DUMB WOMEN PROTECTION SYSTEM USING GSM AND GPS

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ABSTRACT

There are many types of security systems available for normal people, but this kind of system which is designed to protect dumb women's is nowhere existed. In general, Dumb women's they can't speak, also they can't shout loudly, if anybody attacked it is very difficult for them to escape from threaten people and hence this device is designed which can act as Stun-Gun. Main feature added to the system is that it shouts itself by the manner of seeking "Help" by which surrounding people will be alerted. Stun-Gun also known as electroshock weapon is an incapacitating or shocking weapon which is used to protect the user from threatens like either from persons or from animals. This system designed here is aimed to deliver electric shock in the form of low voltage and low current pulses by which assails are frightened due to the adequate current pulses. To shout Help – Help, pre-recorded voice play back chip is used which will be activated automatically when a button is pressed. The technology of stun-gun implemented here generates low current pulses which are not harmful to the humans, but these are frightening pulses, because the sufferer doesn't know the severity. The process begins with pulse generator circuit and this circuit is designed using 555 timer chips. The output of the pulse generator circuit is fed with current amplifier which is designed using Mosfet. Output of the current amplifier circuit is fed to the pulse transformer to increase the final output voltage. Here care must be taken such that the output voltage should not be more than 40V approximately and accordingly transformer must be designed. With the help of a current limiting pot connected in between the pulse generator and current amplifier circuits, harshness of the pulse can be adjusted. Similarly with the help of a Pulse indicator provided at the output of the pulse generator circuit, pulse rate can be monitored.

Keywords: Dumb Women, Stun Gun, Incapacitating, Mosfet And Amplifier.

I. INTRODUCTION

The concept presented here is aimed to protect the women from illicit persons, the main device used here is known as Stun Gun or Electro-shock weapon. In general, in many countries stun guns are banned due to the severity of the current shocks, to escape from the criminals, severe shocking pulses must be generated from the stun gun by which attackers will be fainted on the spot. In few countries it is a legalized weapon and where is some countries it is banned. However, making one harmless prototype module for education purpose may be permitted and, in this regard, here very fewer current pulses are produced by the electrodes by which even a small creature may not be affected, but we can feel it by touching the electrodes. In general, a stun gun is an electrical self-defense device that uses high voltage to stop an attacker. Touching a person with the prongs of the device quickly immobilizes the attacker. However, because the amperage is very low, no serious or permanent injury is inflicted. The stun gun is designed to key into the nervous system. Location of the victim will be tracked out using Global system for mobile communication and message will be sent to the representative mobile number through Global positioning system.

II. METHODOLOGY

B. Vijayalakshmi in [1] proposed a scheme to improve the women safety by using GPS and GSM model. A small device with a buzzer and microcontroller is designed, and it can be placed on band or watch. When any insecure situation, the woman can make use of this device to send alert SMS by pressing this buzzer to predefined numbers (5 members). But this scheme cannot generate automatic alert SMS. Instead, it requires the human interaction during a panic situation. Rameshkumar.P in [2] described a scheme to identify the location of the individuals by using image metadata. A device GPS mapper is used to identify the location of a person using

image and video by utilizing background metadata. With the help of GPS mapper, it can identify the altitude, longitude and position of a person who has uploaded their images to social media. But this scheme cannot generate the image of a person who has not uploaded the image in the social media.

Charranzhou in [3] proposed a mechanism to find the trip ends while travelling or not - travelling by using the smartphones based on GPS tracking system. The author modelled a device using PR (Promoted Recall) technology and data-driven machine language to find the speed, distance, heading direction. These features are used to characterize the smart phone holders and identify the travel point identification. The author has tested PR technology in the random forest and accurately tracked the distance of trip ends This scheme will take many days to find the location of trip ends.

III.   MODELING AND ANALYSIS

STUN GUN:

A stun gun is a gadget used to produce a high voltage, low current signal, used mostly as a weapon to stun or send shock waves to the target with the intention to weaken or paralyze it. However, proceeding to design the circuit, it should be kept in mind that in some countries, stun gun is banned. Because, this is actually a lethal weapon which can render a person mentally paralyzed. It is usually powered by a 9V battery. Here, we design a stun gun circuit using a 555 Timer to produce a current fluctuating signal and a voltage multiplier using a transformer which operates at high frequency of around 10KHz.

MICROCONTROLLERS:

Micro-controllers are dedicated to one task and run one specific program. The program is stored in ROM (read-only memory) and generally does not change. If there are any modifications in the function, or errors in the software, the existing program must be erased from the chip & again modified program must be loaded in the chip through chip burner.

VOICE RECORD CUM PLAYBACK CHIP:

The device used here belongs to aPR33A series and it is a powerful audio processor along with high performance audio analog-to-digital converters (ADCs) and digital-to-analog converters (DACs). Here apr33a3 chip is used which is having 8 audio channels, all 8 channels together can offer nearly 11 minutes duration of playback time. The aPR33A series are a fully integrated solution offering high performance and unparalleled integration with analog input, digital processing and analog output functionality.

GSM AND GPS:

GSM (global system for mobile communications), which is the basis for most modern cell phones. The Norwegian engineers who invented it wanted a very simple messaging system that worked when users' mobile phones were turned off or out of signal range. Most sources agree that the first SMS message was sent in the UK in 1992. As SMS was born in Europe, it's not surprising that it took a little longer to make its way to the United States. Even today, texting enjoys much greater popularity in Europe, though its stateside use is on the rise. A July 2005 study found that 37 percent of U.S. mobile phone owners had sent or received at least one text message in the previous month.

The **Global Positioning System** (**GPS**) is a space-based global navigation satellite system that provides reliable location and time information in all weather and at all times and anywhere on or near the Earth when and where there is an unobstructed line of sight to four or more GPS satellites. It is maintained by the United States government and is freely accessible by anyone with a GPS receiver. In addition to GPS other systems are in use or under development. The Russian Global Navigation Satellite System (GLONASS) is for use by the Russian military. There are also the planned Chinese Compass navigation system and Galileo positioning system of the European Union (EU). GPS was created and realized by the U.S. Department of Defense (DOD) and was originally run with 24 satellites. It was established in 1973 to overcome the limitations of previous navigation systems.

TIMER CHIPS:

The **555 timer IC** is an integrated circuit (chip) used in a variety of timer, pulse generation, and oscillator applications. The 555 can be used to provide time delays, as an oscillator, and as a flip-flop element. Derivatives provide up to four timing circuits in one package. Introduced in 1971

by American company Signe tics, the 555 is still in widespread use due to its low price, ease of use, and stability. It is now made by many companies in the original bipolar and also in low-power CMOS types. As of 2003, it was estimated that 1 billion units are manufactured every year.

FERRITE CORE TRANSFORMER:

In general ferrite core transformers are used to switch at high frequencies. They are small in size when compared with iron core transformers. The applications of ferrite core transformers are plenty, it can be used as a trigger transformer usually used in applications requiring a high voltage pulse. The transformer designed in this project work is aimed to generate shocking pulses of low volt low current pulses at high frequency. Switch mode power supplies and DC to DC converters essentially require these ferrite core transformers because of their operating frequencies are greater than 10 KHz.
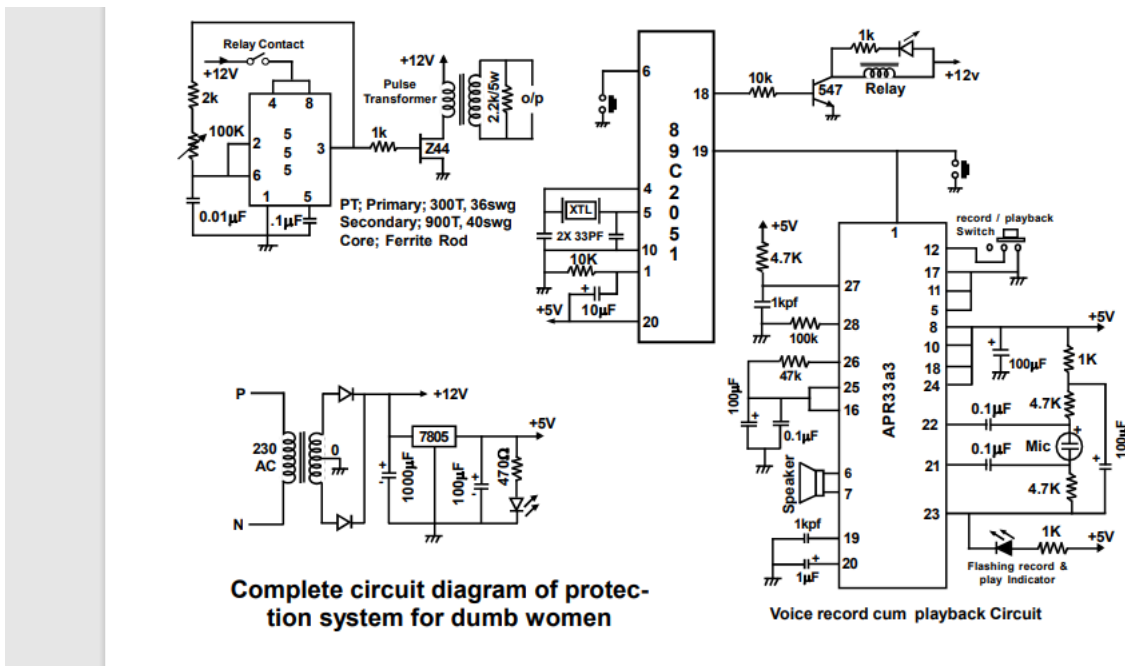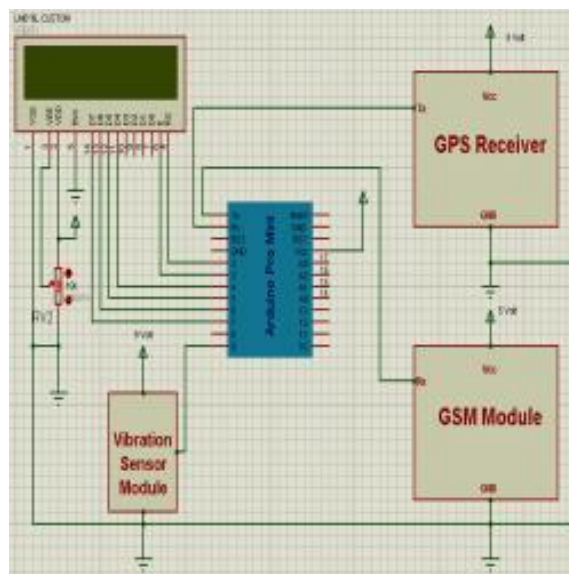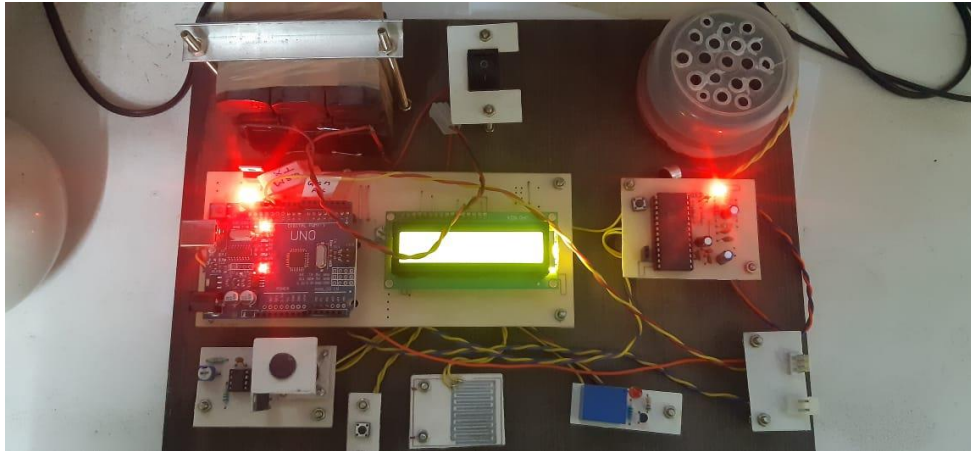

Figure 1: Circuit Diagram

Figure 2: Schematic Diagram

Figure 3: Dumb Women Protection System

IV. CONCLUSION

The project work "Protection system for dumb women" is completed successfully and results are found to be satisfactory. In this project work, electro-shock weapon is playing major roll, in fact these weapons known as "Stun Guns" generates very high voltage (often around 2KV), also delivers sufficient electric current by which the victim may faint or inactive due to the shock. Making high voltage shocking weapon is illegal due to its severity and also it is hazardous and hence here in this project work for the education purpose very low voltage of less than 40V is generated for demo purpose also the current produced by the circuit is around 30milliamps such that it is harmless.

V. FUTURE SCOPE

o The entire setup can be fabricated to fit into a wearable wrist watch.
o Android and i-OS Apps can be developed to provide better UI for various settings like setting up mobile number etc.
o A buzzer like mechanism can be used to seek help from neighboring people.

ACKNOWLEDGEMENTS

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