Health Factor and Location of Senior Citizen towards Automatic Report Generation

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Abstract - *Sensing Health Factor and Location of senior citizen towards automatic report generation is implemented for tracking the movement of an elder from any location at real time. The Proposed System make use of technology that combines a smartphone application with a microcontroller device which is like a watch will be worn by the elder by which we'll know the position of the elder by using Global Positioning System(GPS) technology. The application user will be continuously monitor the elders on demand using the application. This scheme uses a panic button/switch for the safety of the elders. In case of emergency, the status of the current location of elders will be known to the app user or nursing home. Apart from location, their temperature and heartbeat pulse can also be known through sensors. This report presents the experimental results of the system to efficiently track and monitor the old age people.*

Key Words: Ardino UNO, GPS, Sensors, etc

1. INTRODUCTION

Sensing Health Factor and Location of senior citizen towards automatic report generation is implemented for tracking the movement of an elder from any location at real time. The Proposed System make use of technology that combines a smartphone application with a microcontroller device which is like a watch will be worn by the elder by which we'll know the position of the elder by using Global Positioning System(GPS) technology. The application user will be continuously monitor the elders on demand using the application. This scheme uses a panic button/switch for the safety of the elders. In case of emergency, the status of the current location of elders will be known to the app user or nursing home. Apart from location, their temperature and heartbeat pulse can also be known through sensors. This paper presents the experimental results of the system to efficiently track and monitor the old age people.

1.1 EXISTING SYSTEM

In Indian cities there are many elderly people who stay alone at home as other members of family are out for work during day time or work at different geographical locations.

It becomes difficult for family members to know the health status and locations of the elders, as they tend to be going out for different activities including groceries, walks, doctor appointments etc.

Some elders may suffer from amnesia and may forget of their location when they are out, so they are only allowed to go to a certain location. Thus we need to develop a system that doesn't restrict their freedom and develop a low cost system since most nursing homes face budget constraint.

1.2. PROPOSED METHODOLOGY

It becomes difficult for family members to know the health status and locations of the elders, as they tend to be going out for different activities including groceries, walks, doctor appointments etc.

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We propose a system that can easily trace location of the elders with GSM/GPRS and also keep up with their health factors such as temperature and heartbeat pulse. Also these elderly people need not worry about their location, if they get lost, they can press an emergency switch can be used by elders in the case of emergency situation, if they feel like they have lost their track of location. All this data will be stored in cloud and shown in the android application. Therefore, this system will monitor their health factor and location of the elder.

FIGURE-1: Proposed System
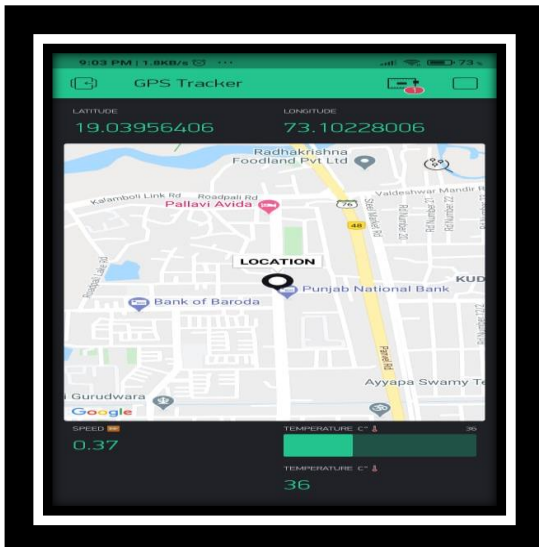
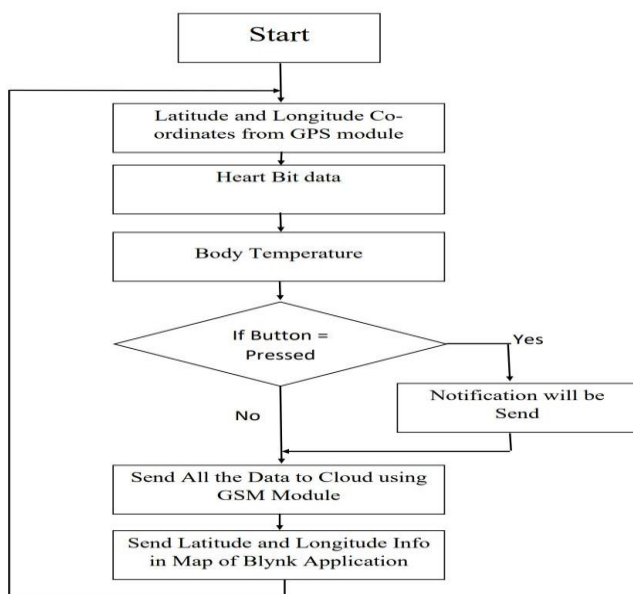PROPOSED SYSTEM DESIGN
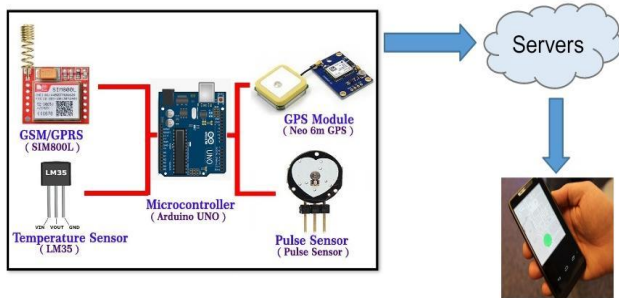
2. Implementation Details

Chart -1: Algorithm Flowchart

We have used Iot in our project implementation. We have microcontroller Atmega 328p IC which is connected to GSM & GPS module. The sensors like LM35 Temperature sensor and Pulse sensor are used to cheack temperature and heartbeat. The data will be stored in the cloud through Blynk application.

12V battery provides power to the microcontroller. The temperature sensor has three inputs: ground, v-in, data pin. The data pin is connected to the A0 port in the microcontroller, ground is connected to the ground in microcontroller and the v-input is connected to the 5V in microcontroller.

Figure 4. Circuit diagram
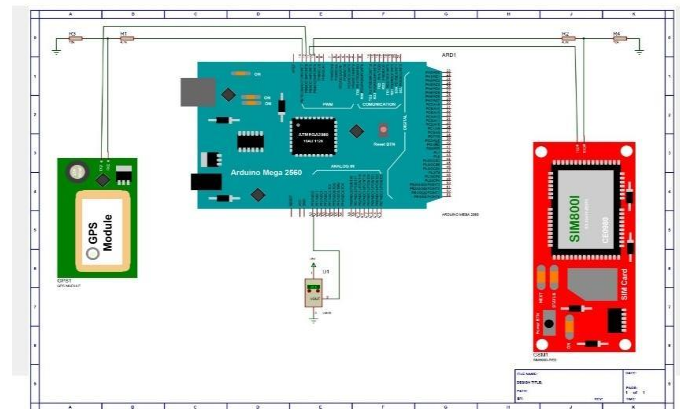
3.3V Battery is connected to GSM Module which provides power to the module.

GPS Module which again requires 3.8V. The Rx of both GPS & GSM are connected to the voltage divider and the Tx pin of microcontroller is connected to the voltage divider.

Temperature sensor senses the temperature and sends data to microcontroller. GPS Modules communicates with satellite and provides date to μC.

μC with the help of GSM Module uploads data on the cloud. The Android application fetches data from the cloud and shows latitude, longitude, temperature, pulse and speed of the person and location of the person.

3. CONCLUSIONS

In this report, the detailed study of various methodologies and the algorithms used to create the monitoring system; which traced the location of the belt user and can acquire desired information. A brief explanation how the iot system works and some approaches to accomplish the

task are mentioned and explained in the report. A system is designed that can easily trace location of the elders with GSM/GPRS and also keep up with their health factor such as temperature and heart rate using an android application. Also, these elderly people need not worry about their location, if they get lost they can press and emergency switch which can be used by elders in the case of emergency situation and if they feel like they have lost their track of location. Therefore this system will monitor the health factor and location of the elders. Hence this system is one stop solution to pay gratitude to the elderly in our lives.

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