REAL TIME TRACKING AND HEALTH MONITORING SYSTEM OF SOLDIER

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ABSTRACT

The chief subject of this task is wellbeing checking and following device for fighters. The Soldier Health and Position Tracking System grants the military to follow the current day GPS job of a warrior and furthermore evaluations the wellness fame including outline temperature and heartbeat of the trooper. This measurement may be transmitted to the oversee room through GPS and GSM. This device obliges little wearable physiological equipment, sensors, transmission modules. Subsequently, with utilizing the hardware, it's miles doable to authorize a low expense component to watch the important human life in the war zone. The GPS modem sends the range and longitude position with link pattern with the help of that navy can track the modern role of the soldier. The system could be very helpful for getting fitness popularity facts of soldier and imparting them instant assist.

Keywords: Soldiers, Information confidential, GPS and GSM

1. INTRODUCTION

The country's security is observed and spared by military, armed force and flying corps. The basic and imperative position is of squaddies who penance them ways of life for their nation. There are numerous worries concerning the wellbeing of the warrior. Officers entering the adversary lines regularly lose their carries on with because of loss of network, it's far basic for the army installation station to respected the area notwithstanding wellness fame of all infantrymen. India has just lost such a ton of fighters in war-fields as there has been no appropriate wellbeing reinforcement and network between the warriors on the war-fields and the officials at the army installation stations. The nation's security is monitored and kept by army, navy and air-force. The important and vital role is of soldiers who sacrifice their life for their country. There are many concerns regarding the safety of the soldier. Soldiers entering the enemy lines often lose their lives due to lack of connectivity, it is very vital for the army base station to known the location as well as health status of all soldiers. India has already lost so many soldiers in warfields as there was no proper health backup and connectivity between the soldiers on the war-fields and the officials at the army base stations. Recently on 29 September 2016, a military confrontation between India and Pakistan began, Indian soldiers conducted a surgical strike against militant launch pads across the line of control in Pakistani-administered Azad Kashmir, and inflicted "significant causalities". Indian soldiers are mainly known for their courage, in spite of scarce ammunitions and safety measures, they have many triumphs to their credits. All must be really concerned about the safety of the soldiers, so we have decided to build a project which will efficiently keep a check on the health status of the soldier, and his precise location to equip him with necessary medical treatments as soon as possible.

Soldier's tracking is done using GPS and GSM is used to provide wireless communication system. For monitoring the health parameters of soldier we are using bio medical sensors such as temperature sensor and heart beat sensor it is essential for the base station to determine the exact location and the health status of the soldier and hence more emphasis should be given to navigation and health monitoring technology for the soldiers in the war torn zone. In this project the exact location and the health status parameters of the soldier can be sent to the base station in real time so that the appropriate actions can be taken in case of crisis. This

technology helps to minimize the rescue, time and search operation effort of army rescue control unit. This is a wearable technology which is the most important factor of this project.

2. LITERATURE SURVEY

SOLDIER HEALTH MONITORING AND TRACKING SYSTEM USING IOT

Nowadays, the security system of the nation depending upon the enemy's war and so the security of the soldiers is considered as an important role in it. Concerning the safety of the soldiers, there are numerous tools to observe the health condition of the soldiers. The proposed system uses GPS to track the direction of the soldier in the form of latitude and longitude values. So that direction can be found easily. The proposed system can be mounted on the soldier's body to track their health status and current location using GPS. This information will be transmitted to the control room through IoT. The proposed system comprises of tiny wearable physiological equipment's, sensors, transmission modules. Hence, with the use of the proposed equipment, it is possible to implement a low cost mechanism to protect the valuable human life on the battlefield. Designing of this system using GPS and GSM gives a wireless system for tracking the location of the soldier and observing the heart beat rate and body temperature of the soldier.

SOLDIER TRACKING AND HEALTH MONITORING SYSTEMS

In today's era enemy warfare is an important factor in any nation's security. The national security mainly depends on army (ground), navy (sea), air-force (air). The important and vital role is played by the soldiers. There are many concerns regarding the safety of these soldiers. The defense department of country must be effective for the security of that country. This system will be useful for soldiers, who involve in missions or in special operations. This system enables GPS (Global positioning systems) tracking of these soldiers. It is possible by M-Health. The M-health can be defined as mobile computing, medical sensors and communication technologies for health care. In this system, smart sensors are attached to the body of soldiers. This is implemented with a personal server for complete mobility. This personal server will provide the connectivity to the server at the base station using a wireless connection. Each soldier also has a GSM (Global system for Mobile communication) module which enables the communication with the base station in case of injuries. As soon as any other soldier enters the enemy lines it is very difficult for the army base station to know about the location as well as the health status of all soldiers. In our project we have come up with an idea of tracking soldier as well as to give status of the soldier during the war

SOLDIER HEALTH AND POSITION TRACKING SYSTEM

Soldier's tracking is done using GPS and GSM is used to provide wireless communication system. For monitoring the health parameters of soldier we are using bio medical sensors such as temperature sensor and heart beat sensor. An oxygen level sensor is used to monitor atmospheric oxygen so if there are any climatic changes the soldiers will be equipped accordingly. This system uses GPS module and wireless body area sensor network to record all parameters in real time and send it to the base station. The different types of sensors used in this system are the humidity sensor, temperature sensor and pulse sensor which help in deciding the health status of that particular army official. This is a wearable technology which is the most important factor of this project.

GPS BASED SOLDIER TRACKING AND HEALTH INDICATION SYSTEM

In this paper we focus on tracking the location of soldier from GPS, which is useful for control room station to know the exact location of soldier and accordingly they will guide them. Also Highspeed, short-range, soldier-to-soldier wireless communications to relay information on situational awareness, GPS navigation, Bio-medical sensors, Wireless communication. The paper reports an Internet of Thing (IoT) based health monitoring and tracking system for soldiers. The proposed system can be mounted on the soldier's body to track their health status and current location using GPS. This information will be transmitted to the control room through IoT. The proposed system comprises of tiny wearable physiological equipment's, sensors, transmission modules. Hence, with the use of the proposed equipment, it is possible to implement a low cost mechanism to protect the valuable human life on the battlefield.

GPS AND IOT BASED SOLDIER TRACKING & HEALTH INDICATION SYSTEM

Continuous Communication is Possible: Soldiers can communicate anywhere using RF, DS-SS, FH-SS which can help soldier to communicate among their squad members whenever in need. Less complex circuit and power consumption. Use of ARM 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. Security and safety for soldiers: GPS tracks position of soldier anywhere on globe and also health system monitors soldier's vital health parameters which provides security and safety for soldiers.

3.EXISTING SYSTEM

There are many shortcomings are present in these existing systems. Some of these existing systems use GSM technology to transmit data wirelessly. The use of GSM technology is restricted in battlefield. Since, GSM protocol stack can be hacked easily by any professional hacker. So, it becomes very easy for enemies to take out the information which will be communicating through GSM module. Therefore, for nation's security purpose, we have to keep our army control room's communications and information confidential, private and safe from enemies and hackers. And to achieve this, Network Jammers (CDMA, GSM AND GPRS Jammers) are used in the battlefields. When military war held in hilly area, or in mountain region or in desserts, then usually GSM technology have no network access and it became useless for data transmission, which is a very serious drawback of GSM technology.

4. PROPOSED SYSTEM

In the wake of thinking about the above innovation, the checking of trooper a route between warrior to the fighter, for example, understanding their speed, separation, tallness notwithstanding wellbeing notoriety of them during the war, which empowers the military individual to plot the war procedures. The base station gets an area of a trooper from GPS. The base station can get admission to the forefront status of the fighter that is shown on the telephone with the assistance of GSM and subsequently reasonable activities might be found. By utilizing vibrator, the fighter can know the approaching message from the control room.
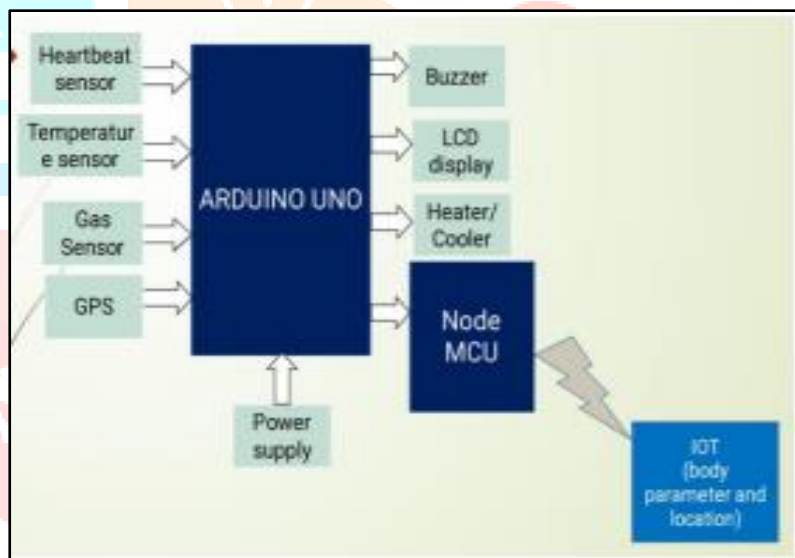
5. CONCLUSION

The paper reports an IoT based system for the health monitoring and tracking of the soldiers. Arduino board is used which is a low cost solution for the possessing purpose. Biomedical sensors provide heartbeat, body temperature, and environmental parameters of every soldier to control room. This technology can be helpful to provide the accurate location of missing soldier in critical condition and overcome the drawback of soldiers missing in action. The addressing system is also helpful to improve the communication between soldier to soldier in emergency situation and provide proper navigation to control room. Thus we can conclude that this system will act as a lifeguard to the army personnel of all over the globe. In future, a portable handheld sensor device with more sensing options may be developed to aid the soldiers.

6. REFFERENCE

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