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Effective Safety System with Monitoring and Alert Features for Women's Security

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Abstract*: **This paper explains about the alert features for effective women's security, in our Country, despite the fact that it has super power and a financial improvement, yet at the same time there is numerous harassment against women. Here we present a gadget which guarantees the security of ladies. This gadget is a security framework, stuck in an unfortunate situation. This recognizes secure and approach assets to enable the one to out of risky circumstances. Whenever you detect risk, you should simply, hold the gadget. The gadget comprises an PIC microcontroller, pulse sensor, caution circuit and a shock generator and a locator.***

Keywords: Pulse sensor, Emergency switch, Caution circuit, Shock generator, Micro Controller.

I. INTRODUCTION

Today, women's security has transformed into a more imperative issue as they can't move out of their home at a specific time due to dread of seriousness and physical abuse. In reality, even in the 21st century where the advancement is rapidly creating and new contraptions were delivered, yet in the meantime women's facing defying issues. Women are proficient at getting ready different social events for an ordinary reason. Ladies are not as physically fit as men, in an emergency situation some help would be need for them.The best way to deal with a trick of wild wrongdoing such as burglary, assault, strike, forceful conduct at home is to see, obstruction and investigate advantages for empower the victim to out of perilous situation. By the chance that you're in trouble or get split from buddies in the midst of a night out and don't know how to find back home, this device with you will secure you and can diminish your peril and bring enable when you to require it. There are a couple of use reduce the risk of assault on ladies by advising control focus and their partners through SMS.

II. REVIEW OF LITERATURE

While alluding remembering a similar concern numerous researchers have concocted imaginative applications.

A. Major existing applications are,

1) *Sudha Arvind: Et al*, explains about, they use a new technology to protect a women. The device contains a panic button whenever it is activate the device automatically track the location and send it to the emergency contacts. It doesn't need any internet connection to the Bluetooth operated APP.
2) *Monisha*: explains about, they using ARM controller and android application using Bluetooth when the device and Smartphone can be synchronized it will send an alert message for an emergency contacts
3) *Premkumar*: explain about, they using PIC microcontroller, GSM, GPS and panic button. Whenever the button pressed the GPS track the location and then the microcontroller collects the location point to send it through the GSM module.
4) *Akanksha Chandoskar*: describes about, they use 8051 Micro controller, panic button, GSM, GPS. Whenever the victim holds the panic button the GPS track the location and stored it in the microcontroller and then send the alert message to the emergency contacts.
5) *Gowri Predeba:* describes about, they used Force sensor, Metal detector, GPS, GSM, Shock circuit, panic button. Whenever the button was pressed or the external force can be raised by the victim the alarm automatically screaming for help. And then if opponent have some metals (knife) with the help of shock circuit the shock was applied to the attacker.
6) *Santhiya:* describes about, they used PIC micro controller,Button, GPS and GSM. The victim pressed the button in the device, GPS tracks the victim's location and it locally store the data to the micro controller and then using GSM module to send the data to the emergency contacts through the UART.

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7) *Shreyas explains* about, a smart watch for women safety, which contains a panic button when the victim was pressed the button then the smart watch directly connected through the satellite to send the location of the victim using GPS and then transfer the location through the GSM module which contains the non- lethal electric shock to attack the opponent.
8) *Kavita Sharma and Anand*: More explains about, they used an Android based smart phone the victim was in trouble means they simply press the volume key button in the smart phone it sends the alert message to the emergency contacts list " I am in trouble. I need your help." With victim's location as well as it also gives a voice call to the first emergency number.
9) *Pradeep*: describes about, they used ACID detection sensor, Temperature sensor, Heart pulse sensor, Buzzor, GSM, GPS, Camera. The ACID detection sensor sense the gas detection. Tilt sensor comprises the temperature sensor and heart beat sensor, whenever the victim's body temperature and heart beat increases it gives the buzzor sound in the device as well as the victim's location can be tracked through the GPS and then send the message using GSM. The camera can be used to capture the opponent image.
10) *DongareUma*: explains about, they used voice keyword technology in smart phone. The victim is in danger zone, they no need to press the panic button or volume key button in the Smartphone. Because they already set a emergency voice keyword using voice recognition module in the device, if the device once receive the voice keyword means it automatically turns the active state and then track the location using GPS and then send the emergency message to the particular selected contacts.

III.PROPOSED DESIGN

The proposed framework is to plan a portable device. It consists of Panic switch, PIC microcontroller, screaming alarm/ caution circuit and shock generator. At a point when Panic button is pressed, the device will get automatically activated within a milliseconds. The screaming alarm unit will be activated and will produce siren sound to call out for help. Shock generator is applied to harm the attacker which may help the victim to escape.

A. *Block Diagram*

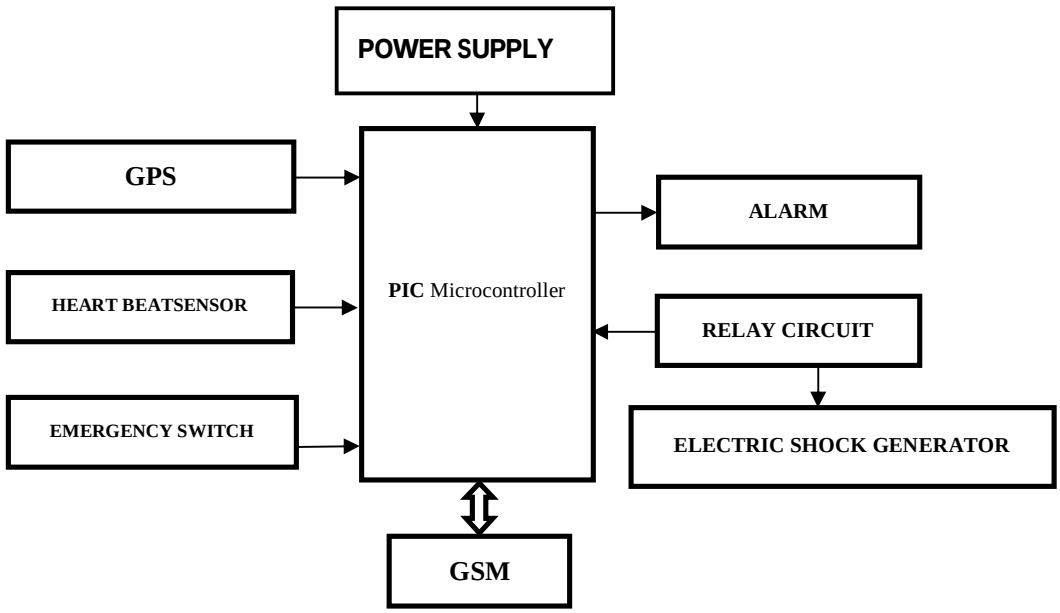

Fig: 1: Block diagram for women's safety

B. *Hardware Used*

1) PIC MICROCONTROLLER
2) HEART BEAT SENSOR
3) GPS MODULE
4) SHOCK GENERATOR
5) GSM MODULE

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C. Software used

1) Embedded C: The above block diagram explains about the alert features for effective women's safety and security which consists of three main modules:

2) Emergency switch

3) Heart beat sensor

4) Electric shock generator

1) *Emergency Switch:* This gadget contains an emergency switch whenever the victim needs help, they simply hold the switch for need help from registered contacts in the gadget.

2) *Heart Beat Sensor:* The sensor includes a light detector and super splendid LED. The LED ought to be super splendid as the best light should go through finger and recognized by indicator. When heart pumps a beat of blood through the veins, the finger becomes slightly more opaque and so less light reach the LDR.With each heart pulse the yield vacillates to a level. This variety is changed over to electrical flag. This flag is improved through an intensifier which yields basic voltage between 0 to +5V rationale level flag. It takes a shot at the idea of light tweak by blood course through finger at every pulse.

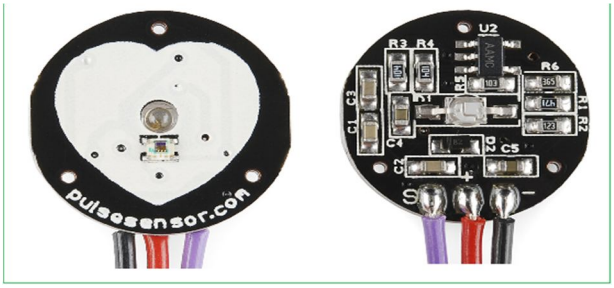

Fig: 2: heart beat sensor

The below table:1 describes the specifications of the Heart beat sensor

TABLE: 1

SPECIFICATION FOR HEART BEAT SENSOR

PARAMETER	VALUE
Material	FR4
Power Supply Voltage	3V/5V
Magnification	330
Wavelength	609 NM
Operating Voltage	+5V Dc Regulated
Operating Current	100 Ma
Output Data level	5 V TTL Level
Heart Beat Detection	Analog Out
Light Source	660nm Super red LED
Detector	Photo Diode

3) *Shock Generation Circuit:* The total circuit can generally be isolated into 3 stages, specifically the charging circuit for battery inside, voltage promoter plan and oscillator/transistor.

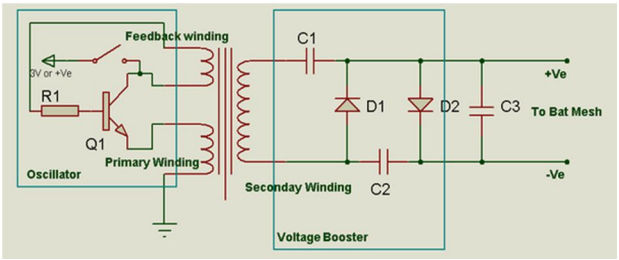

Fig: 3 : Shock generator circuit

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a) *Charging Circuit:*It's a clear capacitive power supply which can source two or three milli amps adequately satisfactory to charge the battery inside. The fundamental capacitor helps in limiting the present and after voltage is corrected. This amended voltage is passed on to the pined for level (battery voltage level) using a Zener Diode and a capacitor to sift through the commotion on the DC voltage created. This would charge the battery inside when associated with mains. This may be gone with a changer to engage charging.

b) *Voltage Booster:* This voltage is currently boosted further utilizing a mix of Capacitors and Diodes, which is ordinarily a Voltage multiplier. Normally, the circuit utilizes a Voltage Triple, which triple the voltage accessible on the optional twisting of transformer. The territory between yield wires won't let the high voltage circular segment off alone.

c) *oscillator:* Current is enabled through a transistor (generally npn) which enables the current to course through a primary coil, initiating voltage in the secondary coil and secondary coil consequently incites voltage in feedback coil. This counter voltage in the feedback coil makes the transistor quit conducting and the magnetic field in the ferrite core to fall by means of electrical energy from optional loop. This procedure encourages the transistor to conduct once more, repeating the procedure and making pulsed DC. The changing magnetic field develops high voltage in the secondary coil of our transformer.

d) *Note:* The transformer used for this is a fly back transformed, not the normal mains transformers.

IV. CONCLUSION

This proposed configuration will illuminate basic issues looked by ladies in the close past with mechanically stable gear's and thoughts. While the overall population may change for the enhanced, the capacity to act naturally adequate, certain and truly free can go with equipping oneself with the best device. The framework will give revise data as physical gadgets gives ensure for the same. The essential objective of this work is to guarantee each lady in our general public to feel safe and secured. The framework will be compact and cost effective.

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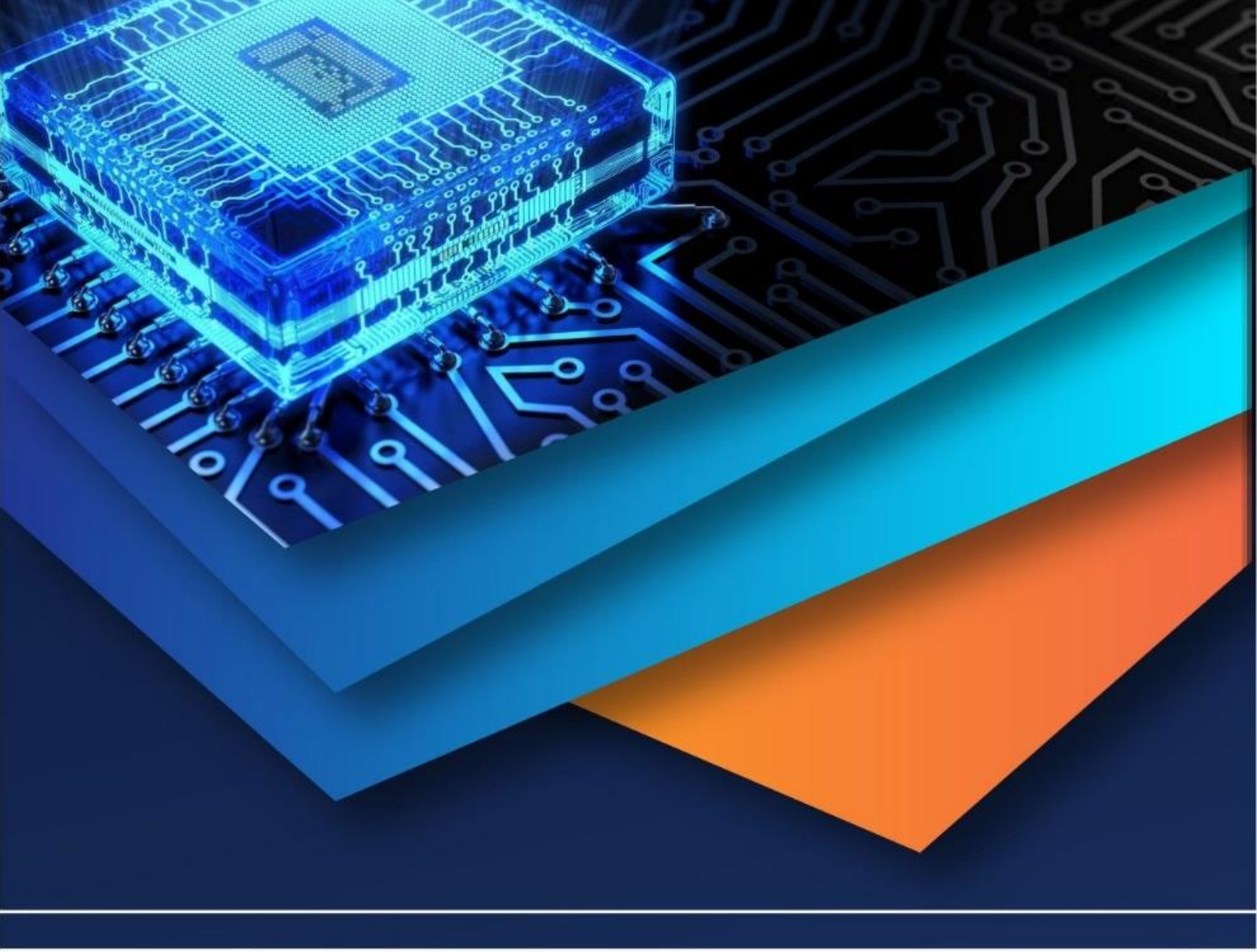

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