International Journal of Advances in Engineering and Management (IJAEM)
Volume 3, Issue 8 Aug 2021, pp: 197-200 www.ijaem.net ISSN: 2395-5252

S3RP: A Iot Enabled Shoulder Bag for Women Safety

Mr. Shashank. M. Gowda[1], Ms. Pushpalatha[2], Ms. Rasika Talekar[3], Ms. Sandhya M Badiger[4], Ms. Sowmya M[5]

[1]*Assistant Professor, Dept. of ECE, Yenepoya Institute of Technology, Moodbidri, India-574225*
[2-5]*Students, Dept., of ECE, Yenepoya Institute of Technology, Moodbidri, India-574225*

Submitted: 01-08-2021 Revised: 07-08-2021 Accepted: 10-08-2021

ABSTRACT- In global scenario, the prime question in every girls mind is about her safety and the harassment issues. The only thought haunting every girl is when they will be able to movefreelyonthestreetseveninoddhourswithoutworrying about their security. This project suggests a new technology to protect women. This project focuses on a security for women so that they will never feel helpless. The system consists of various modules such as GSM, Accelerometer, memory card, IOT module, buzzer, camera, Arduion Uno Board.

Today there are many cases which are happening about women. It was high time where we women needed a change. This project is based on women security where women feel protected. This paper describes about safety electronic system for women, built in vanity bag as nowadays most of the women are being molested, kidnapped and harassed at work places. In each field there is a special impact of women like sports, dance, education, business, in politics also. Women are leading in each field. Are the girls in India are really safe? Always we get the answer No. Hence implemented electronic system is fitted in the vanity bag which has GSM, Accelerometer, Camera, IOT module, Buzzer, memory card which are interfaced with Arduino Uno board to control all of theabove.

Key Words: GSM, Arduion Uno, Accelerometer, Camera,IOT module.

I. INTRODUCTION

In our country, even though it has super power and economical development, but still there are several crimes against women. Most of the women are harassed at the work place. About 56% women believe sexual harassment at the workplace has increased over the years. At present there are so many systems that are based on android applications. When the emergency situation occurs then women cannot operate the smart phones. Also, when they are in risk immediately they cannot pass and send theirlocation to the police and family members. The atrocities against women can be brought to an end with the help of our product. This system can automatically sends the location and also women can protect herself from the physical harassment.

II. PROPOSEDARCHITECTURE

1.1 ArduinoUno

Arduino Uno is a microcontroller board based on the ATmega328P. It has 14 digital input/output pins, 6 analog inputs, a 16MHz quartz crystal, a USB connection, a power jack, an ICSP header and a reset button.

1.2 Global System forMobile(808)

A GSM module is a chip or circuit that will be used to establish communication between a mobile device or a computing machine and a GSM.Determine their exact location, velocity, and time 24 hours a day, in all weather conditions, anywhere in the world.

1.3 SafetySpray

Pepper spray is a chemical compound that irritates the eyes. That cause a burning sensation, pain, and temporary blindness used for self-defense, including defense against everything.

1.4 PushButton

Apushbuttonisaswitchwhichcausesatemporarychange in the state of an electrical circuit only while the switch is physically actuated. An automatic mechanism returns the switch to its default position immediately afterwards, restoring the initial circuitcondition.

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1.5 Camera ModuleOV7670

Acameramoduleisanimagesensorintegratedwithalens, control electronics, and an interface like Ethernet or plain rawlow-voltagedifferentialsignaling.Inthissystemweare attaching a camera on shoulder bag which will capture the image of culprit. So that it will be easy for police to search theculprit.

1.6 Buzzer

A Buzzer is a device which makes a buzzing or beeping noise. It is a piezoelectric element also produces a voltage in response to pressure.

2.8Accelerometer

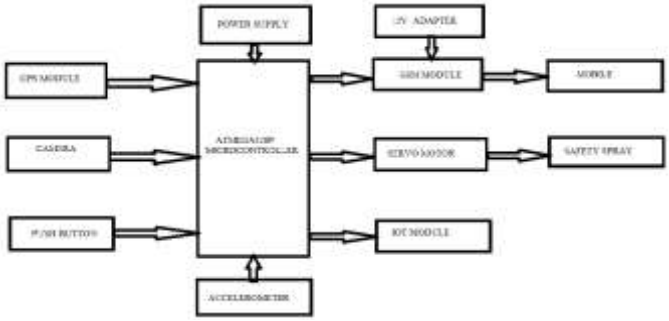
An accelerometer is an electromechanical device used to measure acceleration forces. By measuring the amount of staticaccelerationduetogravity,youcanfindouttheangle the device is tilted at with respect to the earth. By sensing the amount of dynamic acceleration, you can analyze the way the device ismoving.

2.9 IOT Module:

TheESP8266isthenameofamicrocontroller designedbyEspressifSystems.TheESP8266itself is a self-contained Wi-Fi networking solution offering as a bridge from existing micro controller to Wi-Fi and is also capable of running self-contained applications. This module comes with a built in USB connector and a rich assortment of pin-outs. With a micro USB cable, you can connect NodeMCU devkit to your laptop and flash it without any trouble, just likeArduino. It is also immediately breadboardfriendly.

III. IMPLIMENTATION ANDWORKING

The system consists of various modules such as GSM, Accelerometer, IOT module**, buzzer, safety spray,**camera, which are interfaced with Arduino Uno Board. Our proposed system for women safety is a shoulder bag; it has the ability to help women with technologies that are embedded into a compact device. In case of any harassment happens the information about the location will be send as a SMS to the predefi**ned number.** that someone is going to harass, then the user can press a push button, location will be send tothe predefined number.



IV. RESULTS ANDCONCLUSION

When the value measured by the accelerometer crosses the threshold value, the entire system will turn ON. This sensor senses the change in position, based on this observation threshold value will be set.

1.The outcome of the 3-axis accelerometer is as shown in the figure 2.

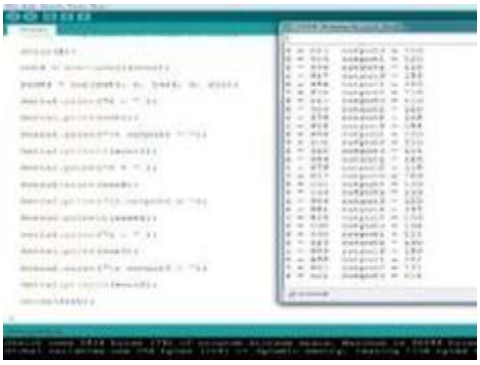


Fig -2: Snapshot of result from the 3-axis accelerometer

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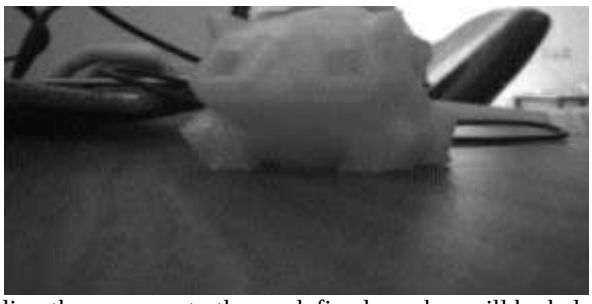
2.The image captured by the camera module is shown in figure 3.

When the system is ON, pepper spray will be sprayed, location of the device will be sent to the predefined number, camera will capture the picture,
buzzer will beep.



3.GSM will be helpful in sending the message to the predefined number will be helpful in tracking the location. Their outcomes are as shown in the figure 4

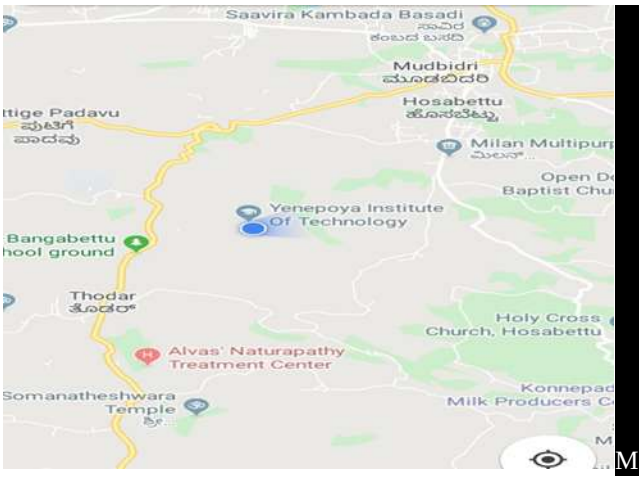


Fig -4: Tracked location.

4.The captured image of the culprit is sent to the Gmail with the help of IOT module is shown in figure 6.

Fig:-5 Information sent by the IOT module to the Gmail account.

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Fig -6: Received message.

The proposed design will help the girl when she is in danger. She can rescue herself from danger using this features in the project.

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