

SMART BAND FOR WOMEN SECURITY USING IOT

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ABSTRACT

Women's safety has been a big concern and the most important duty of every person. There is no chance of the world's welfare unless the women's condition is improved. Since ancient times, women are given the most respected place in society but every day and every minute some women of all walks of life (women, girls, and babies) are getting harassed, molested, assaulted, and violated at various places all over the world. It is estimated that 35% of the women have experienced physical and/or sexual violence at some point in their lives. The smart band for women's security using IoT is a device designed to enhance women's safety and security. The band utilizes IoT technology to track and monitor the user's location and movement. In case of an emergency or distress situation, the band triggers an alert, sending notifications to designated contacts or authorities. The device also features additional functionalities such as a panic button, GPS tracking, and automatic location sharing. A small measure of improvement, proposed in this paper, adds to the better performance of these devices and leads to better women's safety.

The main aim of this paper is to review the previous work done and available ways, present trends and discuss the challenges that are currently available in the studies. Along with these, the datasets that are commonly used and publicly available, the evaluation metrics considered are also discussed.

Keywords: - Mobile Application (Go Secure), IoT

1. INTRODUCTION

Technology has blitz scaled over the past years which is leading to a wide usage of multimedia for transferring data, especially Internet of Things (IoT). Usually, these transfers take place over insecure network channels. In particular, the internet came across accelerated popularity for exchanging digital media and individuals, private companies, institutions, governments use these multimedia data transfer methods for exchanging data. Women's safety is a major concern in today's world, and incidents of harassment and violence against women are unfortunately still prevalent. To address this issue, various technologies have been developed to enhance women's safety and security. The smart band for women's security using IoT is one such technology, designed to provide women with a discreet and efficient safety solution.

Women have gone through a series of struggles to prove their capability and become equal in the workplace to their male counterparts. Prior to World War II, women were expected to stay home and provide care for the household, and children and men were expected to "bring home the bacon." Ideologies began to shift as women who entered the labor pool during the war wanted to remain in the workforce; women's pursuit of equal pay and equitable working conditions continues today.

Over time, there have been many changes in the role of women in the security profession and their contribution to this specific industry which, over the years, has been predominantly dominated by men. There is a new movement on the horizon, and it includes capable women implementing a vision of change. Women are

gradually making their way into this highly male-oriented profession. Ten years ago, the percentage of women in the security industry was virtually non-existent. More recently, women have actively positioned themselves for growth within the security profession in both government and private industry. At this time, the number of women in security is rapidly increasing in the workforce.

Women have faced barriers to penetrating the security industry because many posts in law enforcement were traditionally held by men, and these positions transitioned well into the security field. The transformation in the security industry from a commodity-based sale to an IT- centric business was the opening for an influx of new visionaries, which, of course, included women. In the past, security was reluctantly implemented on a shoestring budget. Today, electronic security has become integral to all operations. This change has opened the industry to a new market of employees capable of changing along with the times and presented a window of opportunity for the entry of something new, a diversified workforce bringing fresh approaches and creative ideas paving the road for the future of the security industry.

The goal of our studies is to offer essential and carried out expertise approximately to improve the security of women in a society present in India. There cannot be a cop always guarding a woman, but there can be secret safety measures with them which can be easily used at the time of threat and let the nearby people know that there is something bad happening and their support is needed.

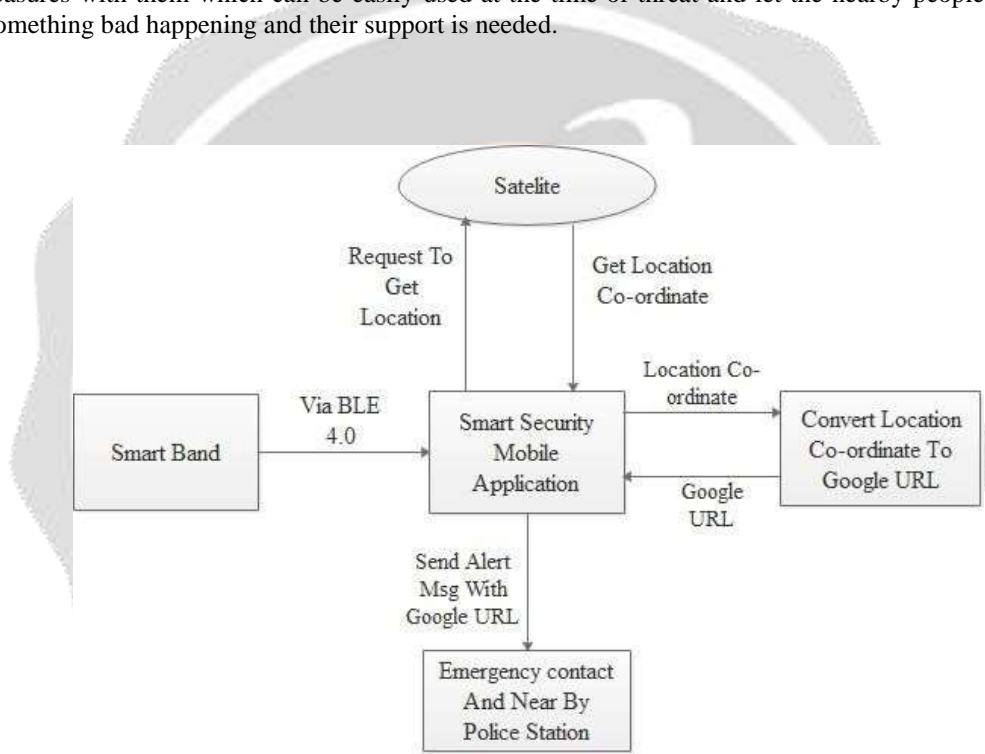


Fig.1: General working principle of Smart Security Band

2. RELATED WORK AND STUDY

2.1 Paper 1- FEMME using ARM controller:

Discussion: The safety of women in public spaces is a major concern, and there is a growing interest in using technology to enhance women's safety. In this paper, we present the design and implementation of FEMME, a wearable device for women's safety using ARM controller. The device comprises a bracelet that is equipped with a panic button, GPS module, and GSM module. When the panic button is pressed, the device sends an SMS to a pre- defined emergency contact with the user's location details. The device also triggers a loud alarm to alert people in the vicinity. The GPS module provides real-time tracking of the user's location, and the GSM module allows for communication with emergency services.

The study involved 30 women, and the results showed that the device was effective in enhancing women's safety and was easy to use. Participants reported feeling more secure with the device and appreciated its discreet design. The device also has the potential for wider deployment in public spaces, such as universities, workplaces, and public transport, to enhance the safety of women. The device could be integrated with

existing security systems and alert security personnel in case of an emergency.

Conclusion:

The device consists of a microcontroller, GSM module, GPS modules. When the system activates, it tracks the place of the women using GPS (Global Positioning System) and sends emergency messages using GSM (Global System for Mobile communication), to selected contacts and the police control room. The system resembles a normal button that can be embedded in any daily wearing obstacles like footwear or something.

FEMME is an effective and practical wearable device for women's safety using ARM controller that can help address safety concerns and provide peace of mind for women. Further research is needed to explore the scalability and reliability of the device in different contexts and to identify potential limitations and challenges associated with its use.

2.2 Paper 2- SHE (Society Harnessing Equipment):

Discussion:

This paper proposes a device which is portable and it also resembles a belt. This device was developed after seeing few applications and devices such as VithUapp which was initiated by a popular TV series Gumrah aired on channel [V], which generates current to help victim escape, and ILA security founder designed an alarm that can shock and disorient attackers.

This device includes GSM shield, GPS module, screaming alarm and pressure sensors. The Arduino board consists of everything which requires to start up the microcontroller, it can be started by connecting it to a computer or powered with an adapter or even a battery. The GSM shield provides data, voice, SMS and fax in a small form factor with low power consumption. It is a very powerful single chip processor with high efficiency and speech quality, and it supports low cost handsets and is also compatible with almost all telephone services.

The GPS module provides current date and time, corresponding longitude and latitude, and also sends speed and travel direction if the victim is travelling. It helps to track the victim and makes it easier to access their location and find them. The screaming alarm offers single chip voice recording and playback capability for 40 to 60 seconds. It is ideally used in portable voice recorders. The pressure sensor generates a signal when pressure is imposed on it, it is usually used to capture the change in pressure. In this device a threshold limit for pressure sensor is set, and when the threshold crosses the device gets activated and tracks the location of the victim using GPS module.

Conclusion:

Society harassing equipment poses a significant threat to privacy and personal safety. The rise of technology has made it easier for perpetrators to use various tools to harass and discriminate against individuals based on their gender, race, ethnicity, or religion.

This research paper has highlighted the need for more advanced technologies to detect and prevent the use of society harassing equipment. The study proposes the use of machine learning and artificial intelligence to analyze data and identify potential threats. These technologies can help in creating a safer and more inclusive environment for individuals. Furthermore, this research paper emphasizes the importance of raising awareness and educating people about society harassing equipment. A culture of zero-tolerance towards harassment and discrimination can be created by promoting education and training programs that teach individuals how to identify and report such incidents.

Finally, this paper suggests the importance of enforcing existing laws and regulations and developing new legislation that specifically targets the use of society harassing equipment. This will ensure that individuals and organizations are held accountable for their actions.

In conclusion, the findings of this research paper can be used to develop effective strategies to address society harassing equipment. By working together and implementing these strategies, we can create a safer and more equitable society for everyone.

2.3 Paper 3- Smart Intelligent Security System:

Discussion:

This device for women which includes Raspberry pi 2, GSM SIM900A, GPS Receiver, Live Streaming videotape, Extra features. The stun gun- A small gun charges an attacker with electric shock, and pumps about 70,000 volts into attacker's body. They run on Libatteries. Fight back- A veritably introductory app with only one special point is the Facebook status update, apart from SMS and dispatch options. The proposed design consists of movable instrument which traits a band on wrist, conforming of Raspberry pi2- It's a series of credit card sized single- board computers developed in the UK bythe jeer pi foundation. It's grounded on the Broadcom BCM2836 system on a chip, which includes an ARMCortexv7 900 MHz processor. Five to six millionraspberry pi's have been sold till June 2015.

GSM SIM900A- It's a especially designed type of modem which accepts a SIM card and operates over an blessing toa mobile driver, just like a Mobile phone. These GSM modems are used for frequently used to give internet connectivity and also for transferring - entering SMS and mms dispatches. These were first introduced in Finland in 1991. The SIM900A is a complete Binary- band GSM/ GPRS module in a SMT type designed basically for Chinese request, gratuities from small confines and cost effective results. GPS Receiver- This module continuously receives the data from the satellite and transmits similarly to the RS232, developed by US department of defense(dod).

This module can support up to 51 channels and are used to simplify the bedded system integration process. Live Streaming Videos By composing Wi- Fi, using Logitech c270 webcam and installing the motion software raspberrypi 2 modelsB. therefore, we can see the live streaming videotape or differently we can save. redundant Features This point principally consists of tear gas medium which can be incorporated on the one side of spectacles. For screaming alarm, a 3v electromagnetic buzzer is used to call out for help. therefore, all these proposed systems are dealt with wristbands and specs. Likewise with GPS and live streaming of videos.

Conclusion:

In paper [3] the proposed device is portable which has SMS options, screaming sensors and also defense element,thereby covering almost all needs. It can be more helpful by adding few more sensors like pressure sensors anddetecting hidden cameras.

2.4 Paper 4- Portable Safety:

Discussion:

The paper proposes a concept of portable equipment which can be carried by the women whichconsists of a GPS, GSM model, LCD display and a physicalbutton. This equipment is designed using the ARM 7 micro controller LPC2148. The advantages of this equipment is it consumes low power as it uses arm controller which are more efficient in the present days ,it also includes notifyingthe related authority for taking necessary actions on the culprits. This system can be made much better by installinga camera so that the culprits can be easily captured.

Conclusion:

In this instead of sending the instant location of the victim a real time location can be shared to respective people as victim will be in panic and there is more chance of running which will lead to missing of the victim.

3. PROPOSED MODELLING

Women have gone through a series of struggles to prove their capability and become equal in the workplace to their male counterparts. Prior to World War II, women were expected to stay home and provide care for the household, and children and men were expected to "bring home the bacon." Ideologies began to shift as women who entered the labor pool during the war wanted to remain in the workforce; women's pursuit of equal pay and equitable working conditions continues today.

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3.1 A Study on Sexual Harassment On Women In India

This research paper has been published in the International Journal of Current Advanced Research in February 2018. The paper has been divided into parts as follows.

3.1.1 Sexual harassment: forms and faces:

a) Eve-teasing

In India, eve teasing, or public sexual harassment of women, has become a widespread occurrence. They can deal with it exclusively or in gatherings. It might be as simple as making a remark to a woman or even touching or brushing up against her. It could be that it is following her and stalking her.

In the 1960s, the idea of eve-teasing became popular across the country. However, in many Indian metropolises, Eve teasing has become a major problem. This threat has afflicted or continues to afflict many Indian women. Women are subject to eve teasing everywhere, whether it's on public transportation, in public areas, shopping malls, streets, or at work.

b) Molestation

Molestation, also referred to as 'sexual abuse' or 'sexual assault,' is another kind of violence against women. It is the act of a guy imposing sexual conduct on a woman. Molestation is the sexual exploitation of a kid or a woman for sexual enjoyment by an adult or a masculine person. Though persons who are victims or witnesses of crimes have an obligation to report them, doing so is difficult since most people believe that such situations should not be reported due to societal pressure and the fear of giving the victim a bad name.

c) Rape

Rape is more than just a physical assault; it often destroys the victim's entire psyche. A murderer destroys the victim's physical body; a rapist damages the hapless woman's spirit. Section 375 of the Indian Penal Code, 1860, defines the crime of rape. Rape incidents have been on the rise in recent years at an alarming rate. In India, the number of rape incidents has increased in recent years [14]. This threat affects women of all ages and backgrounds. Even young females as young as two years old are vulnerable to such horrible atrocities. According to the World Health Organization, a woman in India is raped every 54 minutes.

3.1.2 Law Relating to Sexual Harassment:

The Indian Law managing offenses of lewd behavior has been given under the Indian Penal Code, 1860. The Code characterizes the ideas of Rape, Stalking, Assault, and so on however it doesn't characterize the word eve-prodding or attack. The Indian Law managing offenses of inappropriate behavior has been given under the Indian Penal Code, 1860.

The important arrangements which have been remembered for this examination paper are those connecting with assault (Section 375 and 376) and shocking the unobtrusiveness of a lady (Section 509, 294 and 354). Likewise, an examination of the new Criminal Law (Amendment) Act, 2013 has additionally been remembered for the study.

The law consolidates rigid disciplines in Section 376 for assault, assault, just as corrosive assaults. It has likewise made exceptional arrangements to recommend disciplines for the offense of assault where the offense of assault causes passing or leaves the casualty in a vegetative state. It likewise endorses grave disciplines for rehased guilty parties of the wrongdoing of assault. Aside from these actions, the public authority and the courts set out a few strategies and rules for guaranteeing ladies security in the country.

3.1.3 Causes of sexual harassment against women:

There is a male-dominated society in India. The patriarchal order of society, in which male members are regarded superior to female members, is the main reason for women being subjected to such barbaric acts and violations of their right to a dignified life. The mindset and upbringing of men is also a big reason why men do not respect the modesty and decency of women.

Another key reason why men are thought to be stronger than women is due to biological characteristics and societal expectations that women are delicate and weak. They are easy targets for abusers because they lack physical strength and the capacity to defend themselves. Because they lack power, are in more vulnerable and insecure positions, lack self-confidence, or have been conditioned to suffer in silence, women are far more likely than males to be victims of sexual harassment. Shyness, softness in voice and conduct, reliance on parents and brothers, and other characteristics have all contributed to the widespread belief that women are unable to defend themselves.

3.1.4 Impact on Women and Society:

When a woman is subjected to sexual abuse and harassment in the form of eve-teasing, molestation, or more serious forms such as rape, she experiences shock and trauma that is difficult to understand. A victim is socially isolated and morally degraded, and her dignity and character are forever tarnished. The mental suffering is severe, and the mental anguish is excruciating.

4. TECHNIQUES USED:

The Internet of Things (IoT) is a network of physical devices, vehicles, home appliances, and other items that are embedded with sensors, software, and connectivity, allowing them to connect and exchange data with other devices and systems over the internet. In today's world, IoT has already made significant impacts in various industries and domains.

There have been several steps taken by the government in order to safeguard women. But these laws and steps do not prove to be very safe. Technologies like deep learning, image processing, internet of things and machine learning technology can be efficiently used to develop a solution in this regard. As surveyed, it is necessary to build an application along with an IOT device for women safety. We have divided our solution into two parts, one is an Android application on women safety and other one is IOT devices on women safety.

4.1 An Application (Go Secure) :

This application uses the woman's pulse readings to safeguard her. If she is in danger, a text message with her GPS location is sent to a family member and the local police station. This urgent warning was sent using an application, giving users a social media platform. Our intention is to provide you with fastest and simplest way to ask for help.

The basic approach (single click) is to convey the instant location and a distress message to the registered emergency numbers, so that unfortunate incident can be averted and to provide real time evidence for the action against the committers of crime. This can also help the police to reduce the crime rate against women and the evidence can be used for tracing the culprits.

- Citizen:
 - Register
 - Import important contacts.
 - Verification
 - Log-out
- Tracking Authority:
 - Member Login

- Analyze the Database
- If signal comes, will send messages to Near ones.
- Trace the location of band.

Some of the features of an application includes:

Scream Alarm: It is perfect for the females as well as other users that need some kind of safety alarm in case they found out that someone is following or stalking them. It also consists of two other types of scream alarm. It's an initial distraction which will buy some time and allow the user to escape from the trouble.

Track Me: The track me feature allows the user to view the exact dynamic location of the victim. First user have to send the Track Me request at the receivers end. The receiver will accept the request and then his/her name will appear on the friends you are tracking on the bottom of the application. The user could select that friend from there and then it will get automatically re-directed to the Google maps from where the user could view the exact location of the victim and also where's he/she heading to.

It includes various other features too.

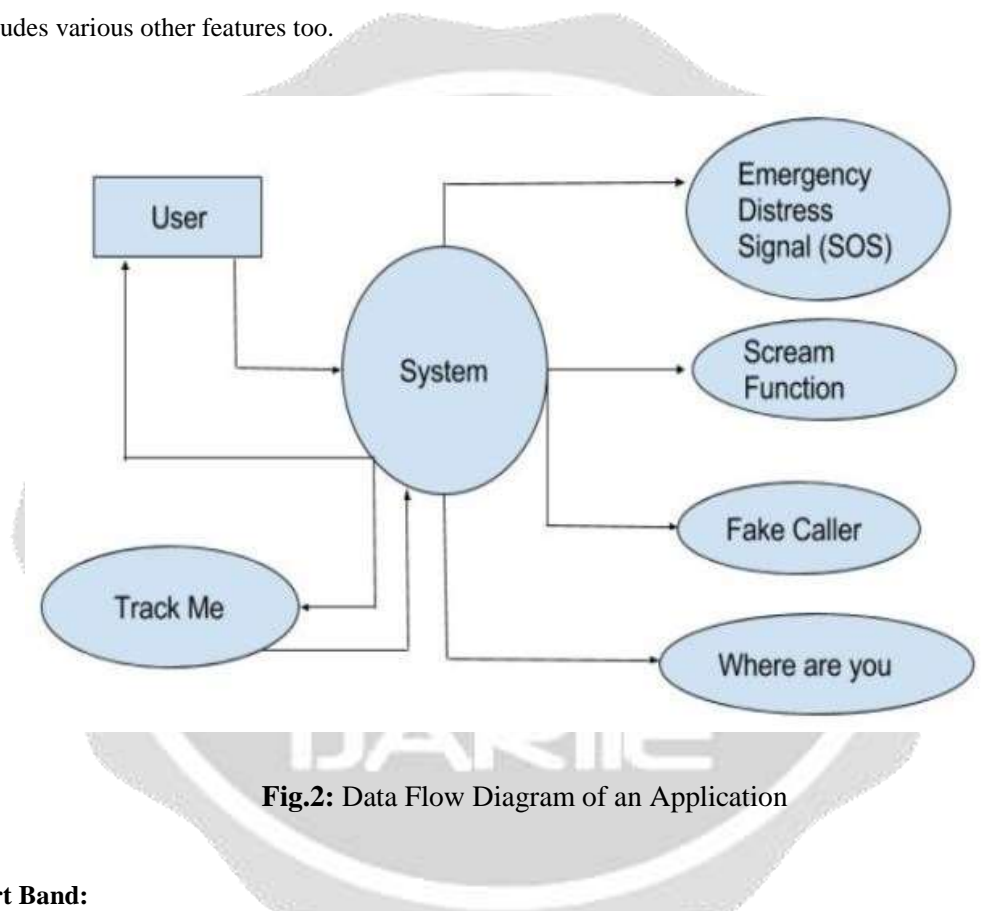


Fig.2: Data Flow Diagram of an Application

4.2 Smart Band:

To monitor, evaluate and report on the implementation of the Framework and promote women leadership and initiative and showcase best practices for replication. Since at last to identify protect and call on resources to help the one out of dangerous situations. The system consists of pulse and temperature sensor, which when activated, sends values to the training dataset to be compared with per 10sec.

4.2.1 Arduino ESP32 :

The Arduino ESP32 is a microcontroller board based on the ESP32 chip, which is a powerful Wi-Fi and Bluetooth-enabled manufactured by Espressif Systems. It is designed to provide a convenient and easy-to-use development platform for building IoT (Internet of Things) applications. The Arduino ESP32 board is compatible with the Arduino programming language and environment, which makes it easy to get started with for those who are familiar with Arduino. It has a variety of input/output (I/O) pins, including digital and analog pins, as well as built-in Wi-Fi and Bluetooth connectivity. The ESP32 chip on the board is a dual-core microcontroller with 520KB SRAM, 16MB flash memory, and a clock speed of up to 240MHz.

This makes it powerful enough to handle complex IoT applications that require both processing

power and wireless connectivity. Overall, the Arduino ESP32 board is a versatile and powerful platform for building IoT projects, and its compatibility with the Arduino ecosystem makes it accessible to a wide range of developers and hobbyists.

4.2.1 Breadboards:

A breadboard, also known as a prototyping board, is a device used for prototyping electronic circuits without the need for soldering. It consists of a plastic board with a matrix of holes arranged in a grid pattern, into which electronic components such as resistors, capacitors, transistors, and integrated circuits (ICs) can be inserted and interconnected using wires and jumper cables. The holes on the breadboard are connected internally in rows and columns, allowing the components to be connected in a variety of configurations. The rows are typically used for power and ground connections, while the columns are used for connecting the various components in the circuit.

Breadboards are useful for quickly and easily testing and prototyping electronic circuits, as components can be easily inserted, moved, and removed without the need for soldering or special tools. They are commonly used by hobbyists, students, and professionals for a variety of applications, such as testing circuits, developing prototypes, and experimenting with new designs.

Some of the benefits of using a breadboard include:

- **Flexibility:** Breadboards allow you to easily change and modify the circuit design without the need for specialized tools or equipment.
- **No Soldering:** Breadboards eliminate the need for soldering, which can be time-consuming and requires specialized equipment and skills.
- **Reusability:** Breadboards can be reused multiple times, making them a cost-effective solution for prototyping and testing circuits.

4.2.3 Jumper Wires:

Jumper wires are short, insulated wires with connectors or pins on both ends. They are used to make connections between electronic components on a breadboard or circuit board. Jumper wires are a common tool in electronics prototyping and experimentation because they allow for easy and quick connections between components.

Jumper wires come in different lengths, colors, and gauges, and they are used for a variety of purposes, such as:

- **Connecting components:** Jumper wires are commonly used to connect components such as resistors, capacitors, and LEDs to a breadboard or circuit board. Jumper wires are also used to test circuits by connecting different components together to see if the circuit works as intended.
- **Replacing damaged wires:** Jumper wires can be used to replace damaged wires or connections in a circuit. Jumper wires can also be used to connect different boards together to create a larger circuit.
- **Prototyping and experimenting:** Jumper wires are an essential tool for prototyping and experimenting with electronic circuits because they allow for quick and easy modifications to the circuit design.

Overall, jumper wires are a versatile tool for anyone working with electronic circuits. They are easy to use and allow for quick and flexible connections between components, making them an essential tool for anyone involved in electronics prototyping or experimentation.

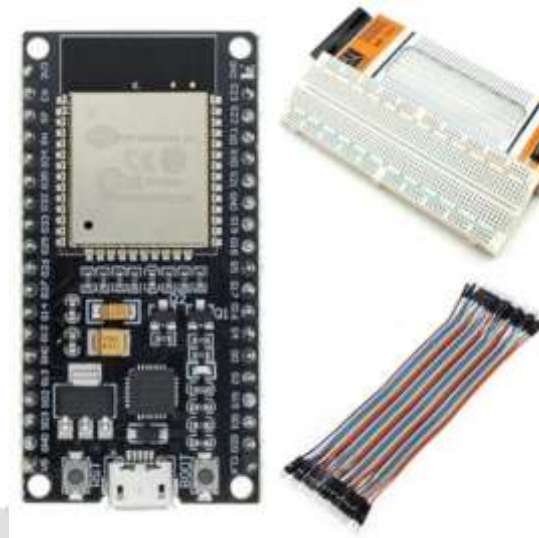


Fig.3: Arduino ESP32, Breadboard, Jumper Wires

5. RESULTS AND DISCUSSION:

Violence against women in India refers to physical or sexual violence committed against a woman, typically by a man. Common forms of violence against women in India include acts such as domestic abuse, sexual assault, and murder. In order to be considered violence against women, the act must be committed solely because the victim is female. Most typically, these acts are committed by men as a result of the long-standing gender inequalities present in the country. This is the main reason for the rise of violence raised in our country. Our government continues to work to find the best solution to this situation. To solve this problem, a generalized model of a security system is created.

Over time, there have been many changes in the role of women in the security profession and their contribution to this specific industry which, over the years, has been predominantly dominated by men. There is a new movement on the horizon, and it includes capable women implementing a vision of change. Women are gradually making their way into this highly male-oriented profession. Ten years ago, the percentage of women in the security industry was virtually non-existent. More recently, women have actively positioned themselves for growth within the security profession in both government and private industry. At this time, the number of women in security is rapidly increasing in the workforce.

Women have faced barriers to penetrating the security industry because many posts in law enforcement were traditionally held by men, and these positions transitioned well into the security field. The transformation in the security industry from a commodity-based sale to an IT-centric business was the opening for an influx of new visionaries, which, of course, included women. In the past, security was reluctantly implemented on a shoestring budget. Today, electronic security has become integral to all operations. This change has opened the industry to a new market of employees capable of changing along with the times and presented a window of opportunity for the entry of something new, a diversified workforce bringing fresh approaches and creative ideas paving the road for the future of the security industry.

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In spite of all problems, measures should be taken to ensure safety and security for women at any cost. A complete women safety mechanism is required: Make the city women safe. Here what I mean to say is why women can't go outside in late hours? Rather stop male movement, if it can't be done then deploy police in every nook and corner, crowded and lonely places, and 4 to 5 women cops must be there in each group. Restaurants, petrol pumps, theatres other 24 hours operated business hubs must appoint more number of women employees. Hostels must set campus entry deadlines both for boys and girls, if they don't obey the rule just

suspend them and inform their parents, guardians.

5.1 Police reform/ smart policing:

A new division in police should be formed to handle rape cases in which more women cops should be there. Two to three toll free numbers must be given, WhatsApp group, Facebook page, email facility must be in use for 24 hours.

A 24 hours helpline and booths must be opened in all parts of the city. There should be mandatory rules both for private and public transports to employ women safety forces (having more number of women staff). GPS tracking systems must be used in auto rickshaws, cabs, buses. Safety watches with GPS tracker, alarm system must be provided to girls, one and unique women safety government app must be developed and used. Installation and maintenance of streetlights must be done. Building toilets can stop women going for open defecation and that will stop rape cases. One-stop destinations for providing legal, medical and police aid to victims will be very welcoming.

Night drop vans, cabs, auto rickshaws must be introduced and run having more women staff which can pick up and drop women in late hours even.

5.2 National level Network of volunteers:

Every Panchayat, village, block, and city, and district, state must be connected by a large network of volunteers; they should be available all the time for safeguarding women. It should work 24 hours from Delhi to Mumbai to Kolkata to a village in Jharkhand, or Odisha. Psycho-Social counseling sessions must be conducted in schools and colleges to take feedback from girls, parents at home must take feedback to know if anything wrong happens with their girls.

5.3 Societal Change:

In our society people should openly discuss about sex and sex related crimes, about menstruation. Parents must treat their male and female children equally and should not allow them to remain aloof, isolated. Self-defense training in school and colleges must be mandatory. Both print and electronic media must raise the issues, can sensitize people and create pressure on decision making bodies.

Amendment of acts is the need of the hour to ensure that the rapists get the maximum to maximum punishment. Our law should be strict about sexual offences, about rape and it will definitely create havoc among the rapists. Swift and harsh, stringent punishment will reduce the number of rape cases in our country. IoT can be used to develop various applications, including women safety applications. These applications can help women feel more secure and empowered by providing them with real-time monitoring, tracking, and alerts. Here's how an IoT-based women safety application might work:

- **Wearable Devices:** Women can wear a wearable device, such as a smartwatch, bracelet, or pendant, that is equipped with sensors, GPS, and connectivity.
- **Real-time Monitoring:** The wearable device can monitor the woman's location, movement, and vital signs, and transmit this data to a central server or mobile app in real-time.
- **Emergency Alerts:** In case of an emergency, the woman can press a panic button on the wearable device, triggering an emergency alert. This alert can be sent to pre-configured contacts, such as family members, friends, or emergency services, along with the woman's location and other vital information.
- **Safe Zones:** The application can also allow women to define safe zones, such as their home or workplace, and receive alerts if they leave these zones or enter unsafe areas.
- **Analytics and Reporting:** The application can analyze the data collected from the wearable device and generate reports on the woman's activity, health, and safety.

Overall, an IoT-based women safety application can provide women with a greater sense of security and peace of mind, enabling them to feel more empowered and in control of their safety. By leveraging the power of IoT, such applications can become more efficient, effective, and responsive, helping to improve women's safety and well-being.

6. CONCLUSION:

All the applications and devices are built by using new technologies and processors, where in it might become difficult to operate for women in rural areas and uneducated people, also makes it difficult for them to use smart phones and their updated features. And if the phone is running out of battery, the application present in the phone cannot be used.

There are many more portable devices just in order to charge the phones (portable chargers), they can be used to charge the phones before the battery dies. People who are not comfortable in using applications which are installed in smart phones can always opt for devices. The devices can be made in different forms and sizes using specific components. The smart phone problem cannot be easily solved because of its too many advantages, no other device can provide those many applications which almost support all the features required in order to use an application or even link a device and operate it. The battery backups of present smart phones are pretty good, but still a person always needs to make sure that the battery will last until the end of the day. There are many more portable devices just in order to charge the phones (portable chargers), they can be used to charge the phones before the battery dies. People who are not comfortable in using applications which are installed in smart phones can always opt for devices. The devices can be made in different forms and sizes using specific components. It can be a belt, band or even a cosmetic shaped item. Using modern technologies like IoT devices which will bring a change in a society regarding security which will create a great impact on society.

In summary, this paper has elaborated on the techniques used in the recent times for image steganography, the current trends. Along with it, details on the datasets and evaluation metrics are detailed. Challenges faced some discussions on the gaps and the scopes for future direction are also evaluated in this paper. It can be concluded that Internet of Things has tremendous potential in the women safety field taking into consideration that all the challenges and gaps are filled.

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