



# Advanced Rescue System for Women Using Arduino

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## ABSTRACT

Security for girls has become a serious issue in India. The statistics among women abuse and harassment are steadily increasing. It also affects their health and their psychological balance. Our project is to style a highly reliable system for shielding women from being harassed. Here a private safety product is developed using GPS and GSM module which is additionally wearable to stay women safe. It senses the emergency situation and fetches the location of girls and sends it to emergency contacts via Global System for Mobile (GSM) Module. The main contribution of the paper is to develop a wearable arm band for safety and protection of girls and girls. This objective is achieved by the analysis of physiological signal in conjunction with body position. The physiological signals are analyzed through heart rate sensor, and if there's any fault it additionally uses a fault detection sensor. Acquisition of data makes the Arduino controller function by activating the GPS to send alert messages via GSM and shares the information to the family contact. The alarm is utilized to alert the environment by its sound and meanwhile, she will also use a TAZER as a self- defense mechanism.

## I. INTRODUCTION

The standing of ladies in Asian nation has practiced varied extraordinary changes within the course of the last number of centuries. In fashionable land, girls still face social challenges and are usually victims of abuse and violent crimes. In step with a worldwide poll conducted by Thomson Reuters, country is that the “fourth most dangerous country” among the planet for ladies then the worst country for ladies among the G20 countries. The protection of ladies could also be a distress of accelerating would love in country and alternative countries. The first issue within the handling of those cases by the police lies in constraints preventing them from responding quickly to calls of suffering. These constraints contain not knowing the situation of the crime, and not knowing the crime is occurring at all: at the victim’s finish, reaching the police assuredly and discreetly is also a challenge. This task centers on a security framework that’s planned solely to effectively give security and upbeat to women so that they ne’er feel defenceless whereas endeavour such social difficulties. The city “Nirbhaya” case that triggered the complete nation was the most effective motivation for this project. It had been time we girls required a modification. To assist within the removal of these constraints, during this approach we’ve got a bent to develop IoT based totally on women safety. The embedded- IoT platform consists of Arduino Uno as a controller, GSM for causing the message and decision, GPS to locate the women, camera for video streaming and mic for recording audio. The user will simply and discreetly trigger push provided on

the device. If the switch pressed once, it'll send the message containing the geographical location of the user to the pre-selected list of emergency contacts. Also, the camera and Mic starts to stream the video and record the voice severally Even the common man's speech on the streets usually steers towards the escalated and horrific attacks on ladies. An overbearing concern every folks has towards the women in our families has Lent the simplest way of urgency to our dialogue on the crucial and pressing issue of women's safety. Several special devices square measure primarily western and most of them haven't reached country nonetheless. Another issue is that the highprice of manufacturing these devices. To make applications economical, they may need GPRS services which could not be possible. Applications get hanged, that lowers down the amount. These applications consume an excessive amount of battery power. Most of the applications accessible within the market don't work while not the web or mobile network. this can be often precisely wherever the govt. must step in and take a glance at and mitigate price and infrastructure problems for the businesses operating during this direction the matter with apps is that they need an inclination to be clumsy. the women must be compelled to open her phone, unlock it, open the app so press a button. Also, most of the times, the perpetrators sometimes select the phone initial. the need is to develop freelance devices like safety bands, rings, key rings etc. which is able to be carried around in disguise and used quicker, and which might enable the women to send emergency messages with their location in times of distress. The device named as as "Virtual Friend" is incredibly designed for the women in bother. it is a tool used for the women in chaotic situation. The essential approach is to use the Arduino Uno microcontroller supported ATmega328P has the perform of send and receive data that's provided by Arduino GSM defend mistreatment GSM network. This location of the victim is understood by the GSM network mistreatment Arduino Uno by initiating the user's sensible phone. Quickly the Arduino Uno gets the coordinates of this location the Arduino transfers the coordinate details to the user's sensible phone via Arduino GSM defend. The SOS light-weight could also be a symptom accustomed alert the passer and it offers the sign of universal facilitate to the victim world organisation agency unit of measurement in distress. The alarm buzzer is activated if the lady is in danger scenario. Within the crucial scenario the women send the message or build a call likewise because the situation of the actual incident to the registered contacts through the use of GSM and GPS. Although the device is thrown away it sends the message and creating a call to the registered emergency contacts till they picked up or open the message.

## II. SYSTEM DESCRIPTION

This study presents a low-cost, high-efficiency women safety system. The hardware interface module and the software communication module are the two key modules in this system. The Arduino UNO microcontroller, which also serves as a tiny web server and interface for all of the hardware components, is at the heart of this system. The microcontroller is responsible for all communication and control in this system. Environmental monitoring employing GPS, GSM and heart beat sensor is one of the features of the women safety system. It also has switching capabilities for controlling safety equipment

### III. PROPOSED SYSTEM

In this system an GPS is used to find the location and GSM module sends the location to the group of people stored in the phone and to the near by police station. It helps to track the person and additionally a technique of clicking the safety switch has been used, there by a voltage shock is applied when the switch is pressed. A Heart beat sensor is used here, which measures the heart beat and there by share the location and emergency message automatically when the pulse rate exceeds the normal level.

### IV. BLOCK DIAGRAM

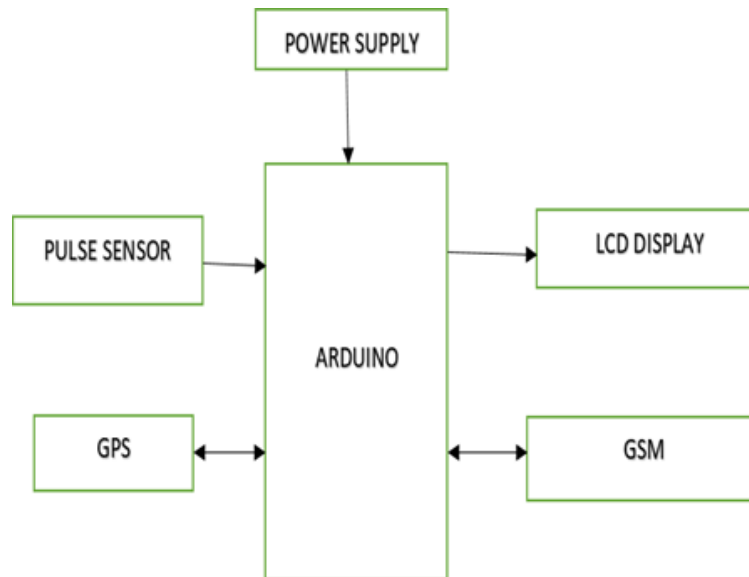


Fig 1. Block Diagram

### V. WORKING

#### Rescue System

The Arduino UNO is given 5V Supply which is programmed with Arduino IDE Software. It is connected to push button where 12V power supply is given. When the button is pressed GPS starts tracking the location and shares it to the provided mobile number via SMS, GSM is used to share the message. In case if the user cannot be able to press the button ,we have added a pulse sensor which will automatically senses the pulse condition of the user and share the emergency message to the provided number.

#### Safety System

For the purpose of protecting the user in the emergency situation by themselves, we have introduced this safety system. This system includes voltage generator and triggering circuit, when the user is supposed to press the button the voltage generator starts converting the provided low voltage DC to high voltage DC which is triggered into the culprits body. So that the user can able to escape from that particular place.

## VI. CONCLUSION

The planned design can agitate dangerous problems featured by ladies within the recent past and may facilitate to resolve them through victimization safety devices. This work can targeted on developing a wise low-cost device to help ladies, feel them safer and forestall the incidence of rape, harassment and alternative dangerous situations. The project would aid in enhancing the safety and security of all heartsick and badgered ladies and kids .The system helps to stay up gender equality by providing a secure setting to ladies within the society and permits them to figure until late nights. Anyone before doing any crime against the women are warn and helps to chop back the rate against the women.

## VII. REFERENCES

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