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Smart System for Women Safety

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Abstract: ***Assaults on women are becoming more common, and in cases where she is unable to use her phone to call the police or other members of her family, our proposal will be extremely useful in providing the knowledge about the attacks, and in providing the precise coordinates which point the ladies to nearest police station or the desired people for necessary action. Females were provided the prototype and that is unseeable to people. The apparatus will contain GSM , an Arduino, and a GPS (Global Positioning System) module that will provide us with our geographical location. These position values will be presented on the LCD (Liquid Crystal Display). At the moment of an emergency, she will be able to touch a button once, and the incident is traced and sent to cops or menage, ensuring that she is safeguarded in a timely manner.***
Keywords: Arduino, Global Positioning System, GSM, LCD.

I. INTRODUCTION

Even the most ordinary person conversation on the streets often steers towards the augmented and nightmarish attacks on women. An overbearing concern each people has towards the ladies in our families has lent a way of urgency to our dialogue on the critical and pressing issue of women's safety. When women are travelling or doing any outdoor activities and if unfortunately they are going through these problems and to avoid these crimes to be faced they pronounce or rather say speak keywords which is able to provides a signal to android but this can also give suspicion to the criminal and so he/she will throw victim's android. Challenges faced By Women: the globe is becoming less safer for girls as they need to handle major problems like harassment, domestic violence, rape etc. Rapists and molesters still still commit such crimes while in presence of strict laws and soldiers. The crimes are increasing in India because it was 195,856 in year 2008 and went up to 244,270 in 2012. Not only India but the foremost developed country on Earth also faces these problems in America 232,960 women were allegedly raped or sexually assaulted within the year 2006. The "Virtual Friend" technology is specifically created for troubled women. It's a tool for women who find themselves in a tumultuous position. The most important technique is to use an Arduino Uno microcontroller with an ATmega328P chip that can send and receive data over a GSM network, as provided by the Arduino GSM shield. The victim's location is determined via the GSM network using Arduino Uno and the user's smart phone. The Arduino Uno receives the coordinates of this place directly, and the Arduino sends the coordinates to the user's smartphone using the Arduino GSM shield.he proposed device is more of a safety system designed to be used in the event of an emergency. This device is frequently worn in a very jacket (similar to a women's blazer). It's a device that's easy to hold and has more connectivity options. The emergency button is fastened to one of the jacket's buttons. The main goal of this device is to alert the bogeys and police of the women's whereabouts. A GPS system is used to track the victim's location, and a GSM modem is used to transmit the message to the pre-determined phone numbers. This variant is also suitable for small toddlers as well as the elderly.

II. LITERATURE SURVEY

The paper titled [1][1] was a study that explored a spoken keyword recognizing app that could recognize the user and enable the app's functionality even if the phone's keypad was locked. The GPS module uses longitude and latitude to pinpoint a user's exact location and sends a pre-programmed emergency message with the user's location to the registered contact numbers. The sound recording module begins a five-minute recording of the conversation, which is then saved as evidence.

The study [2] proposes a SCIWARS software (Spy Camera Identification and Ladies Attack Rescue System), which is divided into two sections. A central package contents as a sophisticated warnings network, analysing infrared rays from every Nocturnal covert camera installed in locker rooms, hotel stays, or other locations and warning the consumer via messages about potentially dangerous areas. The user must now determine whether or not to submit a complaint by transmitting the notification together by the circumstances to regulatory bodies such as the police. The supportive, which can protect the victim from a physical attack in a frightening situation, is triggered by mashing buttons whatever bar.

The paper [3] proposed an augmented car tracking program that utilizes GPS to track the car, as well as providing protection through a GSM-enabled emergency button located under the vehicle seat. As a result of a country's strong financial process pace, several corporations are establishing themselves in the city's immediate vicinity. Because it is the obligation of the employers to ensure the safety of female employees in private transportation. To activate the Teltonika-FM1100 gadget in an unsafe environment, an employee must hit the accelerator button.

[4] The Paper In a potentially dangerous situation, a conveyable device, such as a belt, is proposed that is automatically engaged when the differential pressure reaches a predetermined level. Every 60 seconds, a GPS module detects the site and sends sensed data to three contact details using GSM, together with an upgraded address. The device also activates a loud alarm with a screech to call for help, and even an electrocution hazard to incapacitate the offender in consciousness, allowing the victim to depart. The device is primarily made up of an ATMega328 board with an ARDUINO software-written microcontroller.

III. OBJECTIVE

Our proposal's major goal is to provide women with protection from the dangerous zone. We are offering a capability to guard the female bodies throughout this initiative by offering this package. Even though she is uneasy at the time, the woman will press the button. The latitudes and longitudinal co-ordinates of that spot will be calculated via GPS. This value is received by the controller, which then allows the transmission to a well before number that has previously been specified in the programme

IV. METHODOLOGY

A. *Hardware Required*

1) *Arduino:* Because Arduino is the native language, the ATmega328 microcontroller is used as the master node to handle the circuit appropriately. For importing instructions from a pc, the Arduino board has a USB serial communication interface. Arduino has developed its own software, termed the integrated development environment (IDE), that helps shape the C and C++ programming languages. The Arduino UNO board used all over the endeavor is shown in the diagram underneath.

2) *GSM:* GSM modems are specialised modems that take a SIM card and function on a mobile driver's subscription, comparable to a portable phone. A GSM modem seems to a mobile carrier to be similar to a moveable.Its modest size allows it to fit into sleek and tiny bespoke design requirements. Its Embedded AT enables for comprehensive cost reductions and a reaching the destination for client applications.

3) *GPS:* The most recent advancement in navigation and location technology is the Global Positioning System (GPS). The celebs were once used for navigating. Digital society necessitates greater precision. The new cluster with range is capable of closing the gap between satellites. If two satellites are utilized, the receiver must be placed on the top of both spheres, which is the point where the two spheres connect or the circle's perimeter. If a third satellite is used, the user's position is limited to the two spots where the three factors connect. For land receivers, three observations are sufficient because the lesser of the two places is chosen. When travelling by air or space, however, four satellites are required; the receiver's location is determined by the intersection of all four spheres. Analysis is focused is attained when more than four satellites are employed. Satellites broadcast signals to hardware on the ground, and GPS receivers simply receive satellite signals rather than transmitting them. GPS receivers require clear views of the sky, therefore they're only used outside, and they don't work well in densely forested locations or near towering structures. The GPS system relies on a highly accurate distance measurement.

4) *LCD:* A liquid crystal display (LCD) is a kind of touchscreen seen in many digit timepieces ,laptop devices. A polymer stream is sandwiched between two sheets of polarizing material in LCD panels. An electrical charge that passes through the liquid forces the crystals to stack, preventing light from tasting them. Like a result, each crystal acts as a shutter, perhaps admitting light in or keeping it out. Using an applied electric voltage, the liquid crystals will be adjusted to allow or block the passage of light.

5) *Buzzer:* The Piezo buzzer generates sound by reversing piezoelectricity. The important criterion is the creation of pressure fluctuation or tension by delivering electrical voltage to a piezoelectric material. Some buzzers can be used to notify a client of an occurrence such as a switched movement, counting pulse, or sensor input. They're which is used in alarm systems.

B. *Software Needed*

Arduino IDE.

C. *Working*

Female will be handed technology that is just not noticeable to others. The apparatus will include a GPS (Global Positioning System) module that will provide us with our geographical position, which should be shown on an LCD (Liquid Crystal Display). In the event of an emergency, she will touch a button once, and the location information will be tracked and communicated to authorities and kin so that she may be safeguarded in a reasonable timeframe.

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V. IMPLEMENTATION

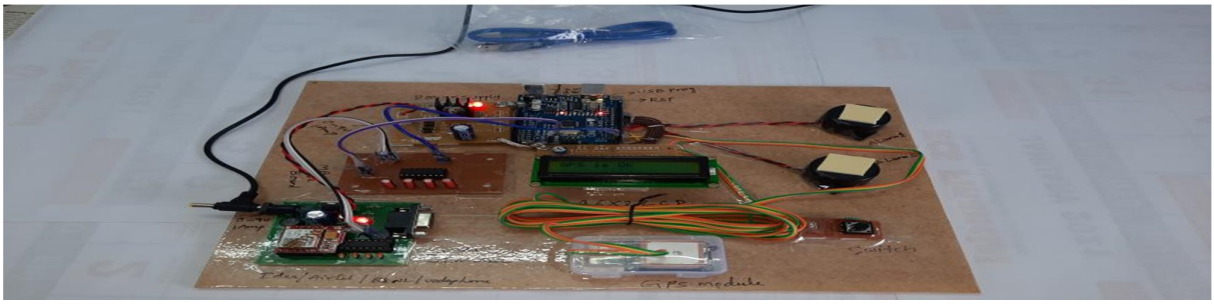

Fig.1 Equipment Connections

The Arduino Tx and Rx pins are linked to the Max 232 Board, as well as a 5v power source and GND, using Arduino. The Maxx-232 Board is additionally connected to Ground, 2,3 Pins. Both the LCD and the Arduino are connected by a switch. Arduino is connected to the buzzer. The LCD and Arduino are also connected to the GPS Module. The LCD is connected to the Arduino to display the activities that were taking place during the execution process.

VI. RESULTS

The SMS will be sent in this format along with Google Maps Link through which we can track the site of the user

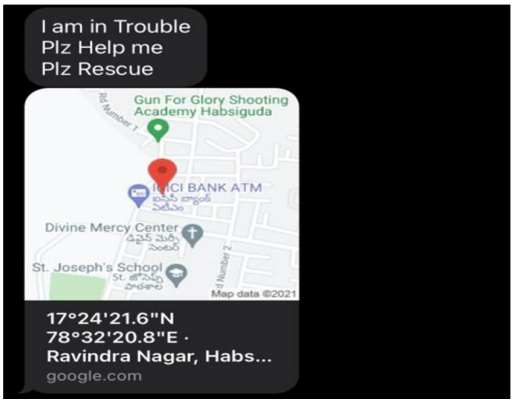

Fig 2. SMS Text

Fig 3. Google Map Location

VII. CONCLUSION

The new framework will address significant challenges that women have experienced throughout the recent past and can assist in their resolution through technologically recording equipment and concepts. This strategies can help women around the world

overcome their fears about their protection and wellbeing. After studying this technique model carefully we are able to conclude that this technique will surely help to scale back the crime rates against women and by sending location it's easier to assist a needy woman. Through study and analysis, the wireless automated security system for ladies was studied. This technique supported GSM technology and therefore the main component used is ATMEGA8 microcontroller with Arduino tool is employed. This device are very much useful to women, whenever they went outside alone.

VIII. FUTURE SCOPE

As the main aim within the world is to confirm women's security so by this model we will achieve our aim also slowly it would reach the agricultural areas and therefore the women in can benefit themselves at an occasional price and girls can leave their houses without any worries. This technique may be more advanced by adding calling feature also the placement may be send to the nearest police headquarters. Images is clicked within the advanced system. In the near-future, machines will frequently interface with sensors to detect sights and record live video.This device switch our normal life, where several styles of attacks, harassments are present to a safer one. In future we are able to make the battery rechargeable. It may be available within the market by reducing the dimensions. It may be converted into any sort of wearing device.

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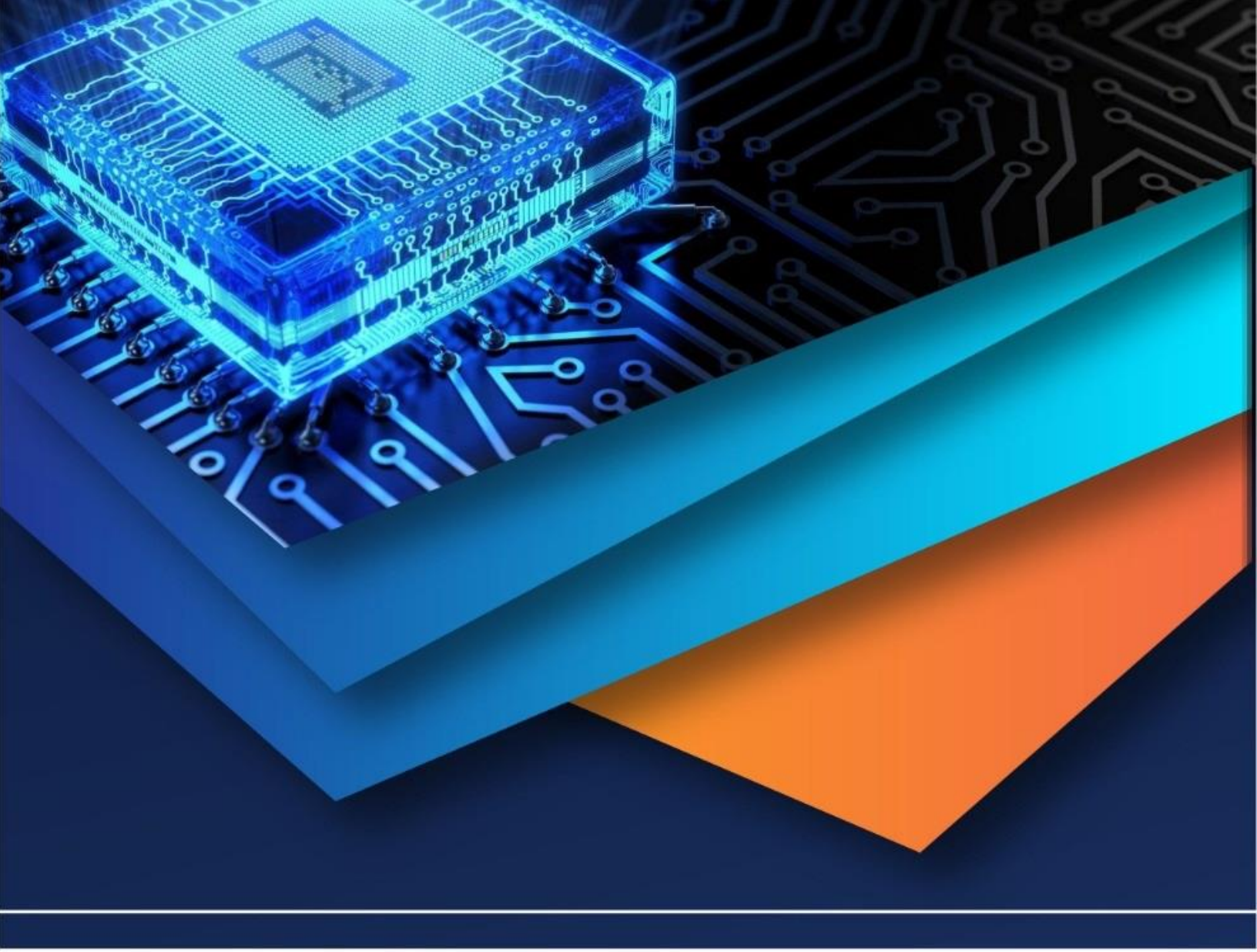

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