NO MORE VICTIMS DEVICE– USING NANO ARDUINO AND BLUETOOTH MODULE

G. Jayandhi[1], C Priyatharisini[2], K Ramya[3], K.R. Rithani[4], C.B Nivedha[5]

[1]*Asst. Professor, Velammal Engineering College, Chennai.*

[2,3,4,5]*UG Students, Velammal Engineering College, Chennai.*

--***--

ABSTRACT: Personal safety is one of the most important concerns for women, as crime against women has not decreased. Nowadays, various devices are available in markets which claim to protect women in many ways. Still there arises the need of a protective device which acts as a guardian at time of an attack. This fuels a new thought of a Bluetooth Aided Safety Device for Women. This paper aims to create a wearable Device with provision of connecting with smartphone via Bluetooth. If an emergency occur, the smartphone sends alert messages to predefined numbers with current location of the device. The main advantage of this device is its convenience and easiness of operation. 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. Even defense items can be introduced in different forms such as lipstick stun gun which gives shock etc. By using these different forms of devices attacker can be tackled easily because he might not be aware and has no knowledge about the presence of such devices.

Keywords: **Women Safety, Bluetooth, Android Application, Taser, Battery.**

INTRODUCTION

Women safety has been a big concern and it has been the most important duty of every person. There is no chance of the welfare of the world unless the condition of the women is improved. Since the ancient time, women are given most respected place in the 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. This paper involves few precautionary devices and applications in order to prevent or avoid the problems faced by women. The safety and security of a woman can never be at rest, no matter what new device is on the market or no matter how nice a new application is made, there always can be something added to it. 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. By keeping all these things in mind many safety devices have been made and few of them are discussed in this paper. Here were have used an Embedded C programming.

Embedded C Programming is the soul of the processor functioning inside each and every embedded system we come across in our daily life, such as mobile phone, washing machine, and digital camera.

Each processor is associated with an embedded software. The first and foremost thing is the embedded software that decides functioning of the embedded system. Embedded C language is most frequently used to program the microcontroller. Earlier, many embedded applications were developed using assembly level programming. However, they did not provide portability. This disadvantage was overcome by the advent of various high level languages like C, Pascal, and COBOL. However, it was the C language that got extensive acceptance for embedded systems, and it continues to do so. The C code written is more reliable, scalable, and portable; and in fact, much easier to understand. The architecture of an embedded system is an abstraction of the embedded device, meaning that it is a generalization of the system that typically doesn't show detailed implementation information such as software source code or hardware circuit design. At the architectural level, the hardware and software components in an embedded system are instead represented as some composition of interacting elements. Elements are representations of hardware and/or software whose implementation details have been abstracted out, leaving only behavioural and inter-relationship information. Architectural elements can be internally integrated within the embedded device, or exist externally to the embedded system and interact with internal elements.

In short, an embedded architecture includes elements of the embedded system, elements interacting with an embedded system, the properties of each of the individual elements, and the interactive relationships between the elements. Architecture-level information is physically represented in the form of structures. A structure is therefore a "snapshot" of the system's hardware and software at design time and/or at run- time, given a particular environment and a given set of elements.

2. LITERATURE SURVEY

FEMME: Women safety device and application, Indian Journal of Science and Technology

MonishaD.G, Pavithra.G & Subhashini.R, In this paper, they have used ARM controller and android application in which both the device and the smartphone are synchronized using Bluetooth, hence both can be triggered independently. It can record audio and can give an alert call and message to the pre- set contacts every 2 minutes and can be tracked live using the application.

A Security System for Women Based On Sensors and Arduino, International Journal of Application or Innovation in Engineering & Management

Prof.Basavaraj Chougula, Archana Naik, Monika Monu, Priya Patil and Priyanka Das has proposed a model in which the system is a belt when activated, tracks the location using GPS and sends messages to police control room.It uses a screaming alarm to call out for help and also generates an electric shock to inujre the defender

IOT Based Unified Approach for Women and Children Security Using Wireless and GPS. International Journal of Advanced Research in Computer Engineering & Technology (IJARCET) Volume, 5.

Bhavale, M. D. M., Bhawale, M. P. S., Sasane, M. T., & Bhawale, M A. This system consists of wearable safety device having an emergency button for sending notification and camera for capturing assaulter image, thus location of the victim is traced with help of GPS and image gets captured. Emergency message with image link will be sent to all mandatory contacts.

All in one Intelligent Safety System for Women Security. International Journal of Computer Applications, 130(11).

Paradkar, A., & Sharma, D. The proposed model included. **i)** Auto receiving call module - it helps to receive the call from registered contacts on the victim's safety device. **ii)** Spy camera detection module - which helps to detect the spy cameras in the changing rooms of shops and other places. **iii)** Fake call Tool Module- which helps in creating a fake incoming call which in turn helps women to escape from a bad situation, it acts like a precautionary measure. **iv)**Generate Electric Shock module - it helps in creating a high voltage electric shock which acts as a self-defence device when women is in a threat.

Womens safety using IOT

Jain, R. A., Patil, A., Nikam, P., More, S., & Totewar, S. (2017). The above paper proposes model of a band which provides safety to women. The band has a transmitter which consists of Arm7 microcontroller to which power supply (battery), temperature sensor, motion sensor, heartbeat sensor, GSM, GPS and panic button are connected. This band starts working in two ways. First, when the threat arrives just by pressing the panic button the location of the victim is tracked with the help of GPS module and is sent to the preset contacts with an emergency help message to the receiving end which comprises of raspberry pi model or a laptop/pc that must have internet connection to receive data from transmitter, and through this help can be provided. Second, if the threat arises where-in her complete body is freezed that time the motion sensors come into picture where in the sensors will continuously send their values to microcontroller which will compare these values with the threshold values. If the sensor value exceeds the threshold value it automatically generates help message and sends it to the receiver end with the GPS location, through which the contacts can provide help to the victim.

Woman Security System By Using Gps & Gsm, International journal for engineering applications and Technology, ISSN, 2321- 8134.

Deodhe, R., Ghode, S., & Mishra, S. When the threat arrives, this system can be activated by pressing the emergency key, by pressing the trigger of this emergency key, it does two things. First, the microcontroller takes the value of latitude and longitude from the GPS module and transmits it to the registered mobile phone and to the control room via SMS through the GSM module. Second, at the same time it provides electric shock to the threat. The buzzer used in this system gets triggered and is used for alerting the surrounding near the victim and let the surrounding area know that there is something wrong and help is needed.

IoT Based Women Safety Device using ARM7, International Journal of Engineering Science, 11465.

Sharma, S., Ayaz, F., Sharma, R., Jain, D., & Student, B. E. This paper proposes a concept of portable equipment which can be carried by the women which consists of a GPS, GSM model, LCD display and a physical button. This equipment is designed using the ARM 7 micro controller LPC2148 .

3. EXISTING MODELS

The devices which are available in the market for safety of the women are not handy and hence it cannot be carried everywhere which makes it hard to carry on daily basis .And it's too complicated to operate which might prevent the victim from giving a proactive response.

The existing devices can track location record audio, video and all which are not going to prevent the victim from getting attack which is avoided in our proposed system with the help of a taser. This taser acts as the defense element in our wearable safety kit.

And many of the safety devices might fail to do its work when its not charged periodically. Hence to overcome this we have added a solar panel additional to that of the lithium ion battery which acts as a backup for the battery.

4. PROPOSED MODEL

In this system we have proposed the new hardware device to the software for easy access, so the user can able to trigger the device by a single press. We have included the taser for the safety purpose, the taser provides the high voltage. It is very low power consumption device.

The block diagram of the hardware mainly consists of atmega 3289P microController, Emergency Key and Taser. The software part is **NMV Application.** Once the NMV device is ON the Bluetooth and the Atmega 3289P Controller on the NMV device is activated. Initially the NMV device is paired with the software application. Now when the software application is ON it connects to the Bluetooth automatically. When the threat arrives, this system can be activated by pressing one of the 2 emergency keys. Now the taser provides electric shock to the threat when poked which allows them to escape instantly. An **electroshock weapon** is an incapacitating weapon. It delivers an electric shock aimed at temporarily disrupting muscle functions and/or inflicting pain without causing significant injury. By pressing the other emergency key, the microcontroller takes the value of latitude and longitude from the GPS module and transmits it to the registered mobile via SMS along with the alert message through the NMV Application. At the same time it makes a call to the registered mobile number immediately. The NMV Application has various options such UPDATING THE CONTACT whenever required, we could change the ALERT MESSAGE accordingly. The NMV device has a battery backup .When many of the safety devices fail to do its work when its not charged periodically. Hence to overcome this we have added a solar panel additional to that of the lithium ion battery which acts as a backup for the battery. The LIPO battery is charged with the help of the charging unit since the battery is rechargeable .The RED LIGHT on the charging unit indicates that the device is charging and the BLUE LIGHT indicates that the device is completely charged.

A microcontroller (MCU for microcontroller unit, or UC for μ-controller) is a small computer on a single integrated circuit. A microcontroller contains one or more CPUs (processor cores) along with memory and programmable input/output peripherals. Microcontrollers are designed for embedded applications like automobile engine control systems, implantable medical devices, remote controls, office machines, appliances, power tools, toys and other embedded systems. Microcontrollers make it economical to digitally control even more devices and processes. Mixed signal microcontrollers are common, integrating analog components needed to control non- digital electronic systems.

In the context of the internet of things, microcontrollers are an economical and popular means of data collection, sensing and actuating the physical world as edge devices.

HC serial Bluetooth products consist of Bluetooth serial interface module and Bluetooth adapter. The TP4056 is a complete constant-current/constant-voltage linear charger for single cell lithium-ion batteries. Its SOP package and low external component count make the TP4056 ideally suited for portable applications. Furthermore, the TP4056 can work within USB and wall adapter. A taser is an electroshock weapon. An electroshock weapon is an incapacitating weapon. It delivers an electric shock aimed at temporarily disrupting muscle functions and/or inflicting pain without causing significant injury.

A push button switch is a small, sealed mechanism that completes an electric circuit when you press on it. When it's on, a small metal spring inside makes contact with two wires, allowing electricity to flow. When it's off, the spring retracts, contact is interrupted, and current won't flow. The body of the switch is made of non-conducting plastic.

The Software used here is Operating System, Front end(XML) and Back end(Graphical Interface). An Operating System (OS) is an interface between a computer user and computer hardware. An operating system is a software which performs all the basic tasks like file management, memory management, process management, handling input and output, and controlling peripheral devices such as disk drives and printers.

Some popular Operating Systems include Linux Operating System, Windows Operating System, VMS, OS/400, AIX, z/OS, etc. An operating system is a program that acts as an interface between the user and the computer hardware.

BLOCK DIAGRAM

Fig 2: Front page of Android Application
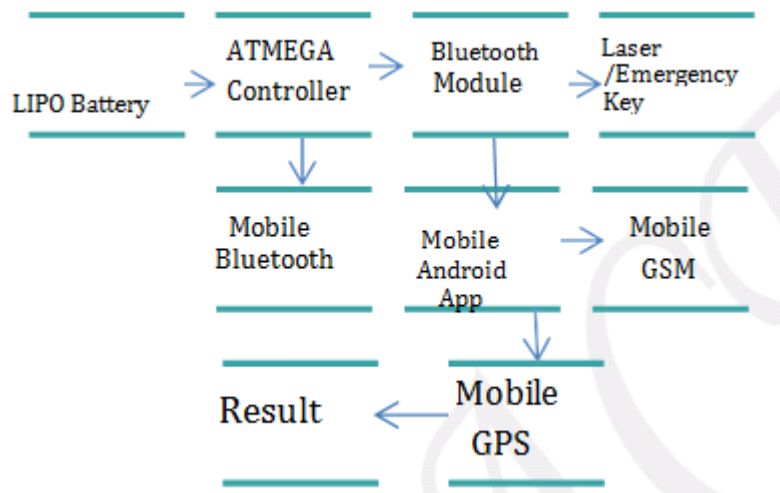
Fig 3: Contact Update

Fig: 3. 1 Block diagram of the setup
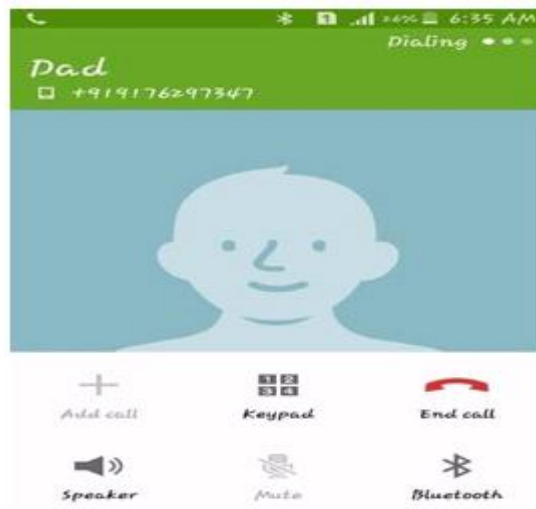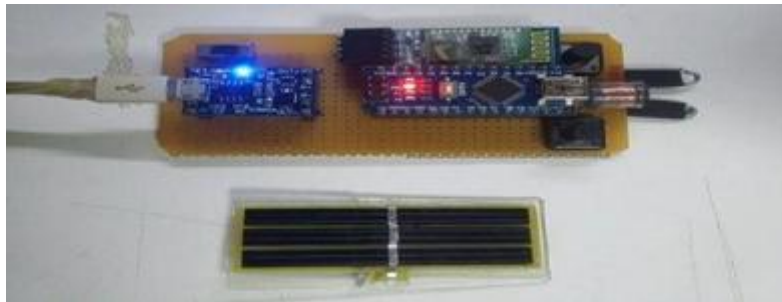
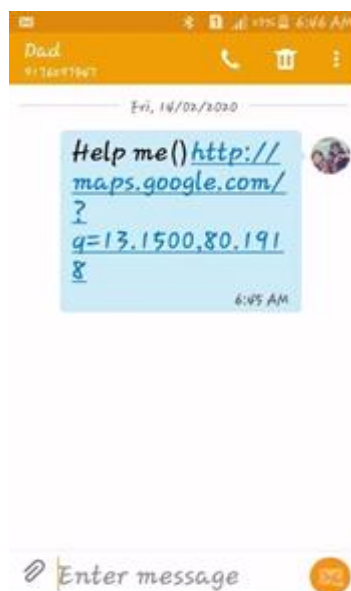## 5. RESULTS AND DISCUSSION

Fig 4: Call Verification

Fig 5: Alert message that gives the current location

6. CONCLUSION & FUTURE SCOPE

As an independent nation, we must ensure respect and security of women and we cannot deny them this basic right. It is now time to initiate action to eradicate the menace of security issues with women. Violence against women remains embedded in our societies, both as a daily reality and a difficult situations. Gender justice is impossible in a world where at least one in three women faces violence in her lifetime, regardless of her culture, religion, socioeconomic class, or education level Our country can be a true democracy only when all women have the security and freedom from violence.

7. REFERENCES

[1]   FEMME: Women safety device and application, Indian Journal of Science and Technology- 2016

[2]   A Security System for Women Based On Sensors and Arduino, International Journal of Application or Innovation In Engineering & Management-2014

[3]   IOT Based Unified Approach for Women and Children Security Using Wireless and GPS. International Journal of Advanced Research in Computer Engineering & Technology (IJARCET) Volume 5-2016

[4]   All in one Intelligent Safety System for Women Security. International Journal of Computer Applications-2015

[5]   Women security system by using GPS and GSM International Journal Of Engineering and science, ISSN 2016

[6]   IoT based women safety device using ARM7 International Journal of engineering science 2017