

Soldier Health And Position Tracking System

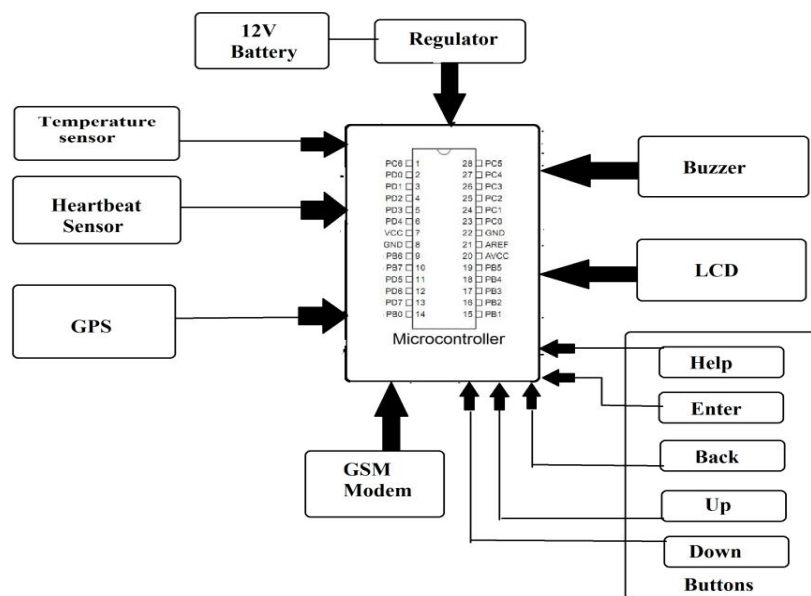
Abstract

Nowadays all nations keep its security at high priority. Wars are being fought for land, water and acquiring the position of most powerful nation. A country's arm forces consist of three professional uniformed services: the army, the navy, and the air force. Soldiers being the backbone of any armed force usually lose their lives due to lack of medical help when in emergency, also soldiers who are involved in missions or in special operations get straggled on war fields and lose contact with the authorities. To overcome this concerns we had build this project which, using wireless body area sensor network (WBANS) such as temperature sensor, heartbeat sensor etc. will monitor the health status of the soldier whenever required. Also using GPS we can track the soldier's exact location whenever required. Using oxygen level sensor we can also monitor the environmental condition, so authorities can provide essential aids. The communication is established between the soldiers and authorities via GSM. Any abnormalities in the readings of wireless body area sensor network (WBASNs) is considered as a trigger for GSM to establish the connection between the soldier and base unit and send current location and health status to the receiver. By using all this equipments we had tried to implement the basic guarding system for the soldier in low cost, light weighted, portable and precise device.

Introduction

The soldier Health and Position Tracking System allows military to track the current GPS position of soldier and also checks the health status including body temperature and heartbeats of soldier. The System also consists extra feature with the help of that soldier can ask for help manually or send a distress signal to military if he is in need. The GPS modem sends the latitude and longitude position with link pattern with the help of that military can track the current position of the soldier. The system is very helpful for getting health status information of soldier and providing them instant help.

Block Diagram



Hardware Specifications :

- Microcontroller
- GPS Modem
- LCD Display
- Heartbeat Sensor
- Temperature Sensor
- 12V Battery
- Buzzer
- Resistors
- Capacitors
- Diodes

Software Specifications :

- Compiler
- MC Programming Language: C

Application & Advantages

- **Soldiers Security and safety:** GPS tracks position of soldier anywhere on globe and also health system monitors soldier's vital health parameters and environmental situation which provide security and safety for soldiers.
- **Less complex circuit and less power consumption:** Use of PIC processor and low power requiring peripherals reduce overall power usage of system.

- Modules used are smaller in size and also lightweight so that they can be carried around.
- So in this way concept of tracking and navigation system is very useful for soldiers when they are on military field during war and also for base station so that they can get real-time view of soldier.

Future Scope

We can dial an emergency call if the soldier health parameters crosses threshold value or soldier co-ordinates goes out of a certain / pre-decided track.