Multi-agent based e-health system

ABSTRACT

With the increase of calculation power and computational intelligence in various devices, a new trend arose called IoT (internet of things). IoT already made a strong presence in several applications in e-health, most of them in patient surveillance area. This paper proposes the design of an intelligent integrated system for sending and processing personalized medical data and storing them in the cloud according to modern standards. A mobile hardware component will be used, that features a set of medical sensors (tonometer, EKG, pulse oximetry, temperature, accelerometer, respiratory rate, electromyography, GPS) and is able to serialize them in the standard HL7 format and send them through an internet connection (2G, 3G, 4G, Wi-Fi) to the cloud server. The equipment will allow the patient (or someone who is helping the patient) to initiate audio/video streams to the medical personnel.

EXISTING SYSTEM

Generally no one can detect the accidents before. If it a massive accident like fire accident so many people lost their lives. Some people lost their life due to lack of treatment. The government cannot estimate the injured people count so they sent ambulances and doctors as their wish. And they may or may not be sufficient. It is a major problem. Sometimes due to weather changes some viruses may attack which cannot be known in advance. They may cause several deaths and the government is not in a position to take preventive steps if the virus attacked broadly.

DRAWBACKS

- People don’t get proper help.
- Many people lost lives due to lack of treatment.
- Monitoring the citizens position is very poor.

PROPOSED SYSTEM

This paper proposes the design of an intelligent integrated system for sending and processing personalized medical data and storing them in the cloud according to modern standards. A mobile hardware component will be used, that features a set of medical sensors (tonometer, EKG, pulse oximetry, temperature, accelerometer, respiratory rate, electromyography, GPS) and is able to serialize them in the standard HL7 format and send them through an internet connection (2G, 3G, 4G, Wi-Fi) to the cloud server. The equipment will allow the patient (or someone who is helping the patient) to initiate audio/video streams to the medical personnel.

ADVANTAGES

- It will be easily integrated in most of the existing hardware systems and operating systems.
- It provides facilities like sending ambulances and doctors in case of massive accidents.

SYSTEM EQUIREMENTS

H/W System Configuration:-

- Processor - Pentium –IV
- RAM - 4 GB (min)
- Hard Disk - 20 GB
- Key Board - Standard Windows Keyboard
- Mouse - Two or Three Button Mouse
- Monitor - SVGA

S/W System Configuration:-

- Operating System : Windows 7 or 8 32 bit
- Application Server : Tomcat5.0/6.X
- Programming Language : Java
- Java Version : JDK 1.6 and above