

SAFETY CHIP FOR WOMEN

SRI SAIRAM ENGINEERING COLLEGE
K.AARTHI & S.ABENAYA

Abstract:The recent incident in which a 23 year old paramedical student was gang-raped by 6 men inside a moving bus near a posh Delhi locality and thrown off the bus naked after herself and her male friend were beaten and assaulted with an iron rod has undoubtedly shocked the nation to its core. This project focuses on how technology can be used to enhance the security of women not just in India but anywhere in the World. We propose a device which has three major functionalities. The most important feature is that it has a chip embedded with GPS (global positioning systems) and GPRS modules that could be used to alert the nearest police station of their plight and get immediate help. Once the nearest police station is located with reference to the woman's position a message containing the location of the woman is sent else a call can be made and the location is repeated at least twice. Also once the tracking unit is activated there is automatic recording of 60 seconds. This recording is hidden and can be retrieved later which will help us in identifying the attacker. Secondly it emits a loud noise in the frequency range 1-3 kHz which can alert people nearby of their situation. It will attract people nearby due to loud sound. Lastly it can be used as a taser or a stun gun, to temporarily incapacitate the attacker in case he is too close. It will result in strong involuntary muscle contractions giving the woman few minutes of gateway. We are trying to integrate all these features in a device that can be easily carried and used anywhere. The end product would really enhance the security of women, ensuring that she can fight in situations of sexual harassment and protect herself when the need arises.

Keyword:

Chip, Taser, GPS, GPRS modules, Frequency, involuntary muscle contractions.

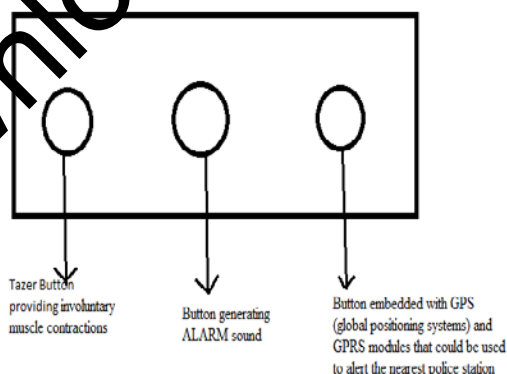
I. INTRODUCTION:

The condition of women in India has always been a matter of grave concern. Recently we have many cases dealing with women's safety and collectively we can see the scenario of sexual crimes against women, it can be easily seen that stringent laws alone cannot do much. What really needs to be done is the moral overhauling of the minds of the masses by means of education and awareness. To enhance the women's safety we design a chip, which consists of GPS & GPRS tracking system, generation of alarm sound and a taser used in Drive stun mode or probe mode all of which is primarily being integrated in a wrist watch or any other everyday used product.

II. THE SAFETY CHIP:

The Chip Consists of Three Buttons:

- (i) Button generating alarm sound.
- (ii) Button embedded with GPS & GPRS tracking system and an automatic recorder.
- (iii) Button to use the taser.



III. TECHNOLOGY USED

We use **GPS/GPRS** tracking unit as a data pusher. Once the nearest police station is located we get the number of it and using an auto dialer system a call is made. The current location of the victim is sent as an automatic content of the call and it is repeated at least twice. An SMS is also sent. Once the GPS receiver in the device is activated, a recorder starts recording for 60 seconds. This recording is kept hidden and can be later retrieved, or using android application software the recording can be sent to a previously fed email id or cell phone number.

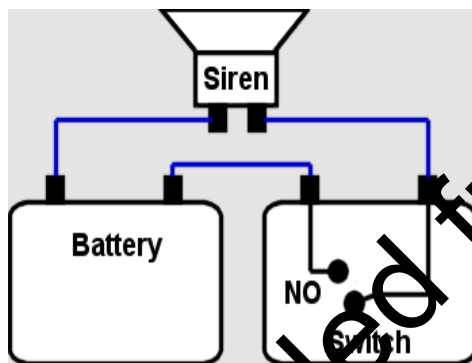
We use an **alarm system** which has an IC555. Once the alarm system button is pushed the circuit is complete and a siren is generated. This sound will be heard within a mile radius meaning the siren has a frequency of 135dB.

A **taser** is typically used by police departments to incapacitate an attacker/accused. A taser is typically operated in two modes as a drive stun or prober. In **probe mode** two electrodes attached through wires are launched in to the air and grab onto the attacker. When the electrodes are attached, the current travels down the wires into the attacker, stunning him. In the **stun gun mode** it is an electroshock weapon which disables the person with shock causing momentary unconsciousness. The difference in this mode is that no electrodes are needed to be launched. We can integrate either of these modes in our device, with stun gun mode being easier to integrate.

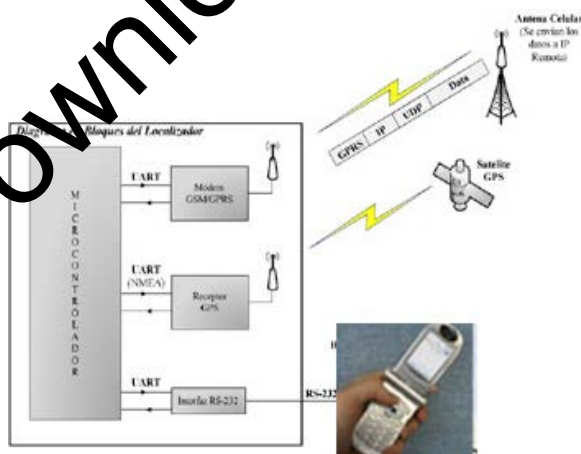
Since all these functionalities are proposed to be integrated in a wrist watch it will be easy to operate. Only buttons need to be pressed and it is easy to use and one can carry it anywhere and everywhere.

IV. BLOCK DIAGRAM.

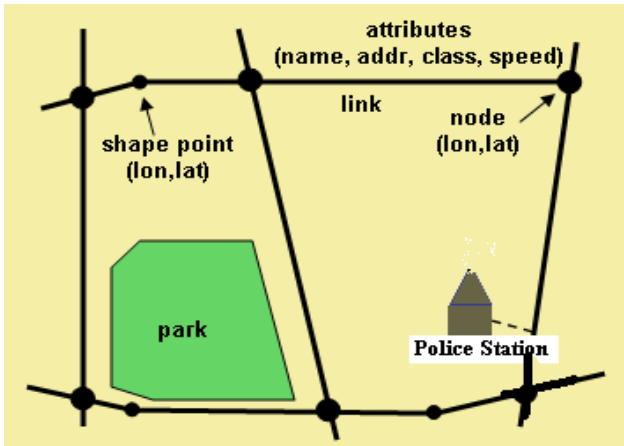
Simple Alarm circuit:



GPS and GPRS tracking unit:



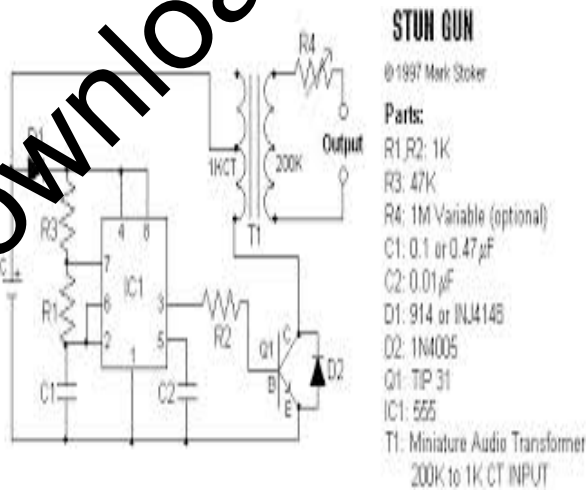
Map Traced: (to nearby police station)



GPS Tracking Unit sending details:

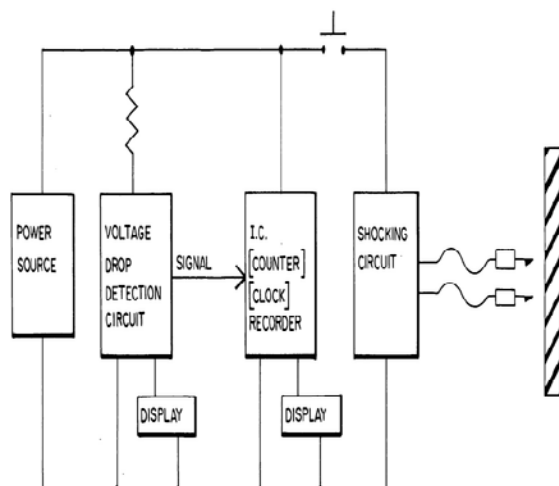


Taser Stun Gun Mode



Downloaded from edlib.asdf.res.in

Taser Probe Mode:



V. COST ESTIMATION:

1. Cost of GPS tracking unit=Rs.20,000
 2. Cost of Alarm system=Rs.1000
 3. Cost of Taser in drive stun mode=Rs.20,000
 4. Cost of Taser in probe mode=Rs.30,000
 5. Cost of automatic dialler system= Rs.30,000
 6. Cost of automatic recorder=Rs.4000
- Total estimated cost= **Rs.1,05,000**

VI. MARKETABLE

Since our proposed device integrates the above said features into either a wrist watch or other commonly used products it will attract customers. We can always customise the device according to the user needs i.e. whichever feature they require.

VII. INNOVATION

As an existing system for women's safety, we have many android applications and alarm buffering devices. The most innovative part in our proposal is the GPS &GPRS tracking system, which tracks the women current location and send the information to the nearest police station as an SMS or Call (repeated voice recognition). As we mentioned earlier we have three major functionalities in our proposal. The other two functionalities are generation of alarm sound and involuntary muscle contraction by using taser. We integrate all the three functionalities in to a device and thereby enhancing the women's safety.

CONCLUSION

We feel confident that our device will surely enhance the safety of women and gets us a little closer to our mother's dream concerning the safety of women.

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