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WOMEN SAFETY DEVICE USING ARDUINO UNO

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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 security features. This device cannot 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 their 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. The device is made using an Arduino UNO, a GPS module, a GSM module and a DC-to-DC step down module.

1. INTRODUCTION

Women and Child Safety Device, is designed to be a compact low power device, easy to carry and that could fit in anywhere. The primary goal of this project is to enhance the safety of women, children and elderly people. 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 security features. as a society, we have made great strides in advancing the cause of women's safety, but there is still much work to be done. Every day, women face a myriad of threats to their personal safety, from sexual harassment and assault to physical violence and even murder. To address this issue, innovative safety devices have been created to help women feel more secure and empowered. These devices come in various forms, from wearable tech to personal alarms and self- defence tools. here we will explore the world of women's safety devices and the impact they are having on women's lives. We will review the latest safety products on the market, share personal stories of women who have used these devices to protect themselves, and delve into the technology behind these innovative safety solutions. We believe that by shining a light on these devices and the positive impact they are having, we can empower more women to take control of their safety and help create a world where women can live without fear. This device has been designed for both safety as well as for self- defense in case of emergency. This device is designed to have buttons, a panic button. In case of an emergency the panic button should be pressed due to which a SOS message with current location will be sent to the family members and concerned authorities. The SOS message will repeatedly be sent at time intervals of 5-10 seconds until help is sought. The issue of women's safety has been a topic of concern for several years, with the rise of incidents of violence against women worldwide. This has led to the development of various safety devices that are specifically designed to aid women in distress. In recent years, many researchers and engineers have worked on developing such devices. For instance, some researchers have explored wearable safety devices, such as smart jewellery bracelets and necklaces that can alert authorities or loved ones in the case of an emergency.

2. PROBLEM STATEMENT:

Due to rise in crime rates and violence against women and kids, often they find themselves in helpless situation. Gender inequality underpins many problems which disproportionately affect women and girls, such as domestic and sexual violence, lower pay, lack of access to education, inadequate healthcare. Existing system: In current system if we are found to be in trouble and helpless in any situation, we are Supposed 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.

3. OBJECTIVES OF THE PROJECT:

The main objective of the proposed system is

- The primary objective is to provide women with a tool that enhances their personal security and safety in various environments, including public spaces, workplaces, and during travel.
- Create a device that allows women to seek immediate assistance in case of emergencies such as harassment, assault, or any threatening situation.
- Utilize GPS technology to accurately track the user's location in real-time, enabling responders to locate and assist the individual swiftly

4. OVERVIEW OF THE PROJECT:

1. Immediate Alert System:

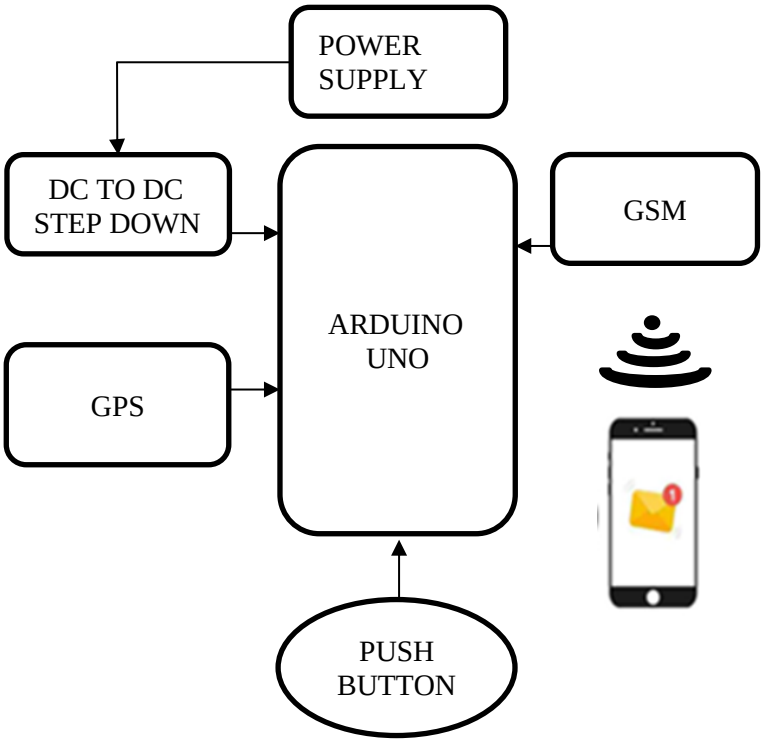
Providing a quick and efficient way to alert emergency contacts or authorities in case of danger.

2. Location Tracking:

Offering real-time location tracking to ensure that the user can be found and assisted promptly.

3. Ease of Use:

Ensuring the device is user-friendly, accessible, and can be activated quickly in stressful situations.



4. Discreetness:

Designing the device to be discreet and portable, so it can be carried or worn without drawing unwanted attention.

5. Reliability:

Ensuring the device functions reliably under various conditions and has a robust battery life.

6. Preventive Features:

Including features that can deter potential threats, such as alarms, lights, or alerts the signal the device is active.

7. Connectivity:

Leveraging modern communication technologies to maintain a constant link with emergency services and contacts.

8. Empowerment and Awareness:

Educating users on how to use the device effectively and promoting awareness about personal safety practices.

Working:

1. Potential attackers Identify Needs:

Determine the key safety features needed, such as panic buttons, GPS tracking, Sound alarms, etc.

2. Components Selection:

Choose the necessary hardware components (Arduino Nano, GPS module, GSM module, sensors, etc.) based on the identified needs.

3. Circuit Design:

Create a circuit diagram using tools like Fritzing or draw.io, connecting the selected.

4. Coding:

Write code using the Arduino IDE to program the Nano to control the hardware, manage sensor data, activate alarms, and send alerts.

5. Testing:

Assemble the circuit, upload the code, and test the device thoroughly to ensure all functionalities work correctly.

6. Enclosure:

Design or choose an enclosure for the device to protect the circuitry and make it portable.

7. User Interface:

Consider user-friendliness for the device's interface (e.g.,buttons, LEDs) for ease of use during emergencies

5. CONCLUSIONS

The issue of women's safety has been a longstanding concern in society. Over the years, there have been numerous initiatives and technological advancements aimed at addressing this issue. One such advancement is the development of women's safety devices, which have gained popularity in recent times. These devices come in various forms and designs, ranging from personal alarms and pepper sprays to wearable tech and smart devices. While these safety devices have undoubtedly provided women with an added sense of security, their effectiveness in preventing attacks remains a subject of debate. Some argue that the devices may only provide a false sense of security, and women still need to be vigilant and cautious in their surroundings.

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