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Design and Implementation of Womens Safety System

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Abstract: ***According to the report, Government Organizations 35% of Women around the world face unethical physical torcher/harassment like in any public places such as market area, railroad, bus stands and walking methods etc.In this paper, the author states Women's Security: The authors live in public places and travel via public transport (school buses, private cars, company buses &cars, etc.), as well as women in public places. We feel the need for advanced women's security systems that provide alternative models of security. In this article, we focus on security systems that are solely aimed at providing security to women so that they do not feel helpless when faced with social challenges, and build advanced detectable systems.***
We can utilize a large number of sensors and devices to accurately detect the real-time situation of women who are being seriously abused, apart from the idea of developing smart devices for women It's completely comfortable and easy to use compared to existing women's security solutions, such as clothing, bulky belts, and the infamous mobile apps that is very abstract and outdated. The smart devices integrated with the smartphones has the added benefit of reducing the cost and size of the devices. It's not difficult to build a safety device for women using all the technologies available these days. In addition to issuing emergency alerts, you can create a device that can be worn by women who send messages to friends, family, and stakeholders, and use SOS emergency SMS with your current location to notify the police and anyone. This information can be used by police to save the victim from its location. To this end, we're using an Arduino that can interface with GSM and GPS modules to send SMS alerts and get location coordinates. RF transmitter and receiver modules for wireless communication between bands and receiving devices using GPS / GSM.
Keywords: Arduino, GSM, GPS, Raspberry Pi, Smart gadget, Hidden Camera.

I. INTRODUCTION

Women's safety is a major concern in a country like INDIA where women play a significant role in each sector. Build a person who can see a person's location. A smart device paired with a smartphone has the added benefit of reducing device costs and reducing size. to provide safety for women. This problem aims to design a simple and portable tool for women's safety. they are very focused on building / making a model where the device can be easily moved. Women's safety is a major concern in today's scenario. Women are physically abused. Women's security tools such as various mobile apps have been designed and implemented, but the time needed is a device that can easily be carried everywhere.

The idea to develop a smart device for women is that it is comfortable and easy to use compared to existing women's safety solutions such as a separate garments, bulky belts, and famous mobile apps that are only abstract and highly obsolete. If a woman is subjected to an attack by an adversary, then she must have a manually pressed switch, (which will be ideally placed in a convenient body position), which will, in turn, trigger the microcontroller to activate the GPS Tracker on the body and capture the image of the attacker at the same time and transfer it through an RF module to another section where it will be stored. Next, the Global Positioning System (GPS) receiver acquires the coordinates of the location of the woman under attack, and sends these to the former determined cell phone numbers (the typically family and police), via module GSM.

II. LITERATURE SURVEY

In this article, we will focus on security systems aimed to providing security so that women will not feel helpless in the face of these social challenges. The women's security system is a security device specially designed and implemented for emergency and distressed women, it is simple, easy to use, and portable with a variety of functions, and the number of Smartphone users worldwide is increasing. It is a personal safety product to keep you and your friends safe 24/7 by 365 days. Full of features for everyday safety and practical use. This user-friendly application can be accessed by anyone who has it installed on their Smartphone, as well as anyone who has own device. We intend to provide the fastest and simplest way to contact you.

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The basic approach (one click) is to find / threaten an immediate location and deliver a distress message to the nearest police station and a preset number to avoid unfortunate events and provide real information. Evidence of action against perpetrators of crime against women.

This device/system can be downsized in the future and can be built into jewelry, mobile phones, bags etc., To make this device convenient. This also helps police reduce crimes against women, and evidence can be used to track crimes. This system is a guide to help people take precautions,as soon as possible:

1) Stalking while walking.
2) Attempting physical or sexual assault.
3) Dangerous neighbors.
4) Domestic violence.
5) Hidden camera detector.

The idea of developing a smart device for women is that it is completely comfortable and easy to use. This smart device is integrated with the smartphone and has the added benefit of reducing the cost and size of the device. GPS and IoT use smartphones.

A. Proposed Methodology

Broadly the development procedure of Machine Translation System phases is implemented with:

1) *Atmega 328 Controller:* The ATmega-328 is an high performance Advanced Virtual RISC (AVR) microcontroller. Supports up to 8 bits of data. The ATmega-328 has 32KB of internal memory-pin AVR microcontroller RISC Architecture compatible with 32KB flash system memory is 1KB and SRAM memory is 2KB. All ADC activities combined to form Port A (PA0 - PA7). There are also three built-in Grade 3. The 3V goes to 5.5V, but we usually use 5V as the default used for embedded applications.
2) *GPS (NEO-6M):* The Global Positioning System (GPS) based on the Ublox NEO-6M that uses is sent signals on satellites in space and earth stations to determine their exact position on earth. The signal rate radio is sent from satellites. And the ground station is accepted by GPS, of the signal to determine its accurate location. GPS itself does not need to broadcast any signals acknowledged from satellites and earth stations containing timestamps when the signal is transmit. By cunning the time difference between the time, the signal is transmitted and the time the signals are acknowledged and using the speed of the signal, the space between satellite and GPS can be resolute using a formula simple for speed and information usage of 3 and up. An accurate GPS position can be Triangulated.
3) *GSM (SIM900):* The SIM900 GSM / GPRS Shield is designed to surround the SIM900 interface chip with everything Arduino needs, adding some great features to take advantage of single-chip functionality.
4) *Hidden Camera:* A secret agent camera is a device that can capture video (and with audio) of a position without the subject's knowledge. It irregularly used for business purposes, secret cameras are mainly used for examination activities. This type of cameras is also sometimes known as nanny cameras or spy cameras, due to the common use of secret cameras when checking the dealing of children and women's care. Small cameras are usually hidden as common objects in the commerce or home environment. Different types of secret cameras exist, and some exist designed specifically for certain environment, though most are designed to suit all environments. Small cameras can be either use cable or wireless. A wired spy camera is connected with a memory, but wireless transmits the storing to a receiver within a small area.
5) *Raspberry PI 3:* The Raspberry Pi is low cast and credit card sized computer that plugged into a computer monitor or TV and used standard keyboard and mouse. IT capable to do everything that you had expect to desktop computer ,internet suffering and playing high definition video, word processing, and playing games. Thus, the Raspberry Pi board booting using this SD card, similar to how a personal computer start into Windows from a hard disk. Raspberry Pi mandatory hardware specs mainly include a Linux Operating system and SD card with the US. Input device, monitor, power supply, and video cable options Hardware specifications include a USB mouse, powered USB hub, case, Internet connection, Model A or B: USB WIFI adapter, and Internet connection to Model B is a local connection cable.

III. PROBLEM ANALYSIS

India is itself a superpower and an economic hub remains attentive in the clutches of various patriarchal harms today in the current worldwide scenario, the main question in each and every woman's mind, allowing for the rise in women's issues there has been harassment in the recent past year, concerned only with her safety, freedom and security.

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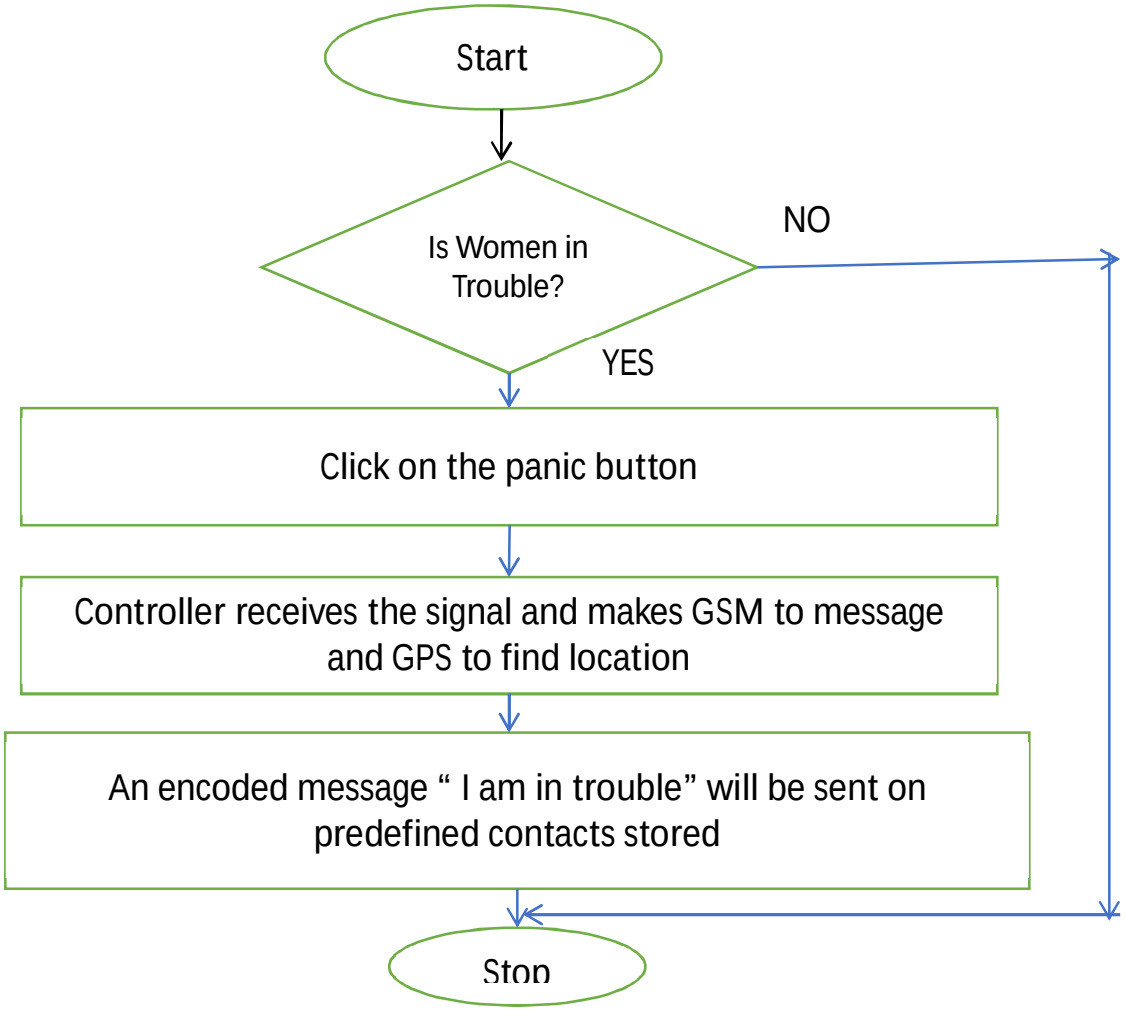
The only thought that bothers all women is when they can move freely on the streets even at odd hours without worrying about their safety. In the 21st century where technology has developed new and fast-growing gadgets but women and girls are still facing problems. So, in an attempt to curb this threat, the atrocities against women are now over with the help of a Women's Safety Device. This thesis suggests a new perspective on using technology to protect women. Implementing the women's security system through RFID and GSM serves the purpose. The proposed system especially for women's safety and overruns confers the disadvantage of offered systems. In this proposed system when women are at risk it can be immediately suggested to appropriate persons to use GSM technology. In case of any harassment, the women have this device that communicates with an ATmega328 microcontroller and through GSM the message is sent to pre-defined contacts (parents, friends, media, cell women).

A basic method is to send a suffering message to the cops and the registered number; so, that the sim can be tracked by the cops avoiding unfortunate events. In this project, we will implement a female safety system on the ATMEGA328 microcontroller via a GSM modem.

IV. PROPOSED WORK

The Implementation of Women's security system a women's safety device is a microcontroller- based system. The ATmega-328 is an high performance Advanced Virtual RISC (AVR) microcontroller. Supports up to 8 bits of data. The ATmega-328 has 32KB of internal memory-pin AVR microcontroller RISC Architecture compatible with 32KB flash system memory is 1KB and SRAM memory is 2KB. The women's security system was operated on an AVR microcontroller. via GSM. Communication scenario alarming and incident prevention accomplished by GPS, GSM technology, and protective system respectively. This is the goal of our system. As a result, the design is split into two parts.

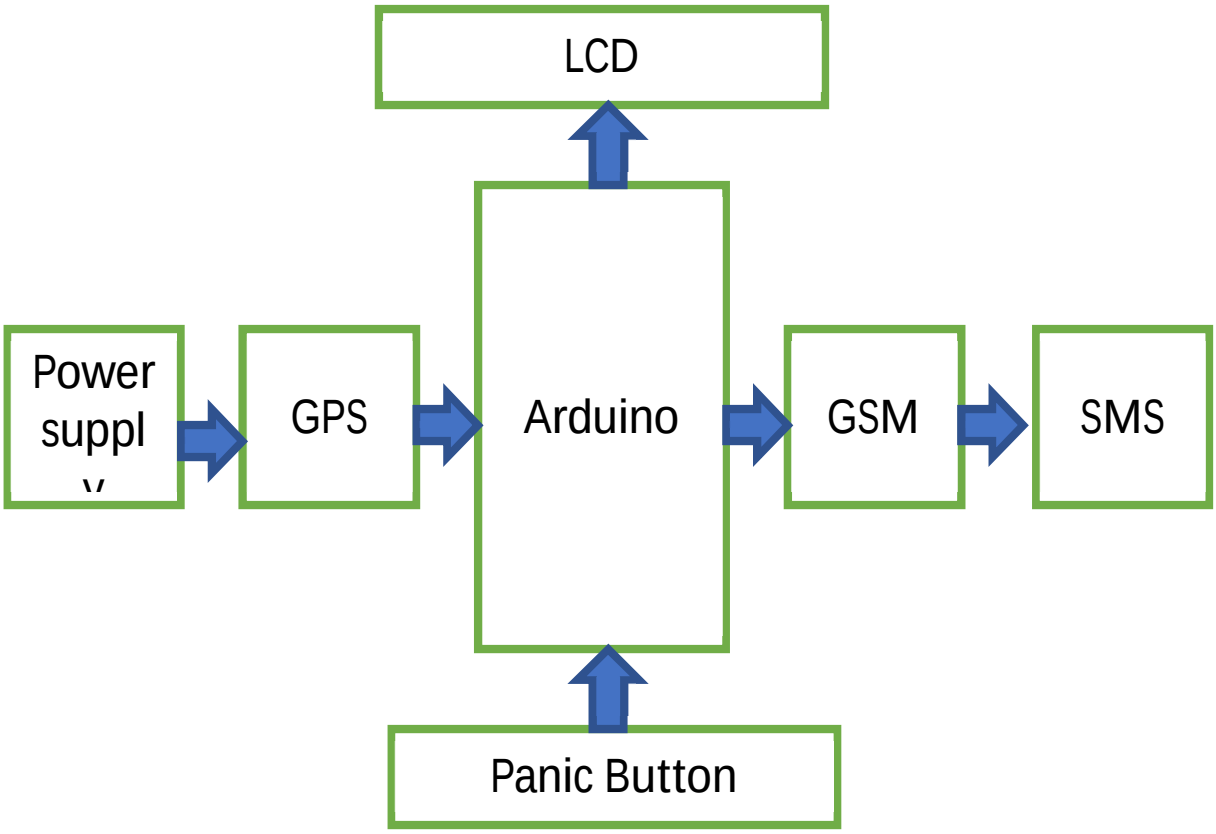
1) Wireless message all the way through
2) Follow location via GPS.



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A. Block Diagram of Intelligent Women Security System

The woman with this device must press the switch, the signal is transmitted to a Global System for Mobiles module which then decodes the established information and then activates the AVR microcontroller in which contacts of public and messages are sent to the destination via Global System for Mobiles. This security device works to prevent crime.



With the concern of women in mind, many software developers have come to notice that: Codes such as * 91 # are used to provide emergency services, which will alert police force control. A free mobile help service 'Help me on a mobile phone has been launched to ensure the security of women to assist those in crisis. These applications require one click to perform this task. But when a girl is in trouble, there can be times when the girl can't take the phone and press a button. A garment is entrenched with an electronic device that provides a 3800kV electrical shock to the assailants who help the victim escape. Belt Smart: This system was designed with a portable device similar to a normal belt. It features an Arduino board, a screaming alarm, and pressure sensors. Watch Over Me application that turns a phone into a personal security device. It monitors the trip and alerts the contacts that the user has not arrived at the destination within a scheduled time. Witness: Witness allows users to transmit their location, audio, and video to their contact ones with a single touch. You can call emergency contacts, send texts, and broadcast live video, audio, and your location. IOS. The above are some examples of implemented safety and security devices

V. CONCLUSION

The proposed project will address the important problems women have faced recently and help to solve them with technically sound tools and ideas. This system can overcome the fear that makes every woman in the country fear for her safety as the first impression of its kind. The proposed project will address the important problems faced by women in the past and solve them with good technological tools. With further research and innovation, this project can be implemented in various areas of security and surveillance. Recently they mainly dealt with their security. The project was successfully designed and implemented with the idea of "Designing safe devices for women using flat RFID and GSM technology. The project was created by integrating the functions of all the hardware components used. the module was carefully explained and defined, contributing to the best results device. An E-mail is also sent to the specified contacts in the list.Secondly, the project was successfully launched and tested using advanced microchips and with the help of constantly evolving technology.

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VI. FUTURE SCOPE

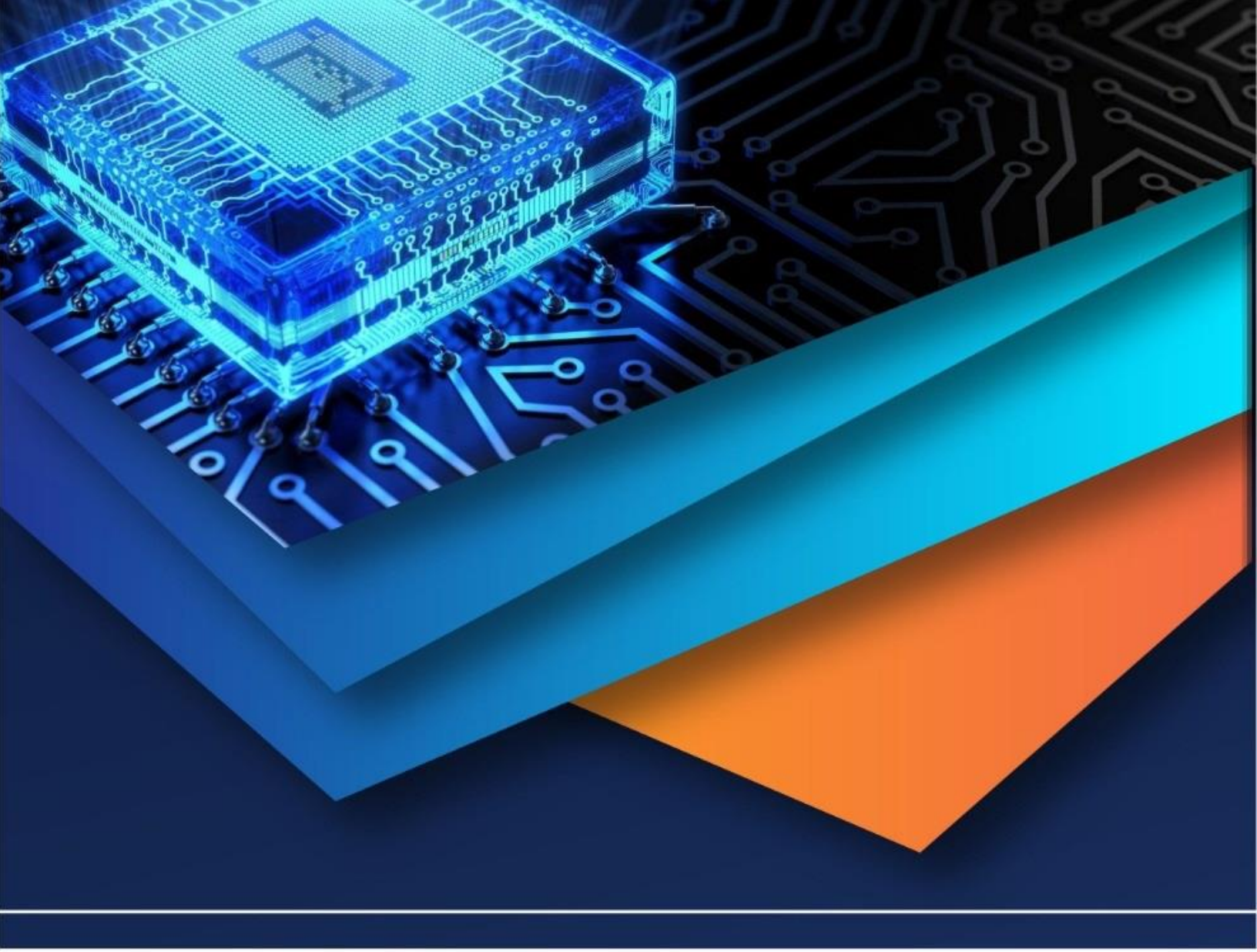
The day the media reports on women's achievements rather than harassment is an achievement! The need for devices that automatically detect and rescue victims is an effort of our idea, as we (humans) cannot respond appropriately in crises. This document proposes a device that integrates multiple devices.

The application is programmed and loaded with all necessary component data, including humans. The software or application can access pre-programmed GPS and messaging services each time it receives a distress signal. The application sends a request for assistance along with location coordinates to the nearest police station, relatives, and people within a radius. This action allows immediate help from police and the general public at close range that victims can reach very accurately.

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