HEALTH MONITORING SYSTEM USING GPS

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Abstract - Health monitoring systems have rapidly evolved recently, and smart systems have been proposed to monitor patient current health conditions, in our proposed and implemented system, we focus on monitoring the patient's heart rate, and his body temperature. Based on last decade statistics of medical records, death rates due to hypertensive heart disease, shows that the blood pressure is a crucial risk factor for atherosclerosis and ischemic heart diseases; thus, preventive measures should be taken against high heart rate which provide the ability to track, trace and save patient's life at appropriate time is an essential need for mankind. Nowadays, Globalization demands Smart cities, which involves many attributes and services, such as government services, Intelligent Transportation Systems (ITS), energy, health care, water and waste.

*Key Words*: GPS, GSM, ITS, SMS, etc.

1.Introduction

The system will track, trace, monitor patients and facilitate taking care of their health; so efficient medical services might be provided at the acceptable time. By using specific sensors, the info are going to be captured and compared with a configurable threshold via microcontroller which is defined by a specialized doctor who follows the patient; in any case of emergency a brief message service (SMS) are going to be sent to the Doctor' s mobile number along side the measured values through GSM module. Furthermore, the GPS provides the position information of the monitored one that is under surveillance all the time.

1.1 Methodology

The patient would place his/her finger on the sensing unit. The sensors would sense the heartbeat and the vitals with body temperature and current location The sensed data rates and location are sent to Arduino Uno in the form of signals. The Arduino processes the same data and would transmit the data to the Wi-Fi module and GSM Module The Wi-Fi module would then retransmit the data to the smartphone application. The GSM Module would then send the message if there is any emergency The alert message will be shown in the smartphone application if the sensed rate is more than the desired rate .

1.2 Data Flow Diagram

A data flow diagram (DFD) is a graphical representation of the "flow" of data through an information system, modeling its process aspects. A DFD is often used as a preliminary step to create an overview of the system, which can later be elaborated. DFDs can also be used for the visualization of data processing.
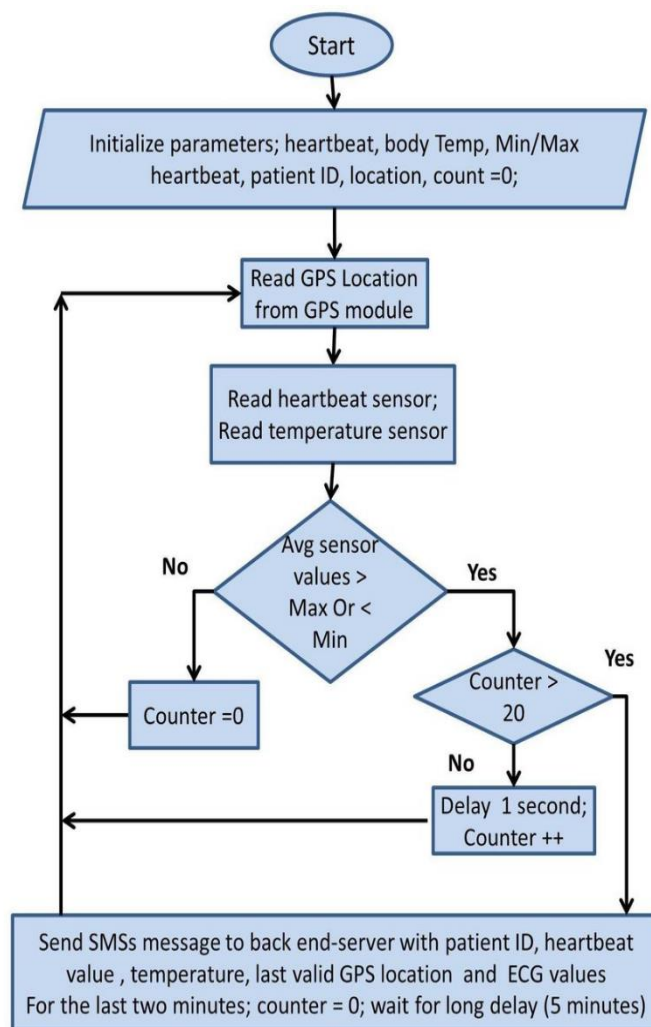

Dig- Data flow diagram

2. System Architecture
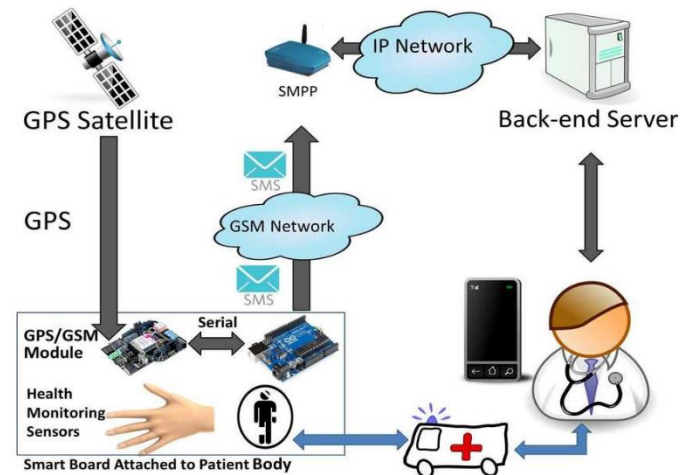
Dig- System Architecture

2.1 GPS NEO 6M :-

The u-blox NEO-6M GPS engine on these modules is quite a good one, and it also has high sensitivity for indoor applications. Furthermore, there' s one MS621FE-compatible rechargeable battery for backup and EEPROM for storing configuration settings. The module works well with a DC input in the 3.3- to 5-V range (thanks to its built-in voltage regulator). The original circuit diagram of the module, borrowed from the web, is shown below:
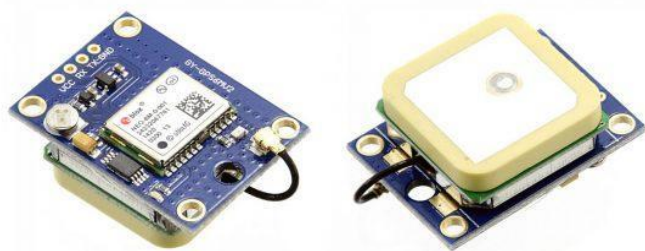
3. CONCLUSIONS

Hence, from this project we can conclude that science is still developing and growing up to save human lives and with the help of such systems we can ensure a better care for a life than ever before. Electronics has always been a great contributor of medical science and this is just one step forward to the evolution of modern health care systems. This is what we have inferred from the current project entitled GPS & GSM Based HUMAN HEALTHCARE

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