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## 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. This paper proposes system architecture for smart healthcare based on GSM and GPS technologies. The objective of this work is providing an effective application for Real Time Health Monitoring and Tracking. The system will track, trace, monitor patients and facilitate taking care of their health; so efficient medical services could be provided at appropriate time. By using specific sensors, the data will 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 short message service (SMS) will be sent to the Doctor's mobile number along with the measured values through the GSM module. Furthermore, the GPS provides the position information of the monitored person who is under surveillance all the time. Moreover, the paper demonstrates the feasibility of realizing a complete end to- end smart health system responding to the real health system design requirements by taking in consideration wider vital human health parameters such as respiration rate, nerves signs ... etc. The system will be able to bridge the gap between patients - in dramatic health change occasions- and health entities who response and take actions in real time fashion

keywords - GPS, GSM, ITS ,SMS,etc.

## I. 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. Moreover, the paper demonstrates the feasibility of realizing a complete end to- end smart health system responding to the important health system design requirements by taking in consideration wider vital human health parameters such as respiration rate, nerves signs etc. The system are going to be ready to bridge the gap between patients - in dramatic health change occasions and health entities who respond and take actions in real time fashion.

# LITERATURE SURVEY

Mikhail St-Denis, designed a Life line project that can monitor heart rate, blood sugar levels, human's body temperature, and by using GSM to synchronize and display these information into a smart mobile phone or a standard computer. such device gather data from users and display some related graphs in order to encourage users to remain aware of their health conditions by providing the feedback.

Eli Hariton designed Gluco (M) wristband which monitors the blood glucose levels. LUMO BodyTech (2011), created a platform for tracking human biomechanics, starting with a unique sensor-based solution and back pain. This solution consists of a discreet biomechanics- monitoring sensor, an engaging mobile app, and intelligent algorithms for personalized user experience. Patent-pending solution harnesses the power of human movement data to provide real-time feedback and to enable healthy behaviors.

Dr. Sailesh Chutani (2009), founded a Mobisante for ultrasound imaging that will be displayed. Health care workers in remote areas. Locations can be check for pregnant women, monitor a baby's health, examine patients for heart and lung problems, and other problems. Their phone can then transmit the images to a hospital for consultation. In this PROJECT, a tracking system will be designed and implemented for monitoring heart rate and body temperature

## II. 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

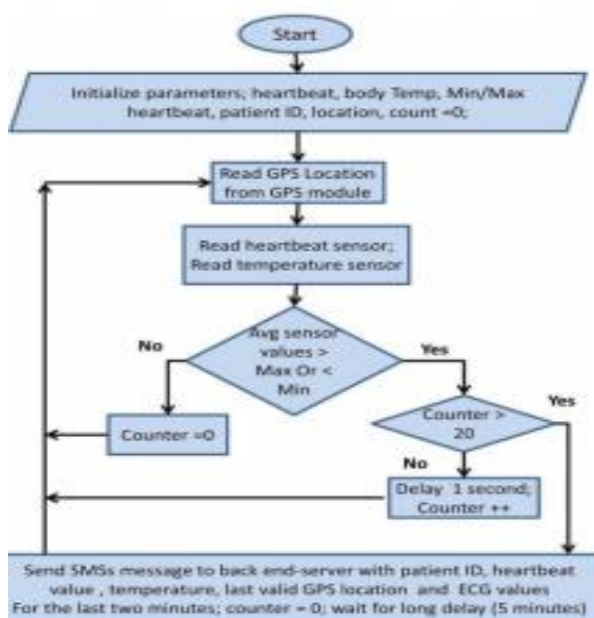


FIG-1: ALGORITHM OF HEALTH MONITORING

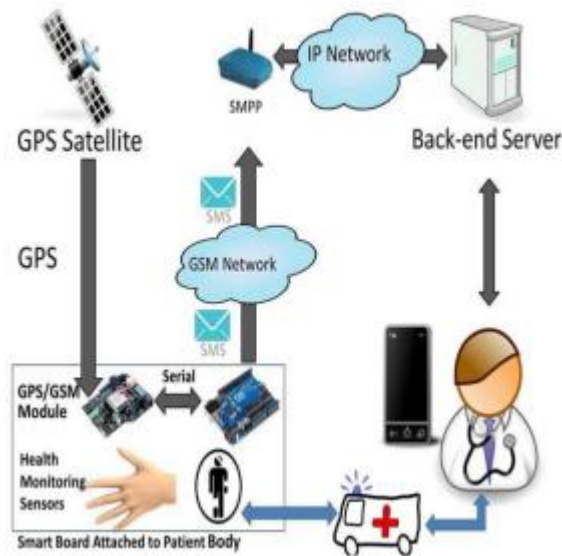


Fig-2 : System Architecture

### III.CONCLUSION

The objective of this work is providing an effective application for Real Time Health Monitoring and Tracking. The system will track, trace, monitor patients health and facilitate taking care of their health; so efficient medical services could be provided at that appropriate times.

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