So that the request is also sent to the nearby hospital, the request not contains the injury details and location but also the patient health information such as blood group, blood pressure and blood sugar, quantity of alcohol consumption. The entire concept of this project will be executed in the virtual operating system named eyes which will act as a virtual cloud.

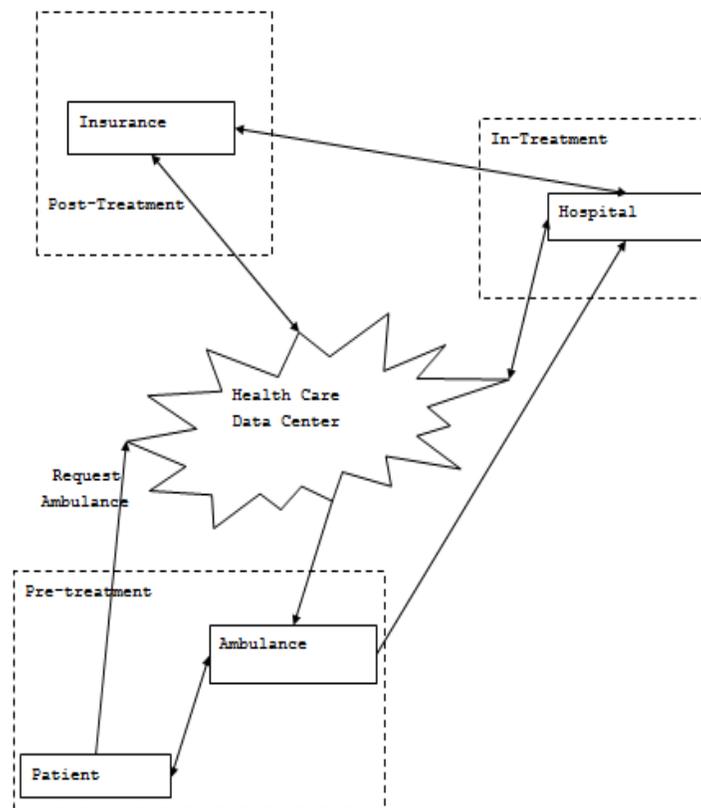


Fig 1.A system architecture

B. MAPPING THE REQUEST WITH THE DATA MODEL.

This module states that the working status of the ambulance, supporting staff, medical equipments inside the ambulance, availability of doctor in any particular hospital depending upon the given request. If any of the ambulance, supporting staff, and equipments status found to be free then that particular ambulance will be sent to that requested location .then the status of the ambulance will be changed as busy so that no other task will be assigned to it.

The blood bank database includes the donor details, such as name date of birth Blood group, address, phone number.

C.IMPLEMENTATION OF ANDRIOD APPLICATION

The android application is developed with some message templates which contains the type of injury details. if the user install this application in their mobile phone the they have to register their details to the application ,after that they can select the injury type and press the send button. Once the send button is pressed the message and their corresponding location is send to the healthcare data center. Then they will send the ambulance to the requested place and allocate the doctor to that particular patient based on the availability. The medical equipments of the ambulance are RFID assisted so that by scanning the RFID tag the status of the equipment get change from not available to available. The treatment provided by the hospital is categorized into the followings allocating the ambulance, blood bank, insurance facility. Register the mobile IMEI number with server using server ipaddress.the blood bank application includes the donor registration form and their log in details. Once the user registers with that application then they will be contacted through phone or sms when their blood group is needed.

V CONCLUTION

This proposed method is used by all android mobile phones and healthcare centers to provide the efficient service. This scheme can be enhanced by implementing the RFID in all ambulances and the medical equipments so that we can locate the ambulance in a timely and efficient manner. The databases created with this scheme can be stored into the cloud server to get the ubiquitous access of the data by any time anywhere.

REFERENCES

1. A. Dohr, R. M.-O. (2010). *the internet of things for ambient assisted living*. *IEEE* , 804–809.
2. chenguang he, x. f. (2013). *TOWARD UBIQUITOUS HEALTHCARE SERVICES WITH A NOVEL EFFICIENT CLOUD PLATFORM*. *IEEE transactions on biomedical engineering* , 60.
3. Fatna Belqasmi and Roch Glitho, C. U. (2011). *RESTful Web Services for service provisioning in next generation networks*. *IEEE Communications Magazine* , 66.
4. Kun Wang, X. B. (2009). *A Service-Based Framework for Pharmacogenomics Data Integration*. *IEEE International Conference on e-Business Engineering* , 95.
5. lei wang, m. i.-z. (2010). *A WIRELESS BIOMEDICAL SIGNAL INTERFACE SYSTEM-ON-CHIP FOR BODY SENSOR NETWORKS*. *IEEE transactions on biomedical circuits and systems* , 2.
6. Niewolny, D. (2013). *How the Internet of of things revolutionizing healthcare*. *freescala.com/healthcare* .
7. Vandana Milind Rohokale, N. R. (2011). *A Cooperative Internet of Things (IoT) for Rural Healthcare*. 978-1-4577-0787-2/11/\$26.00 ©2011 IEEE , 978-1-4577.
8. Woochul Kang, K. K. (2012). *A Real-Time Data Distribution Service for cyber physical system*. *IEEE TRANSACTIONS ON INDUSTRIAL INFORMATICS* , 393.
9. Faouzi kamoun (2009). *RFID system management: state-of-the art and open research issues*. *iee transactions on network and service management*,3
10. R.L.Richesson and J. Krischer (2007) *Data standards in clinical research: Gaps, overlaps, challenges and future directions J Amer. Med. Informat. Assoc., vol. 14, no. 6, pp. 687–696, 2007.*