IARJSET

ISSN (O) 2393-8021, ISSN (P) 2394-1588

International Advanced Research Journal in Science, Engineering and Technology

Impact Factor 8.066 ⁜ Peer-reviewed & Refereed journal ⁜ Vol. 11, Issue 8, August 2024

DOI: 10.17148/IARJSET.2024.11807

WOMEN SAFETY DEVICE WITH ELECTRIC SHOCK

Sahana N[1], Dr M N Veena[2]

Research Scholar, Dept. of MCA, P.E.S College of Engineering, Mandya, India[1]

Professor and HOD, Dept. of MCA, P.E.S College of Engineering, Mandya, India[2]

Abstract: Women safety is an essential issue due to the rising crimes against women these days. To help resolve this issue we propose a GPS based women safety system that has dual security features. This device can not just be used by women when in distress but also by children when their travel modes are sans elders. For elderly people with issues like Alzheimer's this device can turn out to be very useful for them as well as the families. This device sends the current location of the woman/child/elderly to the family members and concerned authorities in case of any harassment faced or if in any sort of trouble. The device also has a panic button which is an in-built 400kV electric shock generator, which upon pressing will knock the assaulter down due to a sudden shock but without any fatality. The device is made using an AVR microcontroller, a GPS module, a GSM module and a high voltage generator.

Keywords: Women safety, Rising crimes, GPS-based system, Dual security features.

I. INTRODUCTION

The Women Safety Device using GPS and Electric Taser is a compact, low-power device designed to enhance the safety of women, children, and the elderly. It serves dual purposes of safety and self-defense in emergencies. The device features two buttons: a panic button and a taser button. When the panic button is pressed, an SOS message with the user's current location is sent repeatedly at intervals of 5-10 seconds to family members and authorities until help arrives. The taser button activates a high voltage electric shock generator, delivering up to 400 kV to temporarily immobilize an assailant without causing fatal harm. Lightweight and compact, the device can be easily carried in a purse, shoe, or school bag, making it accessible and practical for daily use. Its affordability ensures that women across the country can travel with increased security and peace of mind. The device's design emphasizes ease of use, ensuring even children and elderly individuals can operate it effectively with proper training. It allows it to be concealed, providing an element of surprise in case of an attack. Additionally, the integration of GPS ensures accurate location tracking, significantly improving emergency response times. The high-voltage taser function is engineered to incapacitate without causing permanent harm, prioritizing the safety of both the user and the assailant. Overall, this innovative device represents a significant advancement in personal safety technology, empowering vulnerable groups to protect themselves confidently.

II. RELATED WORK

[1] The proposed design for a women safety device uses NodeMCU, GSM, and GPS modules to provide an effective and cost-efficient solution. By pressing a button, the device sends the user's location to emergency contacts and police, while also activating a buzzer to alert nearby individuals, ensuring comprehensive protection.

[2] Navya Ananthula; T Rajeshwari; B. Mounika; P.A. Harsha Vardhini; B. Kalyani, This paper presents The proposed GPS-based women's safety system offers dual security through a voice module and GSM messaging. Upon activation, it sends the user's location via SMS to predefined contacts and alerts nearby individuals with an alarm, enhancing protection during emergencies.

[3] S. Pravinth Raja; S. Sheeba Rachel; Sapna R, In this paper The smart footwear device for women's safety uses IoT technology, including a microcontroller, GPS, GSM, and a buzzer, to send alerts and location data when activated by tapping one foot behind the other thrice. This low-cost, discreet gadget enhances security by notifying pre-configured contacts and authorities.

[4] Deepanshu Tanwar; Vaibhav Nijhawan; Pragya Sinha; Rashi Gupta, This paper presents in response to rising crimes against women, a proposed device sends an emergency SMS with location data and records audio for evidence when a button is pressed or a fall is detected. The system, comprising a wrist transmitter and a jacket receiver, activates an alarm and captures the situation using a GSM, GPS, accelerometer, and voice recorder.

IARJSET
ISSN (O) 2393-8021, ISSN (P) 2394-1588
International Advanced Research Journal in Science, Engineering and Technology
Impact Factor 8.066 ⁜ Peer-reviewed & Refereed journal ⁜ Vol. 11, Issue 8, August 2024
DOI: 10.17148/IARJSET.2024.11807

[5] V. Hyndavi; N. Sai Nikhita; S. Rakesh This paper proposes a smart women's safety device that uses pressure, pulse-rate, and temperature sensors to detect potential threats and automatically send emergency alerts with location coordinates to relatives and nearby police without user interaction. The device enhances security by automating the alert system during critical situations.

[6] C Priya; C Ramya; Naresh; Mohit; Meager Pravin; This paper presents The proposed safety gadget WSM is an all-in-one security system using an Arduino board, GPS, and GSM to track movements and send emergency messages to pre-programmed contacts with a single click. It aims to protect women, especially in remote areas, by offering a low-power, efficient solution.

[7] Suvarna Lakshmi S; Soundharya R; Ashwini R G; K. Jeyapiriya In this paper This project introduces a comprehensive safety device for women that includes an alarm system, GPS and GSM messaging, electric shock self-defense, audio recording, and image capture. Designed to be user-friendly, it automatically alerts contacts and authorities, and includes advanced self-defense features to protect women in dangerous situations.

III. METHODOLOGY

Existing System

In current system if we are found to be in trouble and helpless in any situation we are suppose to call emergency number or nearest police station. But it may take time and sharing our location details may be challenging. And this system is slow.

DISADVANTAGES

- Slow Process: This process can be slow, especially if the person is in a state of panic, injured, or unable to make the call.
- Less Accurate in Finding Real-Time Location: When calling emergency services, sharing precise real-time location details can be challenging. Victims may not always know their exact location, or they may be in a moving vehicle or an unfamiliar place.
- Not Portable: The current system relies on the use of mobile phones or landlines to contact emergency services. In some situations, the victim might not have immediate access to their phone, or the phone might be taken away by an attacker.

Proposed System

In proposed system a smart device which is portable and easy to carry .The brain of this device is the AVR microcontroller that is used. The GPS module is associated to the microcontroller utilizing the serial harbour. A GSM module interfaces with the microcontroller via the software serial port. The microcontroller is linked to two buttons. The panic button and the taser button. On pressing the panic button, the microcontroller will extract the current location of the user using the GPS module, the location will be sent to recipient number (family/authorities) using the GSM module. We can input as many recipient numbers as desired. An SOS message is dispatched to all added numbers every 5-10 seconds. When the taser button is pressed, the microcontroller activates the relay, which in turn powers the high voltage electric generator.creates a stun to the assaulter which is able thump down the assaulter for some of minutes without any casualty.

ADVANTAGES

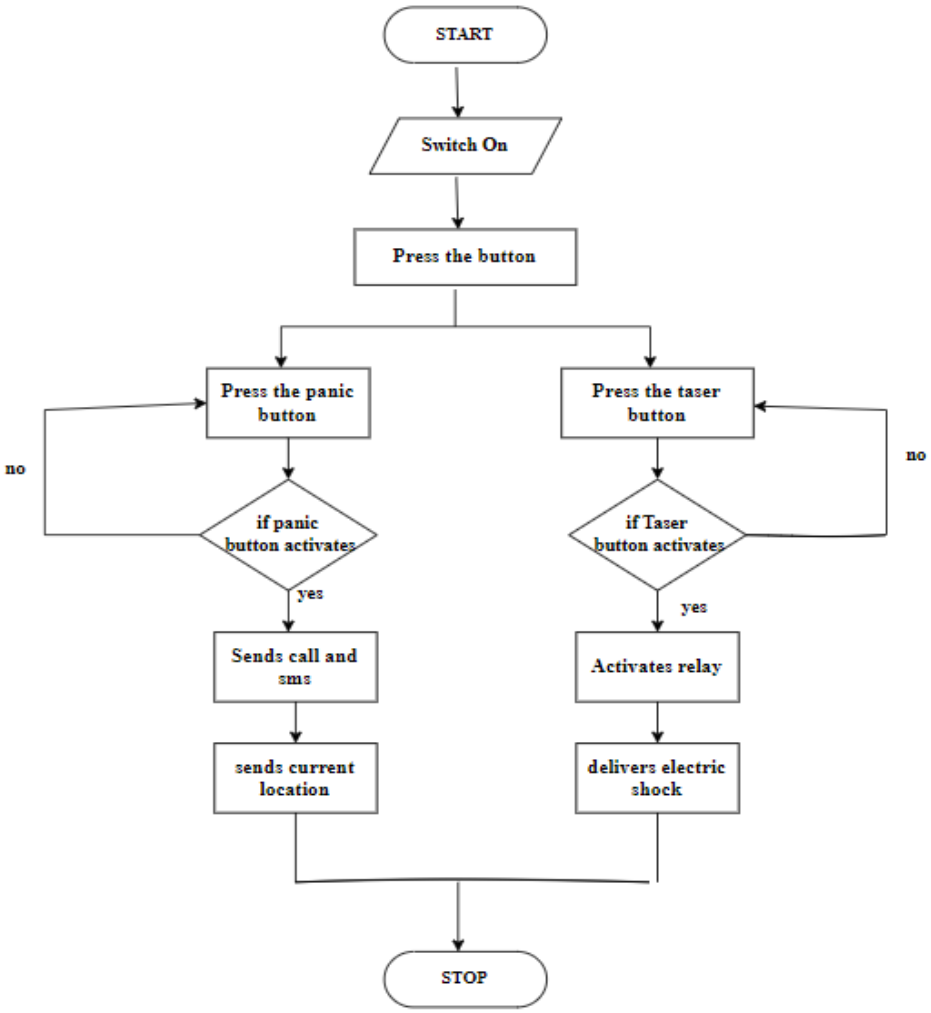
- Fast response time: These devices offer swift activation mechanisms, enabling users to deploy them quickly in emergencies, providing an immediate deterrent against potential threats and buying crucial time for escape or assistance.
- Easy to use: Designed with user-friendly interfaces, these devices can be operated effortlessly, even in high-stress situations, empowering individuals with effective self-defense options without requiring extensive training or expertise.
- Shares real-time location: Many modern safety devices incorporate GPS technology to relay the user's real-time location to designated contacts or emergency services, facilitating prompt assistance and enhancing overall safety measures.
- Can also be used for defending using electric shock: In addition to location tracking, these devices feature electric shock capabilities as a last resort for self- defense, delivering a non-lethal yet incapacitating shock to deter attackers and protect the user from harm.

IARJSET
ISSN (O) 2393-8021, ISSN (P) 2394-1588
International Advanced Research Journal in Science, Engineering and Technology
Impact Factor 8.066 ⁜ Peer-reviewed & Refereed journal ⁜ Vol. 11, Issue 8, August 2024
DOI: 10.17148/IARJSET.2024.11807

IV. IMPLEMENTAION

Implementation is the process of transforming a new or updated system design into a fully operational system. The primary goal is to deploy the new system while minimizing costs, risks, and disruptions to ongoing operations. This phase is crucial for ensuring that the system operates smoothly and effectively, without interrupting the organization's workflow. A key aspect of the implementation process is conducting thorough testing to avoid any issues.

This involves creating test cases and using sample data to validate that the new system performs as expected. Before transitioning to live data, it is essential to test the system with data from the old system, ensuring that all functions work correctly in the new environment.



FLOW OF IMPLEMENTATION

V. CONCLUSION

The proposed portable smart device, powered by an AVR microcontroller, effectively enhances personal security through integrated GPS and GSM modules, and features panic and taser buttons for immediate emergency response and self-defense. By sending real-time location data and SOS messages to multiple recipients and providing a non-lethal 400kV shock to incapacitate assailants, the device offers comprehensive protection for users in critical situations. Future enhancements, including mobile app integration, voice activation, and advanced sensor incorporation, will further improve its functionality and user experience, making it an indispensable tool for personal safety. Ensure that the system performs well under various conditions and continues to function correctly as updates and changes are made.

IARJSET

ISSN (O) 2393-8021, ISSN (P) 2394-1588

International Advanced Research Journal in Science, Engineering and Technology

Impact Factor 8.066 ⁜ Peer-reviewed & Refereed journal ⁜ Vol. 11, Issue 8, August 2024

DOI: 10.17148/IARJSET.2024.11807

REFERENCES

[1] Ceccato, V. (2014). The nature of rape places. Journal of environmental psychology, 40, 97-107.
[2] Göpfert, M. (2013). Bureaucratic aesthetics: Report writing in the Nigérien gendarmerie. American Ethnologist, 40(2), 324-334.
[3] SG, V. (2018). GSM based women's safety device. International Journal of Pure and Applied Mathematics, 119(15), 915-920.
[4] Jain, R. A., Patil, A., Nikam, P., More, S., & Totewar, S. (2017). Women's safety using IOT. International Research Journal of Engineering and Technology (IRJET), 4(05), 2336-2338.
[5] Mazidi, M. A., Mazidi, J. G., & McKinlay, R. D.(2016). The 8051 microcontroller and embedded systems using assembly and C. Rai, P. K., Johari, A., Srivastava, S., & Gupta, P. (2018, December). Design and Implementation of Women Safety Band with switch over methodology using Arduino Uno. In 2018 International Conference on Advanced Computation and Telecommunication (ICACAT) (pp. 1-4). IEEE
[6] Ahir, S., Kapadia, S., Chauhan, J., & Sanghavi, N. (2018, January). The Personal Stun-A Smart Device For Women's Safety. In 2018 International Conference on Smart City and Emerging Technology (ICSCET) (pp. 1- 3). IEEE.
[7] Bhilare, P., Mohite, A., Kamble, D., Makode, S., & Kahane, R. (2015). Women employee security system using GPS and GSM based vehicle tracking. International journal for research in emerging science and technology, 2(1), 65-71.