A Safety Device for Women's Security Using GSM/GPS

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ABSTRACT: This project describes about a one touch alarm system for women's safety using GSM. In the light of recent outrage in Delhi which shook the nation and woke us to the safety issues for women, people are finding up in different ways to defend. Here we introduce a device which ensures the protection of women. This helps to identify protect and call on resources to help the one out of dangerous situations. Anytime you senses danger, all you had to do, is hold on the button of the device. The device consists of a AT89S52 microcontroller, GSM module, GPS modules. The system resembles a normal device which when activated, tracks the place of the women using GPS (Global Positioning System) and Force sensor and sends emergency messages using GSM (Global System for Mobile communication), to wireless SOS key contacts and the police control room. The main advantage of this system is that the user does not require a Smartphone unlike other applications that have been developed earlier. The use of sophisticated components ensures accuracy and makes it reliable. The system provides with all the features which will leave no stone unturned to help the dupe in any kind of emergency situations.

KEYWORDS: AT89S52 controller, GSM, GPS, One touch key, Force sensor.
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I.   INTRODUCTION

In today's world, women safety has become a major issue as they can't step out of their house at any given time due to physical/sexual abuse and a fear of violence. Even in the 21st century where the technology is rapidly growing and new gadgets were developed but still women's and girls are facing problems. Women are adept at mobilizing diverse groups for a common reason. They often work across ethnic, religious, political, and cultural divides to promote liberty.

We are all aware of importance of women safety, but we must analyse that they should be properly protected. Women are not as physically fit as men, in an emergency situation a helping hand would be assistance for them. The best way to cur tail your probability of becoming a dupe of violent crime (robbery, sexual assault, rape, domestic violence) is to recognize, defence and look up resources to help you out of hazardous situation. If you're in dilemma or get split from friends during a night out and don't know how to find back residence, this device with you will guard you and can reduce your risk and bring assistance when you need it. There are several app reduce the risk of sexual assault on women by informing control centre and their associates through SMS, but in lay of those this apparatus have much more efficient way to inform those this respected personals and also has a defending system which cannot be provided by existing app.

II.   GOAL AND OBJECTIVE

The main purpose of our project is to provide safety to the women's from the dangerous zone. In this project we are providing facility to secure the women's by providing wireless key GSM and GPS module with controller. As the women feels insecure at that time she can press the wireless key then the GPS and GSM modules are activated .GPS will calculate the latitude and longitude co-ordinates of that area .GSM module will send SMS which contains the latitude and longitude co-ordinates to the numbers such as family, friends, police station and neighbours which are already stored in microcontrollers memory. Also GSM module will make call to these numbers**.**

III.   EXISTING SYSTEM

Women's security is a critical issue in today's world and it's very much needed for every individual to be acting over such an issue. This paper describes a "GPS and GSM based women security system" that provides the combination of GPS device and specialized software to track the vehicle's location as well as provide alerts and messages with an emergency button trigger.

Now days due to recently happened cases such as rape by drivers or colleagues, burglary etc., employee security, especially women employee security has become the foremost priority of the companies. System uses the Global Positioning System technology to find out the location of vehicle. The information of vehicle position provided by the device can be viewed on Google maps using Internet or specialized software.

The IT Companies are looking forward to the security problem and requires a system that will efficiently evaluate the problem of women employees' security working in night shifts. This paper focuses on the proposed model that can be

used to deal with the problem of security issue of women employees using GPS and GSM based vehicle tracking. Today in the current global scenario, the prime question in every girl's mind, taking into account the ever rising increase of issues on women harassment in recent past, is only about her safety and security. The only thought haunting every girl is when they will be able to move freely on the streets even in odd hours without worrying about their security.

This paper suggests a new perspective to use technology to protect women. The system resembles a normal belt which when activated, tracks the location of the victim using GPS (Global Positioning System) and sends emergency messages using GSM (Global System for Mobile communication), to three emergency contacts and the police control room. The system also incorporates a screaming alarm that uses real-time clock, to call out for help and also generates an electric shock to injure the attacker for self defence. The main advantage of this system is that the user does not require a Smartphone unlike other applications that have been developed earlier. The use of sophisticated components ensures accuracy and makes it reliable. The belt provides with all the features which will leave no stone unturned to help the victim in any kind of emergency situations.

IV.   METHOD

1. Design Overview:

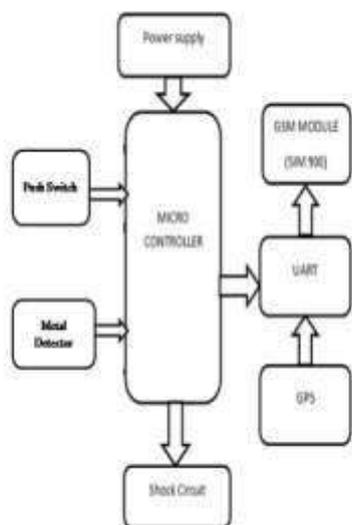Block diagram of our proposed system is as shown below:

Figure 1: Block Diagram

The block diagram of system consists of following blocks:

    i.   Battery:
        9v battery is used to power the circuit.

    ii.   Voltage Regulator (7805):
        The microcontroller and associated circuitry requires 3.3Vsupply. Output of filter is fed to the voltage regulators 7805 to obtain a 5 V DC output. Also LED indicators are used for indicating these voltages & 3.3 V voltages are obtained from this voltage.

    iii.   Push Switch:
        When it is pressed then it will send signal to microcontroller, then microcontroller will send the GPS co-ordinates via GSM to the police station or to the family members.

    iv.   Controller:
        The AT89S52 is a low-power, high-performance CMOS 8-bit microcontroller with 8K bytes of in-system programmable Flash memory. It has the less complex features than other microcontrollers and it is also easily available and cheap in comparison of other microcontroller.

    v.   GPS:
        It can be interfaced with normal 5V Microcontrollers with the help of the in built 3V-5V converter. The interfacing is made easier with the help of low pin count. The 4 Pins are 5V, TX, RX, and GND. This standalone 5V GPS Module does not require external components. It consists of internal RTC Back up battery and can be directly connected to USART of the microcontroller. The current date, time, longitude, latitude, altitude, speed, and travel direction / heading among other data, are provided by the module and can be used in a many applications including navigation, fleet management, tracking systems, mapping and robotics.

    vi.   GSM:
        GSM is a digital mobile telephony system. It operates at either the 900MHz or 1800MHz frequency band. SIM900 can fit almost all the space requirements in the M2M application with dimensions of 24mm x 24mm x 3 mm.

2. Shock Generator Circuit:

Electric shock generator is an electronic device that produces voltage around 1200mv & current of 3microamp.Electronic shock generator is fixed into the sandal. Whenever the push button is triggered the shock is generated on to the tip of the sandal. In shock generator circuit the concept of mosquito bat is used. It consists of AC to DC converter, oscillator and a net or grid.

V. FUTURE SCOPE

In future, we also interface this system with Smart Phone or Mobile

VI. APPLICATIONS

- It will be used for safety of women's.
- It will be used for child tracking during school time.
- It will be used in vehicle tracking & safety system
- It can be used for wild life tracking.

VII. CONCLUSION

The proposed design will deal with critical issues faced by women in the near past and will help to solve them with technically sound equipment's and ideas. This system can overcome the fear that scares every woman in the country about her safety and security.

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