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Emergency Medical Service using GPS Tracking Device

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ABSTRACT:The Emergency Medical Service and Patient locations tracking using two technologies via General Packet Radio Service (GPRS) and Global Positioning System (GPS). The Emergency Medical Service using GPS Tracking allows the user's location to be tracked using a mobile which is equipped with an internal GPS receiver and a GPRS transmitter. In existing system, itwill lose a large number from those people if they needed succouring and there isn't someone with the person known which type and suitable help needed. The proposed methodology offers a succouring system controlled by the patient based on the patients' location. This emergency system the person will send SMS contains his ID and coordinates (Longitude and Latitude) via Global Positioning System (GPS) network to the web server.The server will locate the sick person on Google map and retrieve the person's information from the Heidi SQL database which is stored by the hospital employees. Based on these information,the EMS system will send succouring facility. At the same time ,the system intimates the patient details to the hospital, relatives and to the doctor Via SMS.

KEYWORDS:Global Positioning System, General Packet Radio Service, Heidi SQL,Patient Location,SMS.

I. INTRODUCTION

The large numbers of sick persons in different diseases are very dreaded, and when there isn't succour at the proper time and in the type the sick person need it that makes us lose person This system relied on the dedicated tracking technology to identify the location of the patient. These dedicated alert systems used Global Positioning System GPS to provide the tracking facility. The system allow the user's mobility to be tracked using dedicated GPS or mobile phone which are equipped with an internal GPS receiver and a GPRS transmitter [1]

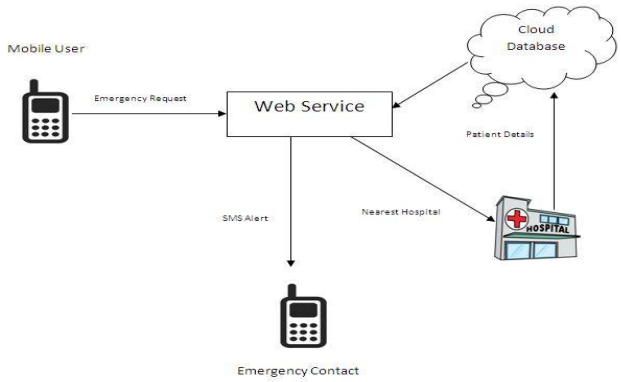

Fig 1.Overview of EMC

The Fig 1shows the overview of Emergency medical Centre, the person will send SMS contains his ID and coordinates (Longitude and Latitude) via Global Positioning System (GPS) network to the web server, then the server will locate the sick person on Google map and retrieve the person's information from the database which is stored by

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the hospital employees. Based on this information our system will send succoring facility and at the same time informing the hospital and send SMS alert to emergency contact number.

II. RELATED WORK

The existing system face to face a front of a big problem with this large numbers of sick person from view of diseases only [2]., i.e. what about this problem become more effective if there isn't who offer succoring and helping at a suitable time for those people when they are in school, shopping, with their friends, etc, i.e. will lose a large number from those people if they needed succoring and there isn't someone with the person known which type and suitable help needed. The diseases give a view of the big problem worldwide without taking into consideration the diseases. Therefore, without a proper succoring system the fatality rate may increase among that patient.Cost effective GPS-GPRS Based Object Tracking systemimplements a low cost object tracking system using GPS and GPRS.[3]

III. PROPOSED SYSTEM

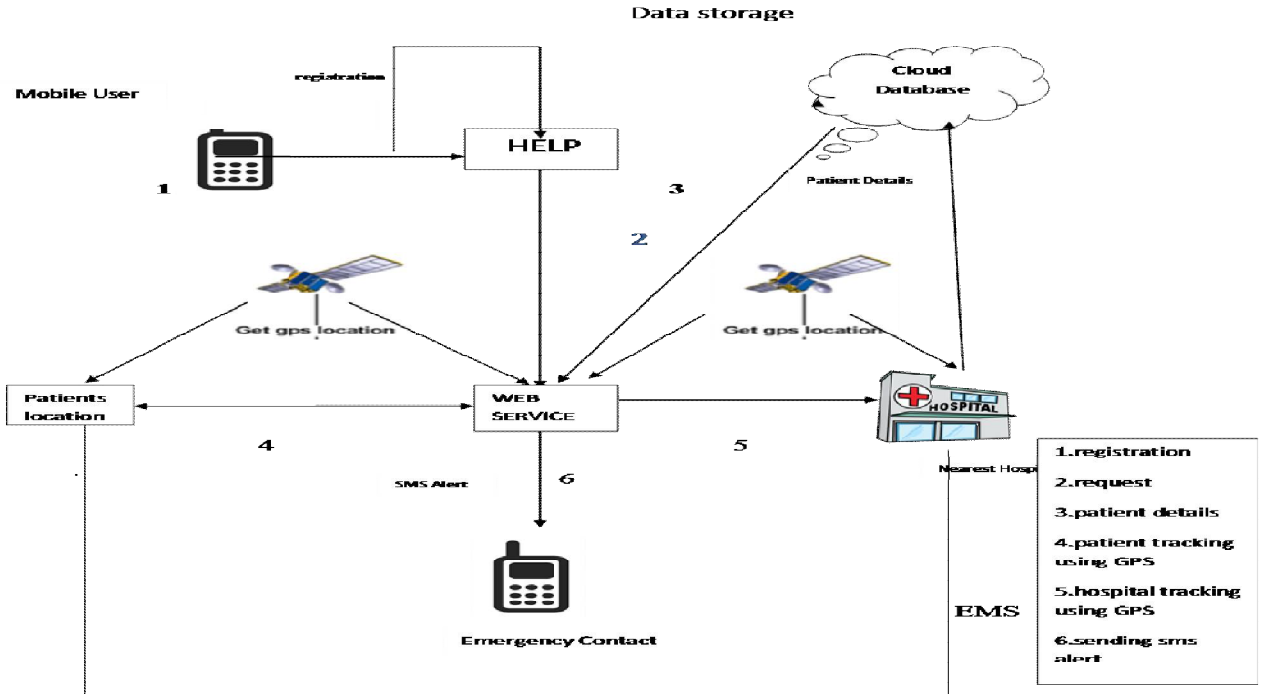

Fig 2.System Architecture diagram for EMC

The Fig 2 represents the system architecture for Emergency Medical Controller. When the patient was using the system for first time he/she should register their details. Those information are patient id, name, mobile number, Date of Birth, Type of disease, emergency contacts. The above information is stored in web server.In case of an emergency patient will click help button, to send request to the server. The server tracks the location of nearby hospitals by using GPS. Web service will send the request to the nearest EMC from the patient with an alert to inform the workers at EMC.

A. *Patient details*

The patient should be registered their details in the database. Those information are patient id, name, mobile number, Date of Birth, Type of disease, emergency contacts. That information will be saved in the database of server

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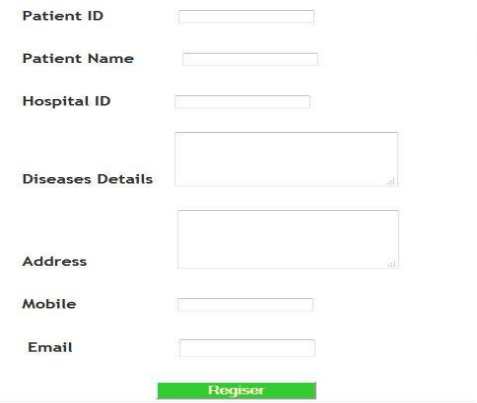

Fig 3.Registration form for patient details

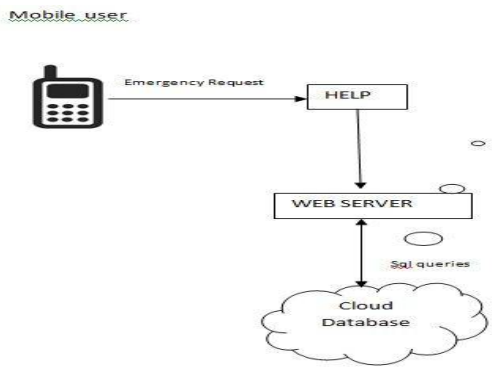

Fig 4. Emergency request

B. *Patient sending a request*

The fig 5 shows when the patient needed help will click on help button, to send request to the server. When click on one request in the list that will be retrieved their information from the database by using sql queries.

C. *Patient Location Tracking*

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	Take Action	patid	LATITITUDE	LONGITUDE
LOCATE	Take Actions	p102	11.03723	77.923286

Fig 5. Patient Location Tracking using patient Id

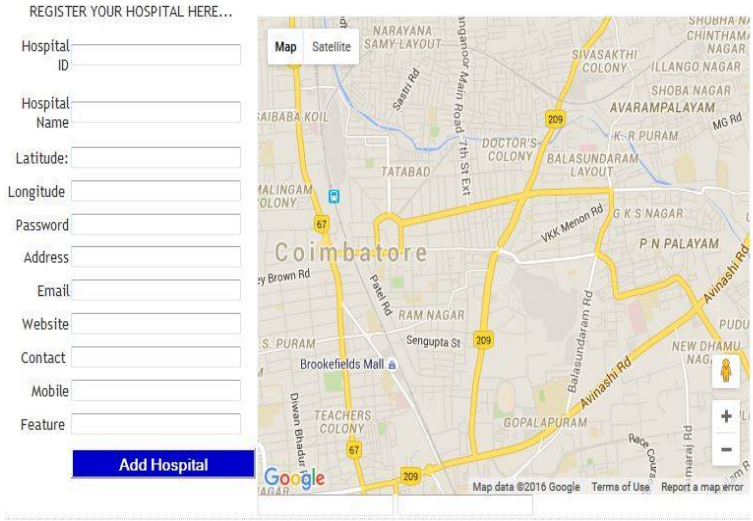

Fig 6. Adding and tracking the medical centre

The server works automatically when receiving the request from the client and display under the list of requests with their location will be plotted on the Google map as single marker. The request contains patient's ID, latitude and longitude, which are obtained their values from GPS satellites automatically because the client used a built-in GPS.

D. *Emergency Medical Centre Tracking*

The server will track and send the request to the nearest Emergency Medical Center from the patient. From the client (patient's mobile) web service will send it to the nearest EMC from the patient with SMS to inform the workers at EMC there is a new help request. The system contains more than one EMC, which distributed due to the area that used this system, each ESC contains more than one ambulance to serve as facility succoring for the patients when they need help.

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F.*SMS Alert*

Fig 7 .SMS Alert

Fig 8.GPS Tracking

Server will send SMS to the emergency contacts when patient needs help to be informed that the patient needs help for them. Using the web service technology is sending the request and receiving the reply done through Internet rather than SMS mode.

IV. IMPLEMENTATION AND RESULTS

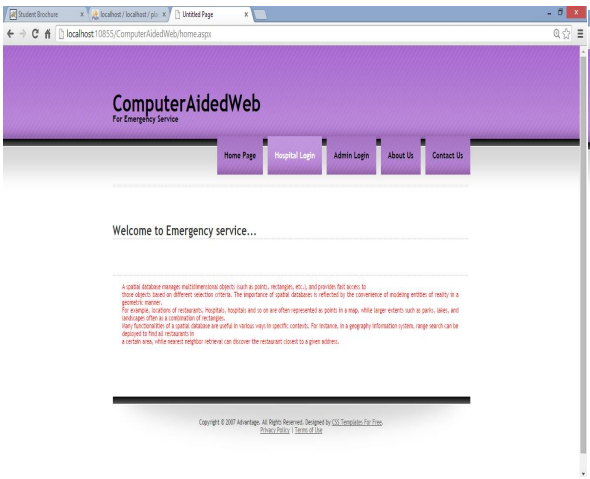

Fig 9.Home page

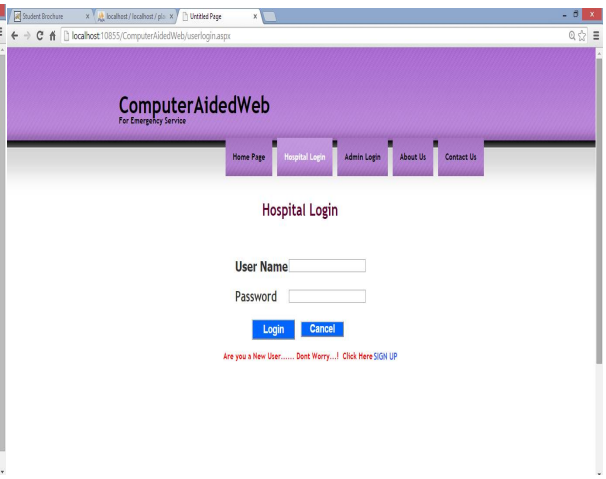

Fig 10.hospital login

Fig 11.emergency list

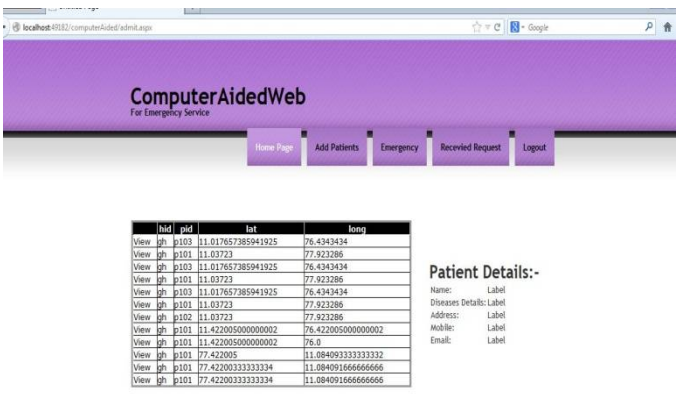

Fig 12.Received request

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When we building the project using visual studio 2008 the fig 9 will be displayed .It consist of fields such as home page, hospital login, admin login, about us and Contact Us. The home page consists of necessary information about emergency service.The fig 10 refers that the admin login which includes all hospital details. It can help us to know the available hospitals. The fig 11 represents the request sended by user that can be viewing by websever. The fig 12 represents the number of request received with hospital id, patient id with longitude and latitude.

V. CONCLUSION AND FUTURE WORK

This paper presents the Emergency location tracking system using GPS and GPRS network, suitable for wide range of applications all over the world. The combination of the GPS and GPRS provides continuous and real time tracking. Google map is used to locate the EMC and patient .It is expected that the full implementation of the proposed system would ultimately replace the traditional tracking systems.

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