"ELECTRONIC JACKET FOR WOMENSAFETY"

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Abstract- **India is rapidly moving on the path of being a promising super power and an economic hub. But this goal can be achieved if the large number of women participate in the development process, and join for jobs. In India at the recent past there are more number of crimes on women and children who are attacked/harassment when walking or traveling alone in cab or unknown area. In many cases it is almost midnight and it is helpless for the person who is attacked to escape from the criminals. Also, in many cases the person cannot even open her mobile and inform anyone, so we decided to provide the solution for this major problem in our country which is also the primary concern of women. The security system for women which allows immediate response in the case of any harassment, it consists of Arduino Nano, GPS, GSM, camera, battery, switches. The system has a power switch which is used to switch on the circuit and the second switch when pressed sends the location to predefined numbers and police station. The third button is used to switch on the camera which is connected to the circuit which will capture images of the culprit. With all the technology available to us in recent times, it's not hard to build a safety device for women who will not only generate an emergency alarm but also send a message to your friends, family, or concerned person. Here we will build a band that can be worn by women, using which they can inform police or anyone, using emergency SMS along with the current location. Using this information, the police can be able to save the victim from the location. For this, here we are using an Arduino which can be interfaced with GSM and GPS module for sending SMS alerts and getting the location coordinates***.***

I. INTRODUCTION

The systems are bulky and are not portable where in these cannot be carried easily anywhere, anytime. It requires more hardware, which in turn increases the implementation cost. The systems do not provide a complete kit solution to the existing problem. As we can see above the entire systems are separated with each other and lack the of one stop solution to problem of women safety. The level of security can be increased more by electronics assistance device having portability that can be carried anywhere, which can track the location of women, captures the image of culprit and makes the alert call to the registered family numbers in times of danger. The electronic gadget (project) is implemented using Internet of Things (IoT) gadget will be used in the public places such as malls, bus stands, offices etc. The description of the hardware's and the software tool required for making the women safer is given in the further topics.

II. REVIEW OF LITERATURE

Electronic jacket for women safety: Women safety application using android mobile. In this paper system can show exact location to relatives, parents, and friends and track every time interval. Emergency panic button using microcontroller. In this paper panic button is used for protection while emergency situation occurs [1]. AVR microcontroller based wearable jacket for women safety. In this paper unified combination of wearable jacket and mobile technology for safety of women in the society. This system helps

to alert family members and people closest to the victim by using buzzer, GPS, GSM module [2]. With U app: This is an app invented by a popular Indian crime television series 'Gumrah' on channel V. This app will be activated on pressing power button of your Smartphone two times consecutively sending an alert message every 2 minutes to the contacts you feed. The message "I am in Danger. I need help. Please follow my location" [3]. The stun gun: This small gun provides an attacker with an electric shock. The gun is as equipment that can be carried in the handbags. When the gun is triggered the shock weakens the attacker temporarily, giving chance to escape from the situation [4]. Jacket: The design implemented is an electronic jacket for women safety. This jacket consists of two buttons. At the time when first button is pressed the raspberry module starts its working. When second button is pressed the shock circuit and buzzer is activated which provides shock to culprit through copper strips which covered on the jacket. Then GPS starts to track the location [5].

III. OBJECTIVES

The project aims to provide low cost IoT based solutions for women safety which includes:

1. Image capturing of culprit, this helps to find the culprit and also serves as valid proof to make culprit guilty in the Indian Judicial courts.

2. Making alert call via cloud to family alerting woman is in danger locating the position of women under danger.

3. Electric gadget for defense to help women escape in critical situation.
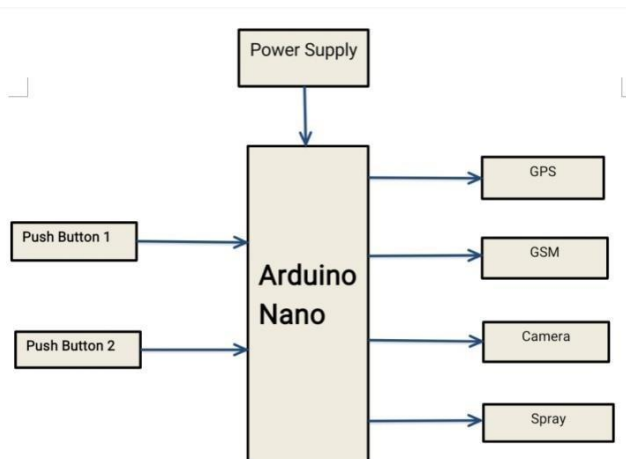
IV. BLOCK DIAGRAM

Fig. 1 Block Diagram of Project
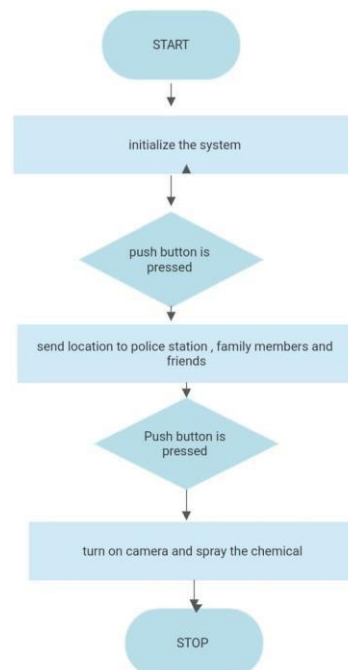
V. FLOW DIAGRAM

Fig. 2 Flow Diagram of Project

VI. HARDWARE COMPONENTS

1. ESP32 Camera

The ESP32 CAM Wi-Fi Module Bluetooth with OV2640 Camera Module 2MP for Face Recognition has a very competitive small-size camera module that can operate independently as a minimum system with a footprint of only 40 x 27 mm; a deep sleep current of up to 6mA and is widely used in various IoT applications. It is suitable for home smart devices, industrial wireless control, wireless monitoring, and other IoT applications. This module adopts a DIP package and can be directly inserted into the backplane to realize rapid production of products, providing customers with high-reliability connection mode, which is convenient for application in various IoT hardware terminals.

2. GPS Module

Here we are using the NEO6M GPS module. The NEO-6M GPS module is a popular GPS receiver with a built-in ceramic antenna, which provides a strong satellite search capability. This receiver has the ability to sense locations and track up to 22 satellites and identifies locations anywhere in the world. With the on-board signal indicator, we can monitor the network status of the module. It has a data backup battery so that the module can save the data when the main power is shut down accidentally.

3. GSM

This GSM modem is a highly flexible plug and play quad band SIM900A GSM modem for direct and easy integration to RS232 applications. It Supports features like Voice, SMS, Data/Fax, GPRS and integrated TCP/IP stack. To be connected to a cellular network, the shield requires a SIM card provided by a network provider. Here through this GSM, the details of the amount which are being detected in the RFID card will be sent to the user. Also, the available balance will be known and recharge facility for the card will also be provided through a network.

Specifications:

Dual-Band 900/ 1800 MHz

GPRS multi-slot class 10/8GPRS mobile station class B

Compliant to GSM phase 2/2+

Dimensions: 24*24*3 mm

Weight: 3.4g

Supply voltage range: 5V

Low power consumption: 1.5mA (sleep mode)

4. Push Button

Push buttons are typically made out of hard material, usually plastic or metal. The surface is usually flat or shaped to accommodate the human finger or hand, so as to be easily depressed or pushed. It is used as switch purpose sometimes.

5. Connecting Wires

Jumper wires are used for making connections between items on your breadboard and your Arduino's header pins. Use them to wire up all your circuits.

6. Arduino Nano
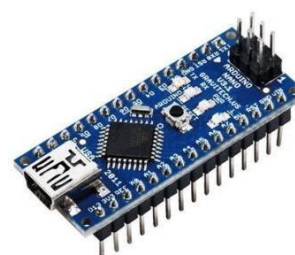
The Arduino Nano is a small, complete, and breadboard friendly board based on the ATmega328P; it offers the same connectivity and specifications of the Arduino Uno board in a smaller form factor. The Arduino Nano is programmed using the Arduino Software (IDE) Integrated Development Environment common to all our boards and running both online and offline.

7. Spray

Spray is used to spray the chemical on attacker to save the women herself.

VII. Software Used

Arduino IDE

VIII. CONCLUSION

The proposed design will help the girl when she is in danger zone. She can make rescue of herself in danger situation and this circuit will used to decrease the tension of girl when she walks alone in night hours also, so that she will never fill helpless at any situation and can protect her by herself sand the culprit face will be captured by camera so that police will be able to catch him easily.

The proposed task presents planning about the basic issues looked by women at present days when she is in peril zone. Also, she can make salvage of herself in peril circumstances. What's more, this circuit will use to expel or diminish the pressure of young lady when she strolls alone around evening time hour moreover. What's more, help to unravel them innovatively with minimized gear and thoughts. In the framework it incorporates components like tear stun discharge, shouting cautions, images and furthermore alarming and sending the messages with the area. This framework can conquer the dread that panics each lady in the nation about her wellbeing and security. it is anything but difficult to deal with and gives generally excellent unwavering quality with a snappy reaction.

IX.REFERENCES

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