



Embedded Based Women Safety Device with GPS Tracking and Alert

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ABSTRACT

This paper depicts about a touch upsetting structure for women's security using GSM. This helps with perceiving shield and move toward resources for help the one out of perilous conditions. At the point when you identifies risk, you ought to just, press on the button of the contraption. The contraption includes an ATmega328 micro controller, GSM module, GPS modules. The system seems to be an ordinary device which when instituted, tracks the spot of the women using GPS (Overall Arranging Structure) and sends emergency messages and call using GSM (Overall Structure for Versatile correspondence), to relative and the police control room. The essential advantage of this structure is that the client needn't bother with a Wireless unlike various applications that have been developed previously. The use of these endeavor parts ensures accuracy and makes it reliable. The structure gives all of the features which will research each likelihood to help the dupe in any kind of emergency conditions. By and large aide of prosperity contraption that will enlighten the setback's family members could help women with having a solid sense of reassurance, certain and decrease the potential outcomes of incitement. This adventure gives office to protect the women's by outfitting remote key GSM module with controller. As the women feels problematic around then she can press the button then the GSM modules are started . GSM module will send SMS which contains the degree and longitude co-ordinates to the numbers, for instance, family members and police base camp which are currently taken care of in micro controller memory.

Keywords: Women Safety, Arduino, GPS, GSM

I. Introduction

Women's prosperity has transformed into a serious concern in the current society since they dread being truly or genuinely mistreated or drove away from their homes. Without a doubt, even in the twenty-initial hundred years, where development is broadening quickly and new gadgets are being made, women young women really face issues. Women in the world are at this point ill suited to leave their homes around night time.

Different regions, including involved daytime districts, see countless episodes of physical and unseemly way of behaving of women reliably. Attack is at this point the bad behavior in the country with the speediest speed of advancement.

Women are equaling men in each piece of society at the present time. a big part of women's responsibilities to our overall population's movements.

Women will be outfitted with hand held model that is with GSM (Overall Structure for Flexible) advancement makes up the mechanical gathering. The geographic region can be traversed a correspondence) module, and the region values are sent in case of the emergency. Women/She can press a button once to get the region information in the event in emergency.

II. Work Carried Out Previously

D. G. Monisha, M. Monisha, G. Pavithra, and R.Subhashini, " Women Safety Device and Application FEMME". Vol 9 (10), Issue March 2016: The model proposed in the paper is consists of both application and hardware units. When the emergency button of the device is triggered once, the GSM sends the location of the victim to the police. If the emergency button is double-clicked, the system starts recording the audio and also sends the location of the victim. Using a GPS module, the location of the victim is traced. An audio recorder is used to record the audio at the incident.

G. P. Miriyala, P. V. Sunil, "SMART INTELLIGENT SECURITY SYSTEM FOR WOMEN," *International Journal of Electronics and Communication Engineering & Technology* , vol. 7, no. 2, 2016. : It proposes a system that resembles a band on the wrist incorporated with pressure switch as an input which when activates shows the result Screaming alarm and tear gas mechanism are imposed for self-defence purposes and send location and messages to the emergency contacts and also figure out the attacker using live streaming video.

Shaista Khanam, Trupti Shah: 'Self defense device with GSM alert and GPS tracking with fingerprint verification for women safety'. *Third International Conference on Electronics Communication and Aerospace Technology(ICECA), IEEE explore, 2019.* : A self-defense device with GSM alert and GPS tracking with fingerprint verification for women safety device has the only activation through fingerprint, electric shock producing circuit, design a small button-shaped device which will be handy and easily portable.

Saroja Malarabhavi, "Smart Security Solution for Women Using IoT", *International Journal of Pure and Applied Mathematics*, Volume 119 No. 12 2018: The paper focuses on creating a smart band that the woman could carry anywhere when they move alone. The Node MCU that plays a vital role in the setup. Node MCU can be used to host the application or to offload Wi-Fi networking functions from another application processor.

Navya R. Sogi, Priya Chatterjee, Nethra U, Suma V: SMARISA: 'A Raspberry Pi based smart ring for women safety using IoT'. *International Conference on Inventive Research in Computing Applications (ICIRCA), IEEE Xplore, 2018*. This paper focus on a raspberry pi based smart ring for women safely using the IoT device feature implemented in the ring. They use a raspberry pi camera, buzzer, and button to activate the services. The model is served as a safety device and alerting device. the devices are mostly the Android Apps or some Hardware devices.

III. Practical Implementation



Fig1: Basic Block Diagram

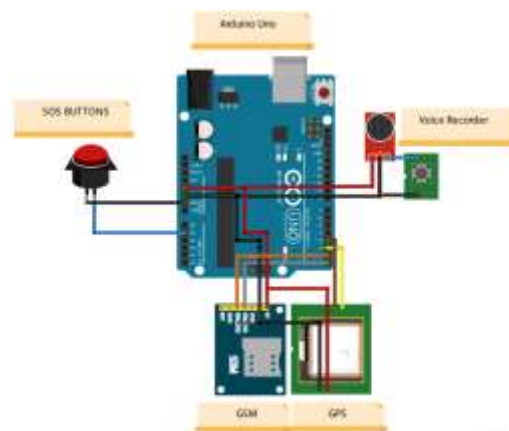


Fig 2: Circuit Diagram

This contraption contains a structure that ensures alerts if women messed with. In this endeavor we have an emergency button. The device can be authorized simply by pressing the emergency button once. This contraption gets started and sends second region with an aggravation message to the police pre-set numbers through a GSM module for as expected. Right when the emergency button is twofold tapped, the contraption sends both the agony message with second region and records the event. We use the sound recorder feature for the future assessment. Exactly when a comparative button is for quite a while pressed it ordered call to the police and sends message to the police second region. The region is found using GPS. The sound is recorded using sound recorder and call is delivered utilizing GSM modem independently. This GSM Modem (SIM 900) can recognize any GSM network executive SIM card and act a lot of like a cell with its own original phone number. It might be used to send and get SMS or make/get voice calls

IV. Components Used

1. **Arduino Uno** : The Arduino UNO is the best board to get everything going with contraptions and coding. Accepting that this is your most vital experience tinkering with the stage, the UNO is the most incredible board you can start playing with. The UNO is the most used and recorded driving

gathering of the whole Arduino family. Arduino UNO is a microcontroller board considering the ATmega328P. It has 14 electronic info/yield pins (of which 6 can be used as PWM yields), 6 basic wellsprings of data, a 16 MHz terminated resonator, a USB affiliation, a power jack, an ICSP header and a reset button.

2. **GSM:** GSM or Overall System for Versatile Correspondences is the most notable far off cell correspondence technique, used for public correspondence. The GSM standard was created for setting shows for second time (2G) electronic cell networks. It at initially started as a circuit trading organization, but later package trading was executed subsequent to joining General Group Radio Assistance (GPRS) development as well. The comprehensively used GSM repeat bunches are 900 MHz and 1800 MHz. In the Europe and Asia, the GSM works in 900 to 1800 MHz repeat range, however in US and other American countries, it works in the 850 to 1900 MHz repeat range.

3. **GPS :** The Overall Arranging Structure (GPS) is a U.S.- had utility that outfits clients with arranging, course, and timing (PNT) organizations. This structure includes three segments: the space piece, the control segment, and the client area. The U.S. Space Power makes, stays aware of, and works the space and control segments. GPS satellites offer help to normal resident and military clients. The non military work force organization is uninhibitedly open to all clients on a steady, in general reason. The strategic assistance is available to U.S. likewise, bound together military as well as upheld Government workplaces.

V. Results

Beneath fig 3 & 4 shows that trial approval for ladies wellbeing utilizing cell phone association. Furthermore, Fig 5 is verification for ladies security message recognized by cell phone. This gadget is valuable for individuals for risk as well as security for any time. The fundamental standard about this security gadget is giving avoidances and correspondence with ladies utilizing GPS, and GSM innovation. In this gadget Aurdino Uno is utilized for controlling the entire cycle.

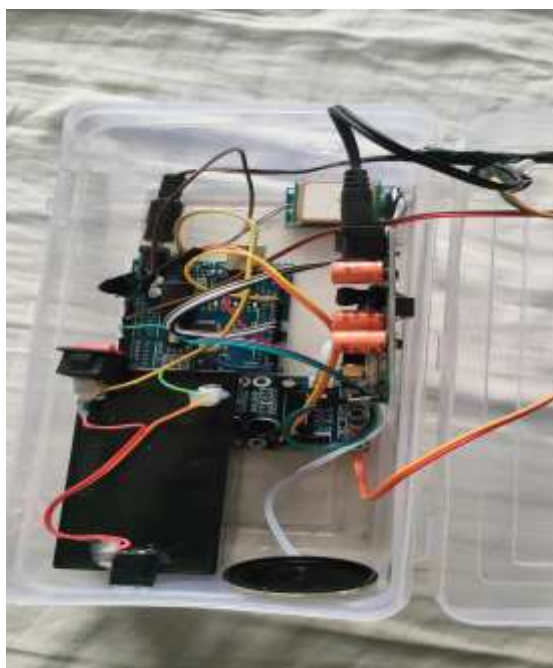


Fig 3: Model

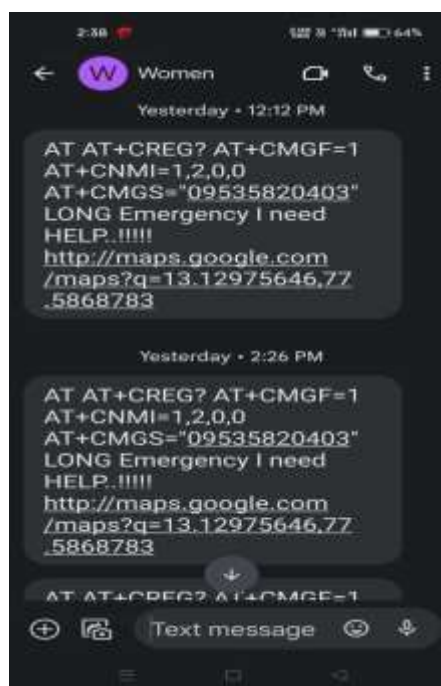


Fig 4: GPS Location

VI. Conclusion

The proposed women prosperity contraption targets showing all out security to women in current circumstances. This circuit will oversee fundamental issue looked by women and will help with settling them. The worth of this contraption is, it not simply gives prosperity and it in like manner gives security through self-assurance framework. The bad behavior against the women can be as of now polished off by execution of this contraption.

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