

WOMEN SAFETY AND HEALTH MONITORING DEVICE USING IOT

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ABSTRACT: Safety and health monitoring have emerged as critical global challenges for women in view of the increasing incidence of harassment, assault, kidnapping, and sudden medical emergencies, especially under conditions where victims cannot trigger the safety mechanism manually. Various solutions exist, including mobile applications, SOS buttons, and GPS-based tracking; most of them rely on user intervention and use Internet connectivity, which makes them quite useless during high-risk or incapacitating situations [3], [4], [7]. Though a number of wearable devices and IoT-based systems have been proposed in the last few years, many of these are still based on manual triggers or an intelligent decision-making system is lacking [9], [15], [20].

The proposed IoT-based Women Safety and Health Monitoring Device aims at autonomous processing with real-time detection and response in case of an emergency. The presented system is developed using a Raspberry Pi integrated with multiple sensors such as pulse and SpO₂, body temperature, accelerometer-gyroscope, microphone, GPS, GSM, and camera module for continuous monitoring of physiological and environmental parameters [8], [16], [17]. These multi-sensor data are analyzed using machine learning techniques to classify normal and abnormal conditions. This enhances the detection accuracy and reduces false alarms arising from a threshold-based approach [2], [6], [28]. Upon detection of abnormal health parameters, sudden violent movements, or panic-related audio cues, the system automatically triggers a multi-level emergency response. In this regard, SMS alerts bearing real-time GPS coordinates are transmitted via GSM, images are captured for situational evidence, and an audible alarm is activated to attract nearby attention, all ensuring reliable operation in the absence of internet connectivity [5], [18], [30]. The inclusion of offline communication and autonomous activation also directly addresses the shortcomings of previous women safety systems reported in [11] and [25].

The proposed system ensures greater reliability compared to existing approaches in the literature by minimizing reliance on manual activation, introducing intelligent sensor fusion, and thereby supporting continuous health monitoring with personal safety [12], [21], [23]. The device will be compact, economical, and deployable in real-world settings. The system can also be easily expanded for supporting elderly people, children, and other vulnerable groups, moving toward developing proactive and intelligent personal safety [14], [26], [27].

Keywords: *Women Safety, Internet of Things (IoT), Raspberry Pi, Health Monitoring, Wearable Safety Device, Machine Learning, GSM and GPS Communication, Emergency Alert System, Sensor Fusion, Real-Time Monitoring (Heading 1)*

I. INTRODUCTION

The safety of women has become a matter of growing international concern because of the unabated increase in harassment, assault, kidnapping, and violence, especially in urban and semi-urban areas. Besides external threats, women are also prone to sudden health emergencies while traveling or working in secluded areas due to conditions such as fainting, panic attacks, stress-induced complications, and unforeseen medical ailments. Though social awareness and legal frameworks have improved, technology-based safety measures remain an essential need of the times for offering help on time with the assurance of personal safety [3], [4], [25]. Over the last ten years, various technology-based solutions have been proposed that cater to the safety of women, which includes mobile apps, GPS tracking systems, panic buttons, and wearable devices for safety. Many of these systems use smartphones to send alerts or share location details in case of any emergency [11], [24]. Such approaches suffer from significant limitations as they bank upon explicit manual activation by the user and continuous connectivity to the internet. In real-world scenarios, victims may be physically restrained or unconscious, under extreme stress, with no possibility of unlocking a phone or triggering an alert manually. Further, attackers generally disable or discard the mobile device to make phone-based solutions ineffective [4], [7], [9]. To overcome these issues, researchers in recent times have given more emphasis on IoT-based women safety systems comprising wearable sensors, embedded controllers, and wireless communication modules. IoT enables continuous real-time monitoring, autonomous data acquisition, and rapid communication with least human intervention. Various IoT-based safety devices based on Arduino, Raspberry Pi, ESP32, GPS, and GSM modules demonstrated better reliability compared to traditional mobile applications [15], [16], [17]. Most of such systems, however, still depend on some predefined threshold value-based triggers or manual triggers that can further generate false alarms or missed detection during complex emergency situations [20], [26]. Recent developments in machine learning have further facilitated the process of intelligent safety by automating such pattern recognition and decision-making. Techniques based on ML are able to categorize physiological signals, motion patterns, and contextual data as normal or abnormal with greater accuracy than rule-based systems can [2, 6, 28]. By incorporating learning-based classification models, the safety devices will be able to proactively detect the early signs of distress, abnormal heart rate, sudden bodily movements, or even panic-related behavior, thus decreasing response time and dependency on manual intervention [1, 12].

In this regard, this paper presents the design and implementation of an IoT-based Women Safety and Health Monitoring Device, integrating multi-sensor data acquisition, machine learning-based decision making, and offline emergency communication. The proposed system built around a Raspberry Pi forms the backbone of various sensors associated with

pulse rate, SpO₂, body temperature, motion, and ambient audio and integrates GPS, GSM, and camera modules to track location, send alerts, and capture evidence. Unlike many existing solutions, the system is capable of autonomous emergency detection and GSMbased alert delivery, ensuring reliable operation even in the absence of internet connectivity [5], [18], [30].

This work aims to develop a compact, cost-effective, and intelligent safety solution that handles both personal security and health monitoring. The proposed device, by fusing IoT with machine learning, reduces manual dependency, enhances detection accuracy through sensor fusion, and provides mechanisms for multi-level emergency response. Apart from women's safety, the system can easily be used for the protection of elderly individuals, children, night-shift workers, and other vulnerable populations, hence contributing towards the bigger aim of intelligent and proactive personal safety systems [14], [21], [27].

II. BACKGROUND AND LITERATURE REVIEW

A. Background

Women's safety has traditionally been a concern that has persisted despite developments in communication and sensing technologies. These conventional safety mechanisms, including helplines, emergency calls, and SOS-based mobile applications, offer only limited protection due to their high dependence on manual triggering and network availability. Victims in potentially dangerous situations of panic, physical incapacitation, unconsciousness, or sudden deterioration of health are unable to initiate the alert, leading to delayed or ineffective assistance [3], [4], [25]. This implies that there is an urgent need to develop safety mechanisms that might work autonomously and respond intelligently in the absence of continuous user interaction.

The development of smart wearable safety devices was hence made possible by integrating sensors, embedded processors, and communication modules within compact wearable platforms through the emergence of the Internet of Things. IoT-based solutions provide real-time monitoring of physiological parameters, movement patterns, and environmental cues for fast detection of distress conditions [15], [16], [20]. Early IoT safety devices relied mostly on predefined threshold values or manual triggers for event detection, which often resulted in either a large number of false alarms or seriously insufficient responsiveness in complex real-world situations [26], [29].

Recent research underlines that the integration of IoT with machine learning techniques will help improve decision-making accuracy in safety-critical systems. The ML-based models can analyze the data streams from multiple sensors, identify the hidden patterns, and adapt to individual behavioral variations, thus becoming more reliable than rule-based approaches [2], [6], [28]. This evolution of reactive systems to intelligent, proactive safety solutions forms the base for modern research related to women safety and health monitoring.

B. Literature Survey.

Various studies have pursued technology-based solutions for improving the safety of women using IoT, wearable devices, and effective data intelligence. Initial systems using GSM and GPS were designed for sending emergency notifications with location information by manually triggering the devices. Safety devices based on GSM ensured good communication in cases of

low connectivity but without any independent detection capabilities [30]. Similarly, Arduino-based safety bands and switches allowed for sending notifications rapidly but proved helpless if the user had been incapacitated [29].

Wearable safety devices with integrated physiological and motion sensors introduced later improved the responsiveness. Studies involving pulse rate, temperature, and accelerometer sensors proved that abnormal physiological readings and sudden movements can be good indicators of distress [9], [16]. However, many such systems relied on static thresholds thereby limiting adaptability to different users and environments. Hence, sensor fusion techniques that combine multiple data sources were proposed to improve the reliability of detection [21], [23].

Various researchers have integrated IoT-enabled real-time monitoring to decrease dependency on smartphones. Standalone wearable devices with GPS and GSM modules were found to be much stronger in those scenarios where mobile phones were either not available or disabled [7], [17]. However, these systems lacked contextual understanding and intelligent classification and hence led to either delayed responses or false alerts more frequently. The integration of machine learning was a significant step forward for women safety systems. Decision tree and hybrid ML models have applied the classification of safety conditions by analyzing physiological, motion, and contextual data, showing better accuracy compared to the traditional approaches [2], [6]. Advanced approaches that integrated ML with audio or gesture recognition further improved emergency detection by recognizing speech, screams, or gestures indicating distress conditions [1], [28]. Despite the improvement, most ML-based systems were assessed in either controlled environments or single-modality-focused approaches, raising concerns about their performance in real-world applications.

Recent research trends point towards multi-modal safety systems, which include health monitoring, motion detection, audio analysis, and evidence collection. Systems utilizing cameras to capture images during emergencies have proven their potential to enhance situational awareness and post-incident analysis [5], [18]. Besides, solutions exploring integrations on cloud-based or messaging platforms for the dissemination of alerts still face dependency on the internet [24].

It is apparent from the literature reviewed that although much progress has been made, women safety technologies still face their respective challenges of manual dependencies, lack of intelligent decision-making, limited sensor fusion, and unreliable connectivity. These research gaps provide motivation for developing an autonomous, ML-enabled IoT safety device that supports continuous health monitoring, real-time emergency detection, offline GSM-based alerting, and evidence capture. The proposed system builds upon the strengths of prior works while addressing their limitations, thereby contributing to a more reliable and comprehensive solution for women's safety and health monitoring [12], [14], [27].

III. SYSTEM ARCHITECTURE

The proposed IoT-based Women Safety and Health Monitoring Device system architecture has been designed to support continuous sensing, intelligent decision-making, and reliable emergency response with least user intervention. The architecture is layered and modular for scalability, robustness, and real-time operation. It integrates the sensing components, processing unit, communication modules, and alert mechanisms into a single embedded platform, as recommended in recent IoT-based women safety frameworks [15], [20], [25].

A. Overall Architecture

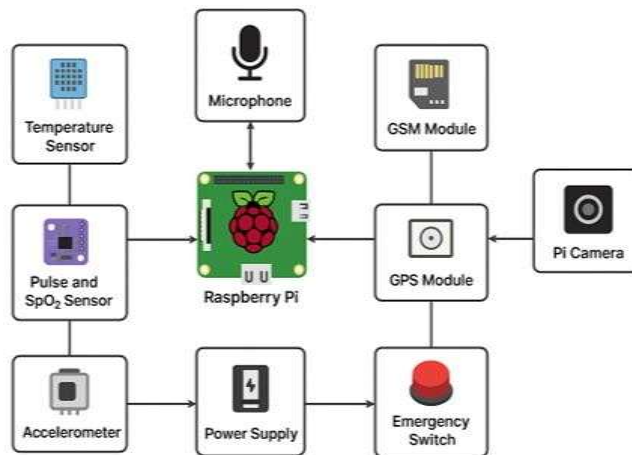


Figure 1: System Architecture

At the core of the system lies the Raspberry Pi, which functions as the central controller responsible for sensor data acquisition, processing, machine learning inference, and coordination of emergency actions. The architecture is broadly divided into four functional layers:

1. Sensing Layer
2. Processing and Decision Layer
3. Communication Layer
4. Alert and Evidence Layer

This is a layered approach that improves system reliability, and it simplifies the integration of heterogeneous sensors—a key requirement in real-time women safety systems [16], [21].

B. Sensing Layer

The sensing layer is responsible for continuous acquisition of physiological and environmental data. It comprises many sensors, such as a pulse and SpO₂ sensor, a temperature sensor, an accelerometer–gyroscope module, microphone, emergency switch, and camera. Physiological sensors monitor some key parameters of vital health, such as heart rate, blood oxygen level, and body temperature, representing strong indicators of instances of stress, panic, or medical emergencies [9], [12].

The accelerometer and gyroscope detect abrupt movements, falls, or struggle-like patterns, enabling physical threat detection, while the microphone captures ambient audio to identify distress sounds such as screaming or calls for help [1], [28]. A manual emergency switch provides a fallback mechanism to instantly trigger alerts when needed. The Pi Camera is normally kept OFF and automatically turns ON only during an emergency condition for capturing visual evidence. This multi-sensor configuration increases detection accuracy by allowing redundancy and sensor fusion, which has been emphasized in previous wearable safety-related works [23], [26].

C. Processing and Decision Layer

The intelligence core of the system is implemented on the Raspberry Pi, acting as the

processing layer. The sensed data from the sensing layer is transmitted to the processing unit through appropriate interfaces available on the Raspberry Pi, such as GPIO, I²C, UART, and CSI. These raw sensor readings are then preprocessed to filter out noise, normalize, and extract features to produce meaningful representations that can be used for decision-making. A lightweight machine learning model that classifies the system state as normal or abnormal based on fused sensor features is locally deployed on the Raspberry Pi. Unlike threshold-based systems, ML-based classification allows for adaptive and accurate detection of complex distress patterns, which reduces false alarms and missed detections [2], [6]. On-device inference ensures low latency and independence from any cloud connectivity, an important feature for safety applications operating in a low-network environment [17], [27].

D. Communication Layer

The communication layer provides for the reliable transmission of emergency information to external contacts. It consists of a GPS module for real-time location tracking and a GSM module for SMS-based alert communications. In case of the detection of an emergency, the GPS module provides latitude and longitude coordinates, appended to alert messages. The GSM module sends such alerts to pre-registered contacts, with no need for internet connectivity. GSM-based communication has gained wide adoption in women safety systems owing to its reliability over remote and low connectivity areas [30]. The proposed architecture, as it refrains from smartphone or Wi-Fi network exclusive dependency, will ensure the continuity of alerts even if the internet services are disabled or unavailable intentionally [7], [18].

E. Alert and Evidence Layer

The alert and evidence layer serves to initiate immediate response actions in the case of emergencies. Upon confirmation of an abnormal condition via the processing layer, this layer accesses multiple parallel mechanisms of response. An audible buzzer is initiated to serve as a deterrent and draw nearby attention; the camera captures timestamped images of surrounding scenes for contextual evidence [5]. The event information is sent in emergency alerts along with the GPS location over GSM, while optional notifications are cloud-based when internet is available. This multi-channel approach for alerts improves timely assistance chances and is consistent with established best practices in recent years in intelligent safety systems [14], [24].

F. Architectural Advantages

The proposed architecture assures continuous monitoring, autonomous emergency detection, and offline alerting capability with evidence gathering in a compact, cost-effective design. With IoT and machine learning integrated into a layered architecture, the proposed system overcomes major limitations of popular women safety solutions: manual dependency, delayed response, and questionable connectivity. The modular design allows easy extension of the system for applications involving elderly care, child safety, and personal health monitoring [21], [27].

IV. METHODOLOGY

In this context, the methodology of the proposed IoT-based Women Safety and Health Monitoring System is designed as a structured workflow that integrates multi-sensor data acquisition with machine learning-based decision making and automated generation of emergency alerts. The methodology in this work follows best practices in IoT-enabled women safety systems and intelligent health monitoring frameworks reported in [3], [7], [15], [20],

and [25].

A. Data Acquisition

It acquires real-time data from multiple sensing sources to enable it to detect safety and health emergencies reliably.

1. Physiological Data

The pulse sensor was used to gather heart rate and SpO₂ values. Body temperature is measured by using a temperature sensor. These parameters are effective indicators of stress, panic, and medical emergencies [9], [12], [16].

2. Motion Data

Accelerometer and gyroscope sensors capture movement and orientation. It can detect sudden falls, violent motion, or struggle-like activity [21], [26], [29].

3. Audio data

It continuously captures the ambient audio through a microphone. Distress signals, such as screaming and/or calling for help, are monitored [1], [28].

4. Manual Trigger

An emergency push button is provided for the direct user-initiated activation of alerts. This acts like a backup system in cases of critical scenarios [17], [30].

B. Data Preprocessing

Preprocessing of raw sensor data aims at improving reliability and reducing noise before its analysis.

1. Physiological Signal Processing

- Sensor readings are filtered and normalised.
- The abnormal fluctuations are stabilized for correct analysis [2], [6].

2. Motion Signal Processing

- Acceleration data is smoothed and analyzed.
- Features like magnitude and variance are computed for the reduction of false detections [23], [26].

3. Audio Signal Processing

- Audio signals are divided into small time windows.
- Energy-based features are extracted for the recognition of distress sounds [1], [28].

C. Machine Learning-Based Decision Making

1. Feature Fusion

- Physiological, motion, and audio data features are combined.
- Sensor fusion gives robustness compared with single-parameter systems [21], [23].

2. Model Inference

- A lightweight machine learning classifier is deployed onto the Raspberry Pi.
- It classifies the system state as normal or abnormal [6], [28].

3. Decision Validation

- Combined sensor outputs are used to confirm emergency conditions.
- This method reduces false alarms while ensuring that the detection is timely. [15], [20]

D.. Emergency Detection and Alert Generation

1. Emergency Conditions

An emergency is detected whenever one or more of the following events occur:

- abnormal physiological readings
- Sudden fall or violent motion
- Detection of distress audio
- Manual panic button activation

2. Alert Transmissio

- The GPS module retrieves real-time location coordinates.
- SMS alerts with location details are sent by the GSM module to previously registered contacts.

3. Local Response and Evidence Collection

- A buzzer acts to draw nearby attention.
- The camera takes pictures of the surroundings for situational evidence [5], [18].

E. System Reliability

- All the processing and decision-making happen locally on the device.
 - GSM-based communication ensures the delivery of alerts devoid of any internet dependency. This enhances system reliability in remote and low-connectivity environments [7], [24], [27].

V. IMPLEMENTATION

Implementation of the proposed IoT-based Women Safety and Health Monitoring System will integrate hardware components, software modules, and a machine learning model on the Raspberry Pi platform. The system is designed for real-time monitoring, autonomous emergency detection, and reliable generation of alerts by following the implementation strategies adopted in recent IoT-enabled women safety systems [7], [15], [17], [25].

A. Hardware Implementation

Implementation at the hardware level involves integrating multiple sensors and modules of communication with the Raspberry Pi.

1. Processing Unit

- The Raspberry Pi acts as the central controller.
- It handles sensor data acquisition, ML inference and alert co-ordination.
- Safety systems based on Raspberry Pi provide higher processing capability and flexibility compared to solutions with a microcontroller only [17], [27].

2. Physiological sensors

- Pulse and SpO₂ sensor monitor heart rate and oxygen levels.
- Temperature sensor measures the body temperature continuously.
- These sensors enable the early detection of stress and medical emergencies [9], [12], [16].

3. Motion Sensor

- The MPU6050 accelerometer-gyroscope detects falls and violent movements..
- Motion-based detection strengthens physical threat recognition [21], [26], [29]

4. Audio Sensor

- Used for the detection of distress sounds-like screaming or calls for help [1], [28].

5. Communication Modules

- GPS module provides real-time latitude and longitude.

- The GSM module sends SMS alerts without depending on the internet.
- GSM-GPS integration enhances the reliability in any remote environment [7], [30].

6. Peripheral Components

- Camera module captures images during emergencies.
- Buzzer supplies audible alerts to attract nearby attention.
- Emergency push button allows to initiate an alarm manually [5], [18].

B. Software Implementation

The software implementation is done using Python on Raspberry Pi OS.

1. Operating System

- Raspberry Pi OS offers a stable Linux-based environment.
- Supports GPIO, serial communication, camera and sensor drivers.

2. Sensor Interface Modules

- Sensor communication is achieved via GPIO and I²C protocols.
- Serial communication handles GSM and GPS modules.
- Modular scripts ensure parallel sensor monitoring [20], [23].

3. Data Handling and Control Logic

- Sensor data is read and buffered continuously.
- Threshold checks and ML outputs are evaluated in real time.
- Control logic identifies the normal or emergency state transitions [15], [25].

1. Communications Software

- AT commands for GSM-based SMS transmissions are used.
- GPS data is parsed from the NMEA sentences.
- Optional cloud messaging, when connectivity is available, is supported [24].

C. Machine Learning Model Implementation

1. Model Training

- Training data represent the normal and abnormal conditions.
- It improves the detection accuracy compared to static threshold-based methods [2], [6].

2. Model Deployment

- The trained model is deployed locally on the Raspberry Pi.
- Real-time inference is performed without cloud dependency [28].

3. Decision Integration

- ML output is combined with sensor logic for final decision-making.
- Sensor fusion reduces false alarms and missed detections [21], [23].

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D. Random Forest Model Implementation

1. Emergency Triggers

- Abnormal health parameters
- Sudden fall or violent movement
- Distress audio detection
- Manual activation of an emergency switch

2. Alert Actions

- GPS location is acquired instantly.
- GSM sends SMS alerts with location to the registered contacts.

- The buzzer is used for local alerting.
- The camera captures images for evidence [5], [17], [30].

E. Implementation Advantages

- Enables fully autonomous operation with minimum user dependency
 - Offline alert delivery via GSM. Multi-sensor fusion enhances reliability. Scalable design suitable for women safety, elderly care, and child safety applications [14], [27].

VI. TESTING AND RESULTS

A. Scream alert Testing and Results

The scream alert feature was tested by emitting loud shouting/screaming like distress noise near the microphone. Abnormal sound patterns were successfully detected in real time, and the emergency workflow was sent to RTC buzzer, camera capture, and GSM SMS alert, Telegram message with GPS location. The LCD showed an indisputable alert message ("SCREAM – Alert Active!"), demonstrating the reliable detection and response with negligible delay even without GPS fix available at that moment.

```

Shell X
~0.15/graph/phones/word_boundary.int
❑ Sending SMS: ▲ ALERT: HELP
❑ GPS not fixed
✔ SMS Sent
❑ Capturing photos...
✔ Captured /home/women/captures/photo_1763480174_1.jpg
✔ Captured /home/women/captures/photo_1763480183_2.jpg
✔ Captured /home/women/captures/photo_1763480187_3.jpg
✔ Sent photo_1763480174_1.jpg to Telegram.
✔ Sent photo_1763480183_2.jpg to Telegram.
✔ Sent photo_1763480187_3.jpg to Telegram.
✔ Text sent to Telegram.
✔ All photos + location sent.
    
```

Fig. 2: Running the code on the system



Fig. 3: Display on the LCD

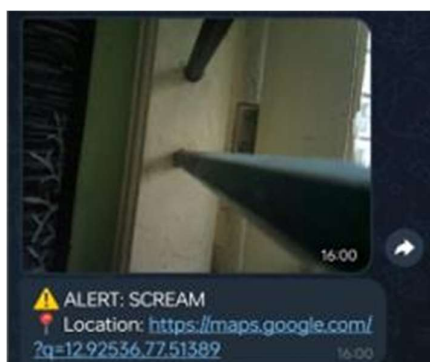


Fig. 4: Captured image sent to telegram with location.

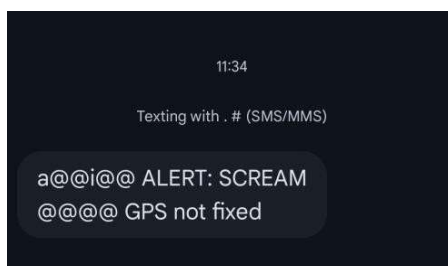


Fig. 5: Alert sent to SMS

Fig. 2-The system detects a scream and manages to send SMS alert, taking picture and sending them and Fig. 3-The LCD will now display “SCREAM – Alert Active!” scream alert was activated in real time, respectively. Fig. 4-Image of the camera is automatically taken and sent on Telegram with an emergency message as evidence. Fig. 5-The screamed alert received as an SMS confirms that the GSM communication went through.

B. Fall alert Testing and Result

The fall detection was demonstrated through simulated rapid jerks and sudden falls, with the help of MPU6050 accelerometer. The system appropriately detected illicit movement patterns and immediately triggered alerting: SMS notification, buzzer sounding off, snapshot taken by the camera system as well as Telegram message. The LCD showed the fall alert stage, ensuring that the fast detection and reliable operation of the logic based on motion was also satisfied under real time conditions.

```
Shell %  
LOG (VoskAPI:ReadDataFiles():model.cc:308) Loading winfo  
[x] Sending SMS: ⚠ ALERT: FALL DETECTED  
[x] GPS not fixed  
[x] SMS Sent  
[x] Capturing photos...  
[x] Captured /home/women/captures/photo_1763548626_1.jpg  
[x] Captured /home/women/captures/photo_1763548633_2.jpg  
[x] Captured /home/women/captures/photo_1763548636_3.jpg  
[x] Sent photo_1763548626_1.jpg to Telegram.  
[x] Sent photo_1763548633_2.jpg to Telegram.  
[x] Sent photo_1763548636_3.jpg to Telegram.  
[x] Text sent to Telegram.  
[x] All photos + location sent.]
```

Fig. 6: Running the code on the system



Fig. 7: Display on the LCD



Fig. 8: Captured image sent to telegram

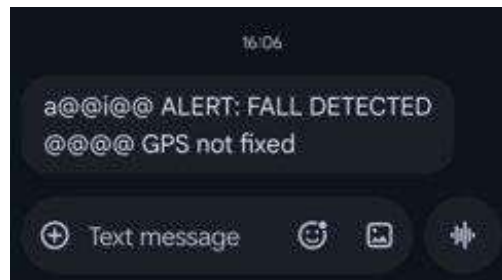


Fig. 9: Alert sent to SMS

Fig. 6: Shows the system console log where a fall is detected. This triggers an SMS alert, image capture, and Telegram notification even when GPS is not fixed. Fig. 7: Displays the LCD output indicating "FALL DETECTED; Alert Active!" This confirms that the local alert is activated. Fig. 8: Illustrates the captured image sent to Telegram with the fall alert message for remote monitoring. Fig. 9: Shows the SMS alert received on the mobile phone stating "ALERT: FALL DETECTED" along with GPS status.

VII. CONCLUSION

This project's Women Safety and Health Monitoring Device is an example of how IoT, machine learning, and embedded systems can be successfully integrated to provide women with an intelligent, real time safety solution. By enabling automated emergency detection, continuous monitoring of critical health parameters, and instant alert communication without requiring manual user input, the system overcomes the shortcomings of current safety tools. The device can identify abnormal physiological conditions, abrupt movements, and distress signals linked to dangerous or health critical situations by using sensors like MAX30102, temperature sensors, MPU6050, and a microphone. By evaluating multivariate sensor data, a machine learning model increases reliability even more, making the system more intelligent than traditional threshold-based devices.

While the camera module takes pictures during emergencies to provide helpful evidence, the GSM and GPS modules guarantee prompt transmission of emergency alerts and real time location details even in the absence of internet connectivity. All things considered, the system provides a cost effective, portable, and user-friendly solution that improves women's safety and facilitates quicker emergency response, with significant potential for future wearable and artificial intelligence developments.

A. Future Enhancement

Device Miniaturization & Wearable Design - For continuous and comfortable daily use, redesign the hardware to create a small wearable (band or ornaments) with a longer battery life. Mobile App Integration - To improve usability and control, create a specific Android/iOS app for two way communication with emergency contacts, alert management, and real time monitoring. Advanced AI & Predictive Analytics - To increase accuracy, decrease false alarms, and anticipate emergencies sooner, improve the machine learning model with deeper learning and bigger datasets. Cloud & Authority Integration - For quicker response and analytics, enable direct integration with law enforcement, hospitals, or emergency services, as well as secure cloud storage of alerts and evidence.

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