



IJITCE

ISSN 2347- 3657

International Journal of Information Technology & Computer Engineering

www.ijitce.com



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SMART GADGET FOR WOMEN SECURITY

Project Guide

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Abstract:

Modern families are more evenly divided between men and women. Abuse, assault, rape, and kidnapping are just some of the many things that women face every day. For these reasons, the majority of women are staying inside. When a woman is a woman, her sole thought is when she will be able to walk freely in public and at work without fear of reprisal, no matter how late it is. To aid them at these crucial moments, we provide a wearable smart device. Women and girls may feel safe going outdoors at any moment with this equipment [10]. Connecting to the internet on the woman's phone, the suggested system may first transmit a picture of the perpetrator to a family member, and second, it can be used for self-defense by shining a light into the perpetrator's eyes. The real-time position, however, may be tracked using a GPS module [9].

KEYWORDS: A Raspberry Pi, a GPS module, a panic button, and a USB camera are all part of the system. Product Categories: Safety, USB Camera, Panic Button, GPS.

I. INTRODUCTION

Because of the terrifying prevalence of sexual assault, molestation, and other forms of violence against women in today's society, their safety has risen to the top of the priority list[1][2]. Still, many problems persist, and young girls and women experience feelings of insecurity, even if we live in a technologically advanced century. The women of today are tearing down religious boundaries and proving men wrong in every industry they've set their sights on. Women from all around the nation are making a difference in the economy and helping to shape its future. As the garment business continues to expand, the percentage of women

working in the field is expected to rise, reaching 60%. Though they have achieved great strides in the last 20 years, women in India continue to face several challenges due to the patriarchal nature of their country. Figure 1 displays the data on female victims of rape from 2006 to 2017, as reported in the 2019 census. In order to address these concerns, it is imperative that women be provided with a portable safety device that guarantees their protection. The main idea behind this paper is to develop an Internet of Things (IoT)-based smart device that can assist women escape dangerous circumstances and that can also be used in court to hold criminals accountable for their actions.

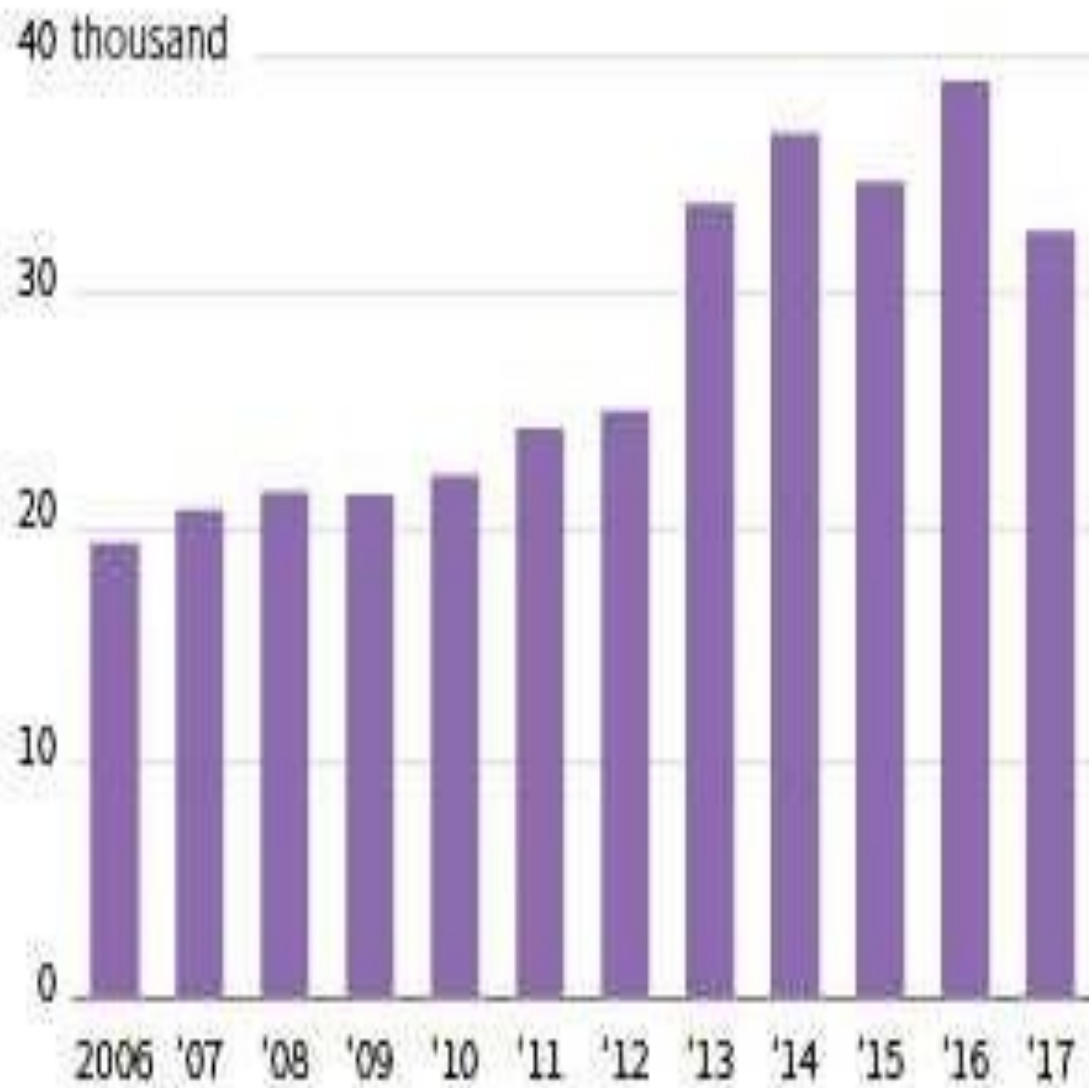
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Figure 1: Statistics on rape cases on women

Total rape cases reported by year



II. LITERATURE SURVEY

The following are examples of some of the portable and wearable safety gadgets now on the market:

1. **Locker**
In order to keep ladies safe, this wearable device contains two buttons on the side that may be used to send a text message to a family member. By connecting with the user's mobile device, it may also record audio. [13].
 2. **A Flashlight designed like a lipstick**
This device is about the size of a lipstick—5 inches. Its little stature makes it both concealable and convenient for on-the-go use. With its rechargeable battery and 180 lumen flashing capability, this item is a real show-stopper. References [13] and [14].
 3. **ACT Announces Sonata Watch**
Product of Sonata, this wristwatch comes with an accompanying mobile app that can be installed on the user's smartphone. A family member will get an alert message from this watch that details the user's location [13][15].
 4. **A More Secure Smart Pendant**
By just double-clicking the safety device that comes with the pendant, this wearable device may send a message to a registered number along with the user's position (as determined by GPS) [13].
 5. **Electronic Belt**
Screaming alarm and pressure sensors are integrated with this gadget using an Arduino Board. When the pressure sensor goes beyond a particular point, the screaming unit of the gadget will go into action and sound the alarm to summon assistance [7][13].
- Here are a few papers that discussed various safety devices and their prototypes:
1. **Creating and refining methods for women to protect themselves prototype of a smart watch** [3]
In this article, we'll take a look at a smartwatch that performs comparable tasks to the sonata watch—ACT—without the need for a dedicated smartphone app.
 2. **A Smart Device to Ensure the Safety of Women** [4]

A device comparable to Safelet is covered in this article.

3. **A Comprehensive Intelligent Security System for the Protection of Women** [5]
A prototype model that can make an emergency call, generate an electric shock for self-defense, and sound an alarm siren is the subject of this study.

III. PROPOSED SYSTEM

- IV. A wearable or portable gadget that women may employ in life-threatening situations is the suggested system's main objective. Due to the project's foundation in the Internet of Things, access to the internet is a must. Both a panic button and a pulse sensor may be used with this gadget. The gadget connects to the internet (via the user's mobile device) and captures the perpetrator's face, then transmits it to family members' mobile devices, if the panic button is touched or a sudden change in the user's pulse rate is detected by the pulse sensor. People in the vicinity may also hear the alarm sound that this gadget can make via the buzzer. In addition to alerting the authorities, this gadget allows the user to shine a bright light directly into the eyes of the perpetrator, giving the lady precious seconds to get away. You may use this gadget whenever and wherever you choose.

To implement the proposed system the following components are required

- Raspberry Pi 3 board
- Adaptor 5V/2A
- SD card 16Gb class 10
- VGA to HDMI cable
- Pulse sensor
- GPS module
- Emergency switch
- Buzzer
- LED
- USB camera

Figure 2: Smart gadget with emergency alert and LED flash

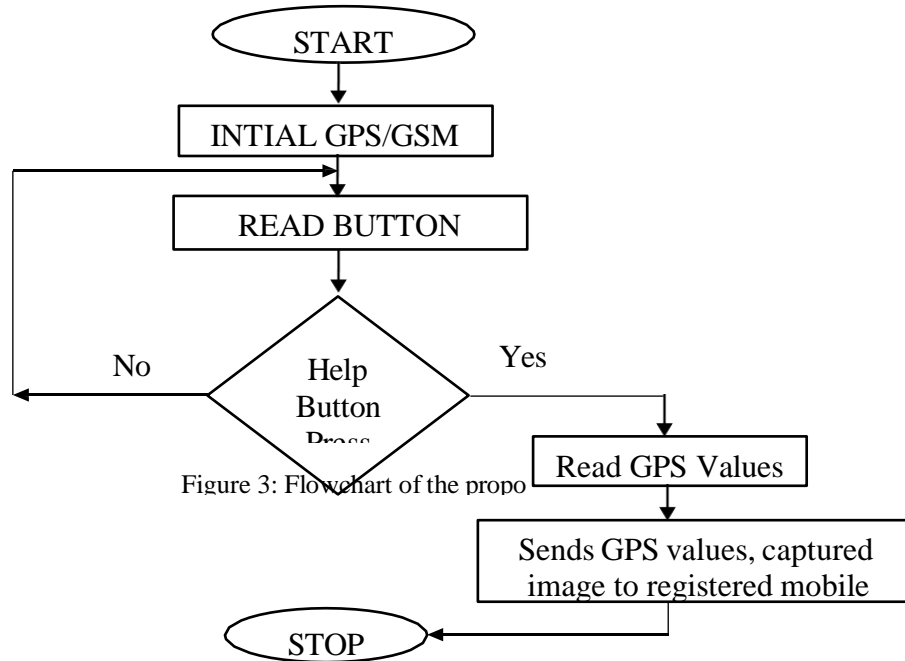


Figure 3: Flowchart of the proposed model

V. RESULT

This gadget can be activated by a single touch, which activates Buzzer, Shock Generator, Hidden Camera and cautioning Police Station and a relative. This ends up being a gadget of wellbeing and protection. This gadget can play a significant job by giving women a protected environment in all circumstances for instance (distinguishing concealed camera, physical compromised, bothered, theft, followed). With further research and development, this gadget is utilized as a little wearable gadget like watch, swinging and so on.

Figure 4: Prototype of the proposed model

CONCLUSION

The article's main point is that women in risky circumstances need an affordable, easy-to-use smart gadget. One limitation of the proposed prototype is that it depends on the internet to disseminate alerts. Because not all women can afford internet, we are presently working on a way to make the device work without it. The captured film might be used by the courts to establish guilt.

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[14]Read more about anti-groping devices at <https://www.techsciresearch.com/blog/113.html>.

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