# SOLDIER SECURITY USING GCRT DEVICES IN TRUCULENT SITUATION

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**Abstract -** In present era, the threat of enemies plays an important role in security of any state. In this prospective, the military soldiers plays an important and vital role. There are several considerations concerning the security of those soldiers. So for the security purpose of soldier, a number of equipment or devices are attached with them to take the look on their health status and their current position. Health relating sensors like HeartBeat rate sensor, body temperature measuring sensor, transmission and processing capabilities, can thus help to make low-cost wearable solutions for health monitoring. GPS used for basically point the latitude and longitude to find exact location of soldier. So by using these equipment's we are trying to implement the basic life guarding system for soldier in low cost and high reliability.

***Key Words***: GPS, Temperature sensor, Biomedical Sensor, Controller.

## 1. INTRODUCTION

As we know, enemy warfare has an important impact regarding to security issue of any state. The national security in the main relies on army (ground), navy (sea), air-force (air). The vital and important role is done by the military soldier's. There are several considerations concerning the security of those soldiers. The soldiers of future guarantees to be more advance technologically in every crucial situation like warfare or any secret mission. These devices have capability to improve wakefulness according to situation, not just for the soldier in battle field, however additionally for all the military personnel at base station and they can interchange data via wireless communication. But the main concern was that to create a light weight system, which can get desired results. One in all, the basic challenge in military operations is that the soldier are not in the position to interact with base station. Additionally, the accurate navigation between the soldiers plays precious role for careful forecasting. The defense department of a country must be effective for the security of that country, as well as soldiers also must be effective. For this we are introducing a "Real time tracking and health monitoring system of soldier". This system will be use full for soldiers, who involve in special operations or mission.

## 2. REVIEW OF LITERATURE

1. M.V.N.R. Pavan Kumar1,Ghadge Rasika Vijay[5] proposed a methodology on Health Monitoring and Tracking of Soldier Using GPS. This system can be used in critical conditions. The most significance in this is implementation of M-Health. By implementing this system we can improve the security of our country this also help to improve the safety of the soldier. This system also helps to provide real time video information. Using this system we can reduce casualties of war.

2. Vincent Pereira, A. Giremus , E. Grive proposed a methodology on Modelling of multipath environment using copulas for particle filtering based GPS navigation. Another class of approaches deals with multipath effects directly at the level of the navigation algorithm which estimates the position from the satellite ranging measurements. They have the advantage of leaving the receiver architecture unchanged.

3. International Journal of Computer Applications (0975 – 8887) Volume 40– No.15, February 2012 "A Study on Threats Detection and Tracking Systems for Military Applications using WSNs" Tareq Alhmiedat Dept. of Computer Science, Zarqa University, P.O. Box 132222, Zarqa 13132, Jordan Anas Abu Taleb Dept. of Computer Science, Isra University, P.O. Box 22, 33, Amman 11622, Jordan Mohammad Bsoul Dept. of Computer Science, The Hashemite University, P.O. Box 150459, Zarqa 13115, Jordan

## 3. ALGORITHM

1. Power on
2. Initialize serial communication for 9600 baud
3. Initialize LCD
4. Display welcome message
5. Read data from GPS receiver and display on LCD
6. Read soldier body temperature status
7. Read soldier heart rate
8. Send GPS location, temperature status and heart rate to base station using GSM Communication. A
9. Receive data from sim300 display on a screen.

**ENCRYPTION:**

The more popular and widely adopted symmetric encryption algorithm likely to be encountered nowadays is the Advanced Encryption Standard (AES). It is found at least six time faster than triple DES.

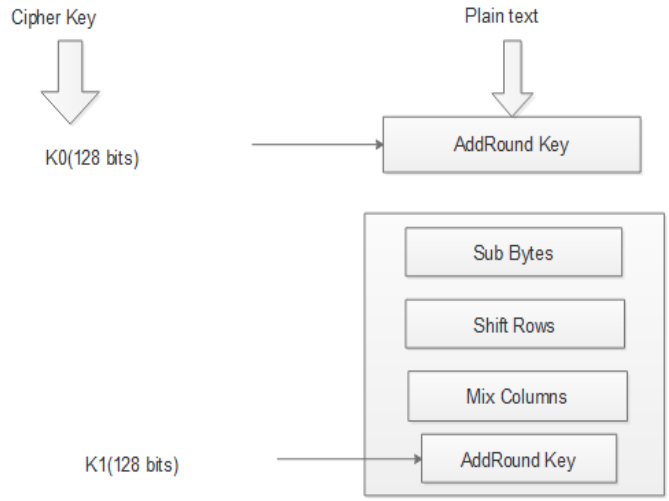


Fig.1.Encryption Process

## 4. SYSTEM ARCHITECTURE

In this system, we have the idea of tracking of soldier as well as we check the health status of soldier during the war like situation. With the help of GPS base station gets the location of soldier in the form of Longitude and Latitude & also access the current health status of the soldier through pulse rate of the soldier. It has mainly following parts:

1. **GPS Reciever:** It will used to track the position of the soldier.

2. **Heartbeat Sensor:** Determining health status of a person.The pulse sensore amped is plug and play heart rate sensore for arduino.

3. **Temperature Sensor:** It is a device to measure the temperature through an electrical signal it requires a thermocouple or RTD (Resistance Temp Detector).

4. **Controller**: Controller is an instruments use to control temperatures, mainly without extensive operator involvement

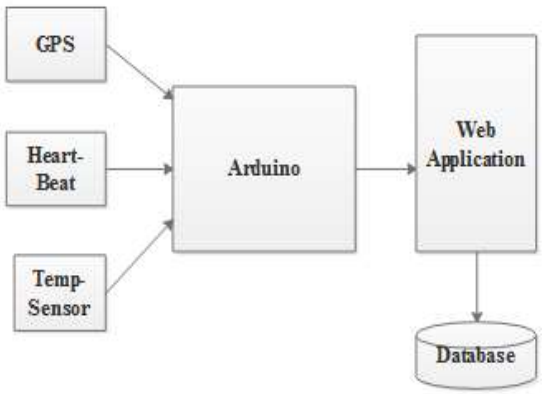


Fig.2 System Architecture

## 5. APPLICATION

1. Soldier safety.
2. To monitor health of elder person.
3. Monitor health of abnormal person.
4. Track location of abnormal person.

## 6. EXPERIMENTAL SETUP

The system is implemented using Jdk1.7and with mysql 5.3 as a database to store transaction records. Core i3 machine with 4GB ram is used for development and testing. Netbeans-8.0.1 IDE is used to test the system.

## 7. CONCLUSION

We are implementing the system which is being very useful & helpful to soldier. This system can be very useful in critical situation like war like situation. By implementing this system we can improve security of our country & this is also helps to improve the safety of the soldier. With the help of this system we can track the current location of the soldier as well as we can check the current health status of the soldier. Also reduce the casualties of war. Thus we conclude that this type of devices are very useful for providing security to the soldier.

## 8. ACKNOWLEDGMENT

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