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**ABSTRACT**

This paper introduces real-time wireless embedded electronic devices for soldier security. Enemy war is an important element of the security of all nations. One of the most important and important roles is played by the military. There are many concerns about soldier health parameters. For security reasons, many devices are attached to them and indicate their health status and the combat equipment they carry. Bio sensing systems include various types of small physiological sensors, transmission modules, and processing capabilities to enable cost-effective wearable health monitoring solutions. GPS is used to record the longitude and latitude so that the outlook can be known easily. These equipment are being added to weapons and shooters, and some military such as the Israeli army are exploring the probability of embedding GPS devices into soldier`s vests and uniforms so that field commanders can track their soldier`s movement in real time. GSM and GPS module can be used for high-speed, short-range, soldier-to-soldier wireless communications that will be required to transfer information on situational awareness, planned instructions, and furtive surveillance related data during special operations survey and other missions. So by using these appliances we are trying to impose the basic life saving system for soldier in less cost and high reliable.

KEYWORDS:Global Positioning System(GPS),Global System for Mobile Communiction(GSM),Bio Sensors,Physical Sensors,Operating System(OS)

**CHAPTER-1**

**INTRODUCTION**

Soldier protectionis more important to the welfare of the Indian Army. I used Raspberry Pi. The main purpose of using the Raspberry Pi in this project is to sendinformation about soldier health parameters tomilitary base stations. If a soldier is injured, heart rate andpulse rate fluctuations are monitored. This will help you investigate the situation of the injured soldier and provide the appropriate medical equipment. I used an embedded system for this. Embedded systems are systems designed to perform specific tasks and are sometimes referred to as a combination of software and hardware components

**CHAPTER-2**

**LITERATURE SURVEY**

Soldiers are injured and sometimes lost during wars and army searches. To locate and monitor the health of soldiers, Army base stations send GPS devices to locate soldiers, WBASN to collect health-related parameters from soldiers, and data wireless. Requires a wireless transceiver to do. Hock Beng Lim, Di Ma, Bang Wang, Ravishankar K Iyer, Kenneth L. Watkin is a variety of portable, portable, lightweight and compact sensors designed with recent advances in cultivation techniques. We discussed about. Monitor human physiological parameters. The Body sensor network (BSN) consists of many biomedical and physiological sensors such as pulse rate sensor, electrocardiogram (ECG) sensor, Electrodermal Activity (EDA) sensor which can be placed on human body for health monitoring in real time. In this paper, we described an idea which develops a system for real-time health monitoring of soldiers, consisting of interconnected Body sensor Networks. We describe the basic prototype of the system and present a blast sources localized application. In this paper, we have completed only an initial design of individual sensor nodes and developed a basic prototype of the system to collect the data. In future, we will be going to develop a fused data management system and a web portal which will enable users to have easy access of data. P.S. Kurhe, S.S. Agrawal had introduced a system that helps to track the soldier at any moment. In addition, in emergencies, soldiers can use GPS coordinate information to communicate with the control room. Position tracking has been very important since World War II when the military recognized its usefulness in navigation, positioning, target acquisition, and fleet management. This system is reliable and energy efficient for remote monitoring and location tracking of soldiers' health. You can send soldier captures and processed parameters in real time. This allows the Army control room to monitor soldier health parameters such as heart rate and temperature. Use of body sensor networks. Soldier parameters are continuously measured and transmitted wireless via GSM. This document allows you to use a radio transmission device such as GSM to send data collected from remote soldiers to a base station PC. The accuracy of this system can be affected by many factors such as weather, environmental conditions around the soldier's unit, and GPS receivers. Future work on this system may include optimizing hardware components by choosing a better and more accurate GPS receiver. By improving the routing algorithm, this system can be made more powerful and energy efficient. Upgrading this system is easy and open to the advanced future. Shruti Nikah, Supriya Patil, Prajkta Powar, V.S. Bendre presented an idea for soldier safety. There are many devices that can be used to display soldier health and ammunition.

**CHAPTER-3**

**PROPOSED SYSTEM**

In army search operations the soldiers become lost , not only that will during wars the soldier get injured in battlefield. These project have the ability to identify the exact location of soldiers at any moment at any place. And also these project is used to provide the medical monitoring for soldiers in real time. The above block diagram shows the architecture and the components that we are used in proposed system. The real time embedded electronics for soldier security consists of mainly two sections they are soldier unit and control unit. In soldier’s unit it consists of few sensors which are used for monitor the health condition of the soldier by considering the heart beat, temperature, saturation of oxygen and humidity. These developed by considering the few other systems, like the Bluetooth technology, radio frequency (RF) technology, GSM technology and GPS technology. These are used for the wireless communication for the transmission of position soldier and also it transfer the required information to the control room and bio sensor’s data of soldier.









 



The use of GSM [Global System For Mobile Communication] technology is used to transmit the information to control room during in the battlefield . Since, GSM module can be hacked easily by any hacker. So, it becomes very easy for opposite battle members to know the exact position of soldier professional situation while communicating through GSM module. Therefore, for India Nation’s security purpose, we have to use the army control room’s communications for security purpose and to keep the information confidential, private and safe from enemies and hackers. And to achieve this, Network Jammers ( GSM AND GPRS Jammers) are used in the battlefields to transfer the required information to the control room. When military war held in hilly area, or in mountain region or in desserts, then usually GSM technology have no network access and it become useless for data transmission. To overcome that we used some wireless sensors communications, for security, safety and communication without any network interruption, they are WiFi and Bluetooth. These systems will provide the long range of distance communication. Which is safe enough to use in battle field and in military search operations These systems, Bluetooth devices and RF modules are used to transmit the data wireless. GPS module for tracking the location and a Bluetooth module for wireless data transmission. The GPS modem sends the geographical co-ordinate position with link pattern which help’s for the military can track the current position of the soldier in both the situations they are battlefield and searching operation. The system is very helpful for monitor the health status information of soldier and providing them instant help. These system not only performs the task of health monitoring but also keep the tracking of soldiers exact location using IOT [Internet Of Things].

The control room consists the details about the position and orientation of soldier . At the receiver and the transceiver will receive the data which is used to store the data and analyzed in Raspberry OS platform. Based on this information, the higher authorities can initiate quick action by deploying a medical, rescue team or any backup force for their

CHAPTER-4

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