

Wearable Health and Location Monitoring System for Soldier Safety using Arduino

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Abstract: *The proposed IoT-based soldier health and tracking system represents a significant advancement in military health monitoring and situational awareness. Previous systems have primarily focused on individual health monitoring or location tracking but lacked integration, leading to delayed response times in critical situations. This innovative solution integrates an Arduino controller within a wearable jacket equipped with advanced biomedical sensors to continuously monitor vital health parameters, including heartbeat and ECG data. By leveraging a GPS module, the system ensures real-time tracking of the soldier's location, which is crucial in dynamic and potentially hazardous environments. The collected health and location data are transmitted wirelessly to a central command center through a communication module, such as GSM or LoRa, allowing for immediate analysis and decision-making. In emergency scenarios, the soldier can activate a panic button embedded in the jacket, sending an instantaneous alert message, complete with their current location, to the command center. This integration of health monitoring, location tracking, and rapid communication not only enhances situational awareness but also significantly improves the quick response capabilities of military personnel, thereby ensuring soldier safety in critical conditions. The system's comprehensive approach aims to bridge the gap in existing technologies, fostering a more responsive and effective military support framework...*

Keywords: IoT-based soldier health and tracking system

