EMERGENCY AMBULANCE ROUTE CLEARING SYSTEM USING GPS

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ABSTRACT

Android smart phones are increasing in day to day life with lots of features, some of the key features like GPs, wifi, camera, 3G etc. Localization-based inspection and repairs are more and more significant for advanced mobile devices such as the Smartphone's.. When an accident came about that emergency ambulance should quickly arrive the accident site in time. Withal, the emergency ambulance service is constantly delayed due to traffic congestion. Thus, how to well plan a proper rescue route to improve the rescue quality has become an important issue for the emergency ambulance service system. In this proposed The location based patient data is communicated to the ambulance driver. So the ambulance driver knows the exact location of the patient and how long it takes to reach the patient location. Furthermore, to avoid jam-packed areas, a traffic guiding subsystem is given based on the WebGIS that consists of Google Maps and GPS to help patient be given up to the hospital with the shortest time. The approaches of medicine greatly reduce the threats of diseases in human beings However, incidental accidents are not comfortable to forestall. Without a proper emergent rescuing mechanism, unnecessary deaths cannot be averted.

Keywords: RF Transmitter and Receiver, Arduino Board, Eclipse, GPS, Dijikstra Algorithm**.**

1. INTRODUCTION

Information agents are software products for assisting and guiding users to reach the goal of information retrieval. Up to now, however, most of Web information agent systems are closely related to the traditional information equipments that cannot directly apply to the modern mobile equipments resulting from the core part of information agent in ubiquitous environments. This study exactly focused on how to construct a ubiquitous interface agent with mobile equipments in ubiquitous environments. Ubiquitous computing is a post-desktop model of human computer interaction in which information processing has been thoroughly integrated into everyday objects and activities. Cloud computing is a technique of Internet- ("cloud-") based development and use of computer technology. Furthermore, how to construct an interactive diagram of cloud computing for extended and seamlessly entering related web information agent systems through modern mobile equipments in ubiquitous environments is under our investigation.This paper comes under both android and embedded domain.

[1]. "A new ubiquitous information agent system for cloud computing - example on gps techniques in google android platform"

-Yang et al-June 2011

A new ubiquitous information agent system with the GPS and Bluetooth techniques on the Google Android platform and related interaction diagrams with OntoIAS in cloud computing environments was proposed in this paper. It also explains how GPS device access location based services by connecting to the Google cloud server.

[2]."Enabling secure and spontaneous communication between mobile devices using common radio environment".

- Alex Varshavsky-March 2007

In this paper, we postulate that mobile devices that are positioned in close proximity may be able to derive a shared secret to secure their communication by monitoring fluctuations in the signal strength of existing ambient radio sources (GSM cell towers or WiFi access points) in their common environment. We explore the feasibility of deriving location-based secrets and describe two approaches for how such a secret could be used to secure spontaneous communication.

[3]. "An ontology-supported ubiquitous interface agent for cloud computing – example on bluetooth wireless technique with java programming".

- S.Y. Yang-September2010

This paper uses techniques such as packet decoding and recognizing, the agent employs the CURRL to transform user commands into an internal canonical format to conveniently process those commands by OntoIAS, which can avoid numerous, jumbled, and incorrect information torrents that results in misunderstanding of the information's intention of users. In this paper, we preliminarily proposed a ubiquitous interface agent with the Bluetooth wireless technique and related interaction diagrams in cloud computing environments. The system prototype and experiment outcomes can also reveal the feasibility of the system architecture.

[4]."On using existing time-use study data for ubiquitous computing applications"..

- K.Patridge –September 2008

In these studies, participants give a detailed record of their activities, locations, and other data over a day, week, or longer period. These studies are particularly valuable for the Unicom community because of the large number of participants (often in the tens of thousands), and because of their public availability Ubiquitous computing has directed much research attention lately toward inference of everyday human activities.

[5]."Situation Aware Qos Routing Algorithm For Vehicular AdHoc Networks"

-MH Eiza-December 2015

A wide variety of services has been developed for Vehicular Adhoc Networks (VANETs) starting from safety to move applications. An important demand for such services is that they're offered by Quality of Service (QoS) guarantees in terms of service dependability and handiness. Sorting out possible routes subject to multiple QoS constraints is generally associate degree NP-hard drawback. Besides, routing dependability has to be paid special attention as communication links oft break in VANETs

1.1 Existing Method

In the existing system, though we have many websites, portals, and the user can get information about the searched location in web sites. The user can be able to access the location only to online, these systems are not available at all time and also, this information does not reach people at the time of emergencies., In the existing system, if user search some location the high level data information will be displayed on the screen, whenever the user wants to search the places user need to specify the location of that particular area. In existing system user can be able to

access the information which is stored in the server. Users want to report traffic infractions where neither the infrastructure point, nor the users participating in the protocol can compromise the anonymity of reporting users.

1.2 Proposed Method

In the Proposed System of implementation, user makes the query to the main database through our application. In proposing a system Ontology is also implemented in this Project for the Relative Key word Search. If user search some location through our application it's taking the current location of the application user using GPS. As the user makes the query along with his GPS values to find out the Exact Location from the data base, this process the query and authenticates the user and then passes the query to the main database The main system maps the query with its database along with the Location, further this location based information is passed back to the user. In existing system only contain the high level data, but in our project contain the deep level data because those data is collected from locally. In this system, an emergency ambulance service (RTIEMS) system based on wireless communication networks and real-time traffic information was developed. The proposed system can be installed in ambulance to improve the golden rescue time for patients. The proposed RTIEMS system enables patients be delivered to the hospital with shortest time; thus significantly improving the quality of emergency ambulance service

2. Working

Android smart phones are increasing in day to day life with lots of features such as GPS, 3G etc. Location-based services are increasingly important for modern mobile devices such as the Smartphones..This project is based on both android and embedded domain by integrating components such as smart phone with admin server. Initially, the user sends his request to ambulance driver about the accident location through his smart phone application. The location values are indicated in the form of latitude and longitude, which in turn indicates the location area of the accident to the ambulance driver. When the ambulance reaches the accident area after picking up the victim, the driver uses his smart phone to locate the nearest hospital using shortest distance path algorithm.Gimp uses shortest algorithm such as DIJIKSTRA algorithms for finding the shortest distance to the nearby hospital. Dijkstra's algorithm is a graph search algorithm that solves the single-source shortest path problem for a graph with non negative edge path costs, producing a shortest path tree.For a given source vertex (node) in the graph, the algorithm finds the path with the lowest cost. It can also be used for finding costs of shortest paths from a single vertex to a single destination vertex by stopping the algorithm once the shortest path to the destination vertex has been determined.

Fig -1: Working of ambulance route clearing system

2.1 Rf transmitter and Rf receiver

 In generally, the wireless systems designer has two overriding constraints: it must operate over a certain distance and transfer a certain amount of information within a data rate. The RF modules are very small in dimension and have a wide operating voltage range i.e. 3V to 12V.Basically the RF modules are 433 MHz RF transmitter and receiver modules. The transmitter draws no power when transmitting logic zero while fully suppressing the carrier frequency thus consume significantly low power in battery operation. When logic one is sent carrier is fully on to

about 4.5mA with a 3volts power supply. The data is sent serially from the transmitter which is received by the tuned receiver. Transmitter and the receiver are duly interfaced to two microcontrollers for data transfer

Fig -2:Rf transmitter and Rf receiver

2.2 Modules

- Location to the server

- Searching in Offline and Online using Ontology

- Add and Share location

- Updating offline database

Server Modules:

This module is mainly used to search the location of particular places in online from our server. The user can able to download the location of the local database using the server. After that user can be able to search the data in offline. In this server only the user can be able to upload the location to the server.

Searching in Offline and Online using Ontology:

In this module user can be able to search the location in online and in offline mode The current location of the user can be obtained using Indoor tracking and dead reckoning techniques Indoor tracking is a network of devices used to wirelessly (WIFI, GPS) locate the user current location who is located inside the building. Dead reckoning is a process that is designed to estimate the current location based on the previously determined location

Add and Share location:

In this module the user can be able to add the location details of a particular place to the server by using data offloading method.The data offloading method is used to deliver the original data's to the targeted server for the mobile device After adding the location to the server and server share the location to the other user who are all using this application

Updating offline database:

In this module the user can be able to update the location details from the server to the offline database In our application we are using SQLite as an offline database the user get the data from the centralized server and data will be sent to the SQLite.

3. Runtime compilation

The programmatic generation of code is something very intrinsic to the Javaplatform. When a Java application is compiled, the Java compiler serves you bytecode instead of an executable program. In order to execute bytecode, it is translated into native machine code at runtime by a JVM's just-in-time compiler.
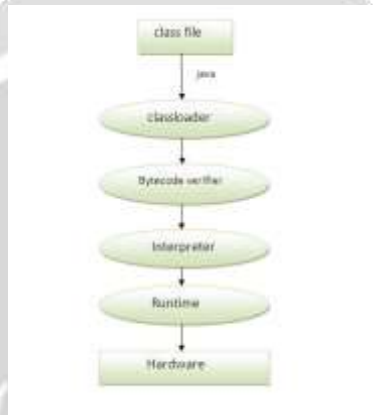
Fig-3: Runtime compilation

3.1 Architecture diagram

Location-based services are increasingly important for modern mobile devices such as the Smartphones.This project is based on both android and embedded domain by integrating components such as smart phone with admin server.Intially the user sends his request to ambulance driver about the accident location through his smart phone application.The location values are indicated in the form of latitude and longitude,which inturn indicates the location area of the accident to the ambulance driver.When the ambulance reaches the accident area,after picking up the victim,the driver uses his smart phone to locate the nearest hospital using shortest distance path algorithm. Gmap uses shortest algorithm such as DIJIKSTRA algorithm for finding the shortest distance to the nearby hospital. Dijkstra's algorithm is a graph search algorithm that solves the single-source shortest path problem for agraph with nonnegative edge path costs, producing a shortest path tree

Fig-4: Architecture Diagram

4. CONCLUSIONS

In this paper, we presented the implementation and evaluation of map, which provides an autonomous construction of a personalized map for the development of advanced mobile services. The core component of this map is a location management scheme that provides offline and online location information in everyday lives. . The core component of this map is a location management scheme that provides offline and online location information in everyday lives. Each user search his/her own location on map incrementally with a help of centralized server and a local server. We minimized the energy consumption of a device by using a minimum set of sensors based on user activity.

5. REFERENCES

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