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## SOLDIER HEALTH AND POSITION TRACKING SYSTEM

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### ABSTRACT

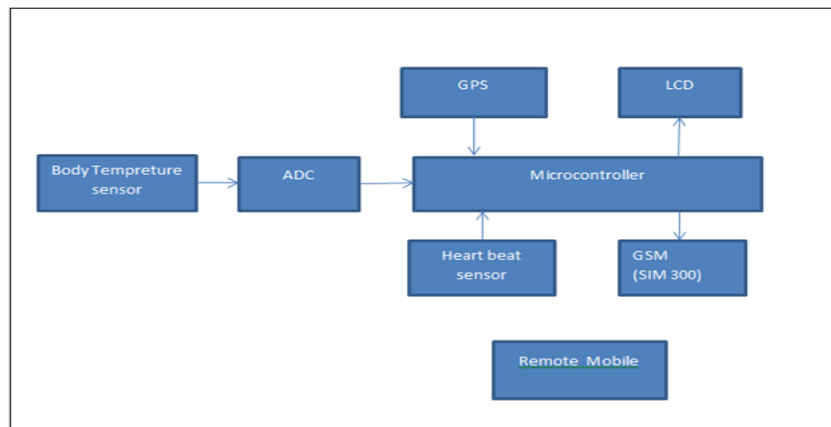
Now a days, Security of the world is totally depend upon enemies ,campaign and so the safety and precaution of the soldier is plays very important role in it. For the soldier health and their security we can helps us to implementing many circuit which can shows the current position and health status of the soldier. For implementing that kind of kit we use Global Positioning System(GPS),to determine the current location of soldier and transmit message through the Global System for Mobile Communication(GSM) to the base station.This system contains single-board embedded system which consist of GPS and GSM modems along with 8051 microcontroller. During soldier motion, the real time location can be reported by SMS .The use of GSM and GPS technologies allows the system to track the position and provide up-to-date health information.

**Keywords-** Microcontroller, Biomedical Sensor, GPS, GSM.

### 1. INTRODUCTION

Proposed design is cost-effective, reliable and has the function of accurate tracking. This project includes various features like simplicity of design and easy implementation. It is completely integrated so that once it is implemented in all soldier. So this paper is basically focus on tracking the location of soldier through GPS, which is very useful for control room station to know the current exact location of soldier and according to this result they will guide to soldier

### 2. BLOCK DIAGRAM



*Fig.block diagram of soldier unit & base station unit*

### Materials

- power supply
- Microcontroller
- Temp. Sensor
- Heart Beat Sensor



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- GSM
- GPS
- LCD

### Description of Block Diagram

In this paper we use 89C51 8-bit microcontroller having 4K bytes of flash memory and programmable erasable read only memory (PEROM) with low-power, high-performance CMOS technology. Temperature sensor is connected to the microcontroller through ADC. The Temperature sensor can be used as detect temperature with the help of a temperature sensor ( LM35). Soldier body temperature high when pressed immediately will send the alert message of Base station and hence will not wait for heart beats to go out of the actual range. The Heart Beat sensor provides a simple path to the project heart's beat function.

This sensor continuously monitors signals from the sensors and if any changes occurs like the heartbeat increased or decreased or the body temperature increased or decreased then the information obtained from these sensors and the soldier health information obtained through the GPS modem is sent as the message to a main base station with the help of a GSM modem. The GSM MODEM is used to give the information about the soldier like the heartbeat and the body temperature to a base station.

It is same to a mobile which used a SIM card for its operation but the advantage of GSM modem over mobile is it has serial communication that can directly connected to the Microcontroller to sending the AT(Attention) commands for sending SMS.

The LCD 16\*2 are used to display the message when LCD Unit. The LCD displays the temperature and the heartbeat, and location, current date, time of soldier.

Power supply is a step down transformer which convert 230v, 50Hz to the 12v, 50Hz. the function of bridge rectifier is to convert AC power into DC. It convert 12V AC into pulsating DC. Regulated IC is used to convert power into required voltage. Regulated IC(7805) is used to convert 12V DC into 5V regulated supply.

### Advantages

- No need to go on field.
- Higher reliability.
- Cost effective.
- Fast and efficient.

### Applications

- In Army
- In Navigation
- In Aircraft

### 3. RESULT

From this project, The security and safety of soldier will implemented by the GPS, GPS track position of soldier anywhere on earth and also system monitor health parameter which provide security and safety for soldier. The continuous communication will be possible anywhere using GSM which can be help soldier to communicate their member whenever in need. The less complex circuit and the power consumption so for this way, the concept of tracking and navigation system is very important and useful for soldier. When soldiers are on military field during battle, also base station will be received real time view of soldier on field.



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### 4. CONCLUSION

The “SOLDIER HEALTH AND POSITION TRACKING SYSTEM” is the effective safety and security system which is made by the advancement in wireless and embedded technology. It also helps the complete secret missions successfully. This can be used in critical conditions. It can be improved the security of our country and improve the safety of the soldier. It also provides real time video information. Thus we can conclude that this system or device is very important and helpful for insuring security of the soldiers.

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