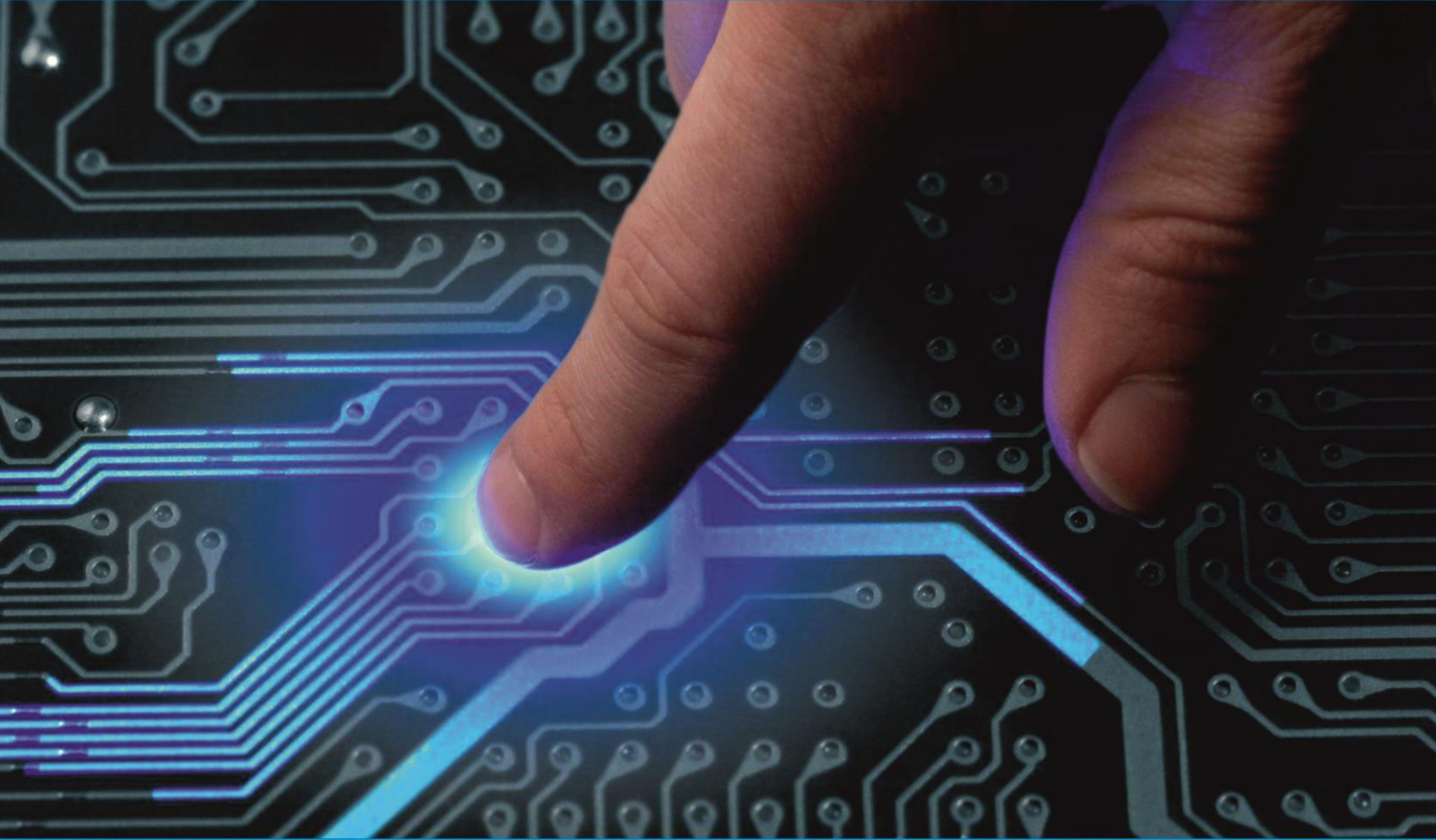




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# A Survey on Women Safety Device Using IOT (WSD)

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**ABSTRACT:** Women face a lot of challenges everyday and harassment is one major among them, there is a need to construct a system to ensure women's safety. There are many existing devices and apps that ensure women's safety but it is still not enough, we need a device which can be carried everywhere and no one other than desired can operate it. Also, automatic detection of these kind of situations is very much necessary, this is done with the help of sensors. In this paper we surveyed the existing system that ensure women safety by tracking location and sending alert messages.

**KEYWORDS:** Women safety, GPS, GSM, Fingerprint sensor, Buzzer, Accelerometer.

## I. INTRODUCTION

In India women face a challenges and there an increase in crime rate against women, it seems the safety and security of women are at stake. As we can literally observe that crimes against women occur frequently in India. There has been a decline in the women status from ancient to medieval period which is continued in such an advanced era.

Each day women is being assaulted, molested, and harassed. The streets, public transport, public spaces, in particular, have become the territory of the hunters. There are certain common crimes against women are rape, dowry deaths, sexual harassment at home or workplace, kidnapping and abduction, cruelty by husband, relatives, assault on a woman, child and sex, trafficking, attack, child marriages and many more.

Existing devices for women safety require women intervention to activate them such as pressing the button or shake the device etc. after sensing the danger. However, for some reason if a woman has no time to activate it when she is danger, then the purpose of the safety device is not solved. There is immense need for device for ensuring women safety.

## II. LITERATURE SURVEY

[1] *Arduino Based Security System for Women* by Abhijeet Mane, ManojGharge, Omkar Pol, Karan Grover, Prof. VijayaChavan

Women are facing many problems like rape, molestation, kidnapping, harassment etc. This uniquely designed system will help to reducing violence against women.. More priority is given to give security to women in urban areas as they can face problems while travelling the system is not so expensive thus many women can benefit themselves.

This system has many components like LEDs, buzzer, shock generator etc. When a women finds herself in a panic situation she will instruct the machine so that it can send message to known five people with her location and the message is immediately sent without any problems. The hardware components are maintained so that there will not be an error also there is power supply present in it a battery of high quality has been used this system will easily help a woman out to escape from this dangerous situations as it will smartly give GPS means location of woman and then help any known ones of the woman can rush at the location and help her.

The main advantage is a buzzer alarm which will help the women to seek help from neighbors if any and drawback is there are no features for automatic activation of the device.

[2] *Women Safety Band by using IOT with Arduino Mega Micro-controller* by Mrs. SaranyaR

A smart band by using Arduino Mega microcontroller to protect women's from the harassment which acts as brain of the system, because the entire system program stored in it.

Here we have a heart beat sensor to know the abdominal condition of women even women can manually trigger the device to notice other that she is at an emergency situation. The GPS module which is used here to grasp the precise

location of the person therefore the situation send to respective person and also public service organization to require immediate action against women attacks by using RF based wireless module call ZIG BEE. The GSM can send message or call to desired person whom the woman want to. The system has neuro stimulator for girls at the time of emergency to attack back all through they have got also used an alarm device to let other understand the emergency situation.

The main advantage is that the use of heart beat sensor and neuro stimulator which in a way disadvantage also, the sensors makes it a health band rather than a women safety band with is expensive and may be rarely used.

[3] **GSM Based Women's Safety Device** by Shirly Edward A, Vijayakumari S G, Bhuvaneshwari MS

The main purpose of this paper is to introduce the concept of women safety device for application in India. This device acts as an emergency device for women who are in danger. The woman having this device will press the panic button if in danger. An SMS containing the latitude and longitude coordinates will be sent to pre-registered mobile numbers informing them of the danger and their current location. The received location can be viewed on google maps to reach woman and help her on time.

It has two modes: In *default mode*, the device receives a message, a call is initiated to the sender of the message. This is done with a delay of 3 seconds between the time at which the message is originally sent and the moment at the time call is initiated. *Location send mode* is activated by the push button, it takes 7 seconds to obtain the location and messages are sent to registered contacts within intervals of 4 seconds. The message contains a link which directs the recipient directly to google maps where the location of the distress message will be displayed.

When *calling mode* is activated by pressing the push button, a call to one registered contact is activated within 4 seconds of activation. The success of this mode depends on the availability of the predefined trusted contact.

The main advantage of the device is that it has different modes for different tasks but pressing the button for every single thing can be confusing for women at that point of time which is a major drawback.

[4] **Advanced Women security app: We'RSafe** by Tanusri Dey, Upama Bhattacharjee, Sanjana Mukharjee, Tripati Paul, Rachita Ghoshhajra

When safety and security is concerned, a smart phone can become a powerful tool to prevent violence against women. Keeping this in mind, an android app has been developed which is dedicated to provide relief to the person in trouble. By clicking on the button (provided on the app) alert message is sent to the user's already saved contacts. The application shares the user's location with the registered contacts in the form of message. The application has other key features like "Alarming neighbors by loud noise", "Autodialing", "Finding location of nearby police station and hospitals", "Panic button" and also records the scene and share in user's social media. The first time users have to register to app by entering the basic details of the user like Name, Phone no, Email, etc. The work is developed in Java Development Kit using Android Studio. Thus, the app acts like a sentinel following behind the person till the user feels she is safe.

This is an amazing app, the standout feature is that it shows information of nearby police stations and hospitals. Another advantage as well as disadvantage is sharing the recording in user's social media account it may be useful for getting help but it does not ensure privacy of victim. There are many buttons in the app along with "I am safe button", it is difficult for the user to figure out in such situations. Also not everyone has an android phone without which this app doesn't work.

### III. EXISTING SYSTEM

All the existing devices to some extent help the victim to get out of the situation but some are complicated and some may not work efficiently and have drawbacks of their own. The basic of any safety device referred consists of GPS, GSM, controller and a triggering switch which when triggered sends alert messages to saved contacts. In existing devices they have used buzzer which is very much useful. If the switch in the device is pressed by mistake while in a city bus or by someone who does not its significance it can be of huge confusion. If something unusual happens there is no action taken in the device which will work as an evidence against the criminal. Also, most of the time the user has to press the button in order to start tracking location which may not be feasible sometimes.

### IV. PROPOSED SYSTEM

The proposed system also consists of all the basic modules that are necessary for a safety device such as GPS module, GSM module, microcontroller, LCD display, Power supply, Panic switch and a Buzzer. For assuring that only genuine user can operate and there is no misinterpretation of the device, we have a fingerprint sensor which initiates the



location tracking process and start sending alert messages. If in case the victim could not initiate, in such situation accelerometer comes into picture which determines the angle of the victim if its value reached above threshold then it automatically initiates the process of tracking location. There are some situations where victim could not be reached for help and some unusual things happen in such cases we have implemented a camera which captures images of the scene and sends via email to registered Email-ids which can be used as an evidence against criminal and helping victim get her justice.

## V. CONCLUSION

In all the papers referred authors have tried their best to give solutions for violence against women, these systems have their own applications and drawbacks. In the above proposed system we are trying to implement a system which is more efficient than the existing ones and to some extent solve the problems of existing devices.

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