

Intelligent Device for Health Care & Emergency Alert System

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Abstract— The physical protection and caring is meant for everyone without gender limitations. Now a days the situations like kidnapping, rape case, & abuse are not only faced by the women community but also from the new-borns to the grand ones are being the victims. According to these, we proposed our system which has more functions other than alerting the society with a message at emergency situations. All the times this cannot be a solution to help us. In this we included a health care unit for automatic calling for ambulance if get into out of control. The evidence collection is the next step for the protection by means of law. As like the full protection and privacy barrier we included some more functional elements like video camera, Electric shock and a spy camera detector. We use the micro controller AT89C32 and once the information is received by the controller, it sends the message to the contacts through GSM module and the location is tracked through the GPS.

Key words: GSM,GPRS, Pressure sensor, Heart beat sensor

I. INTRODUCTION

Now a day's being a victim to physical harassment is not concerned with the gender, age etc. Anybody can be abused at any time. There is a major need of protecting from being a victim of harassments, sexual abuse, and violence by implementing challenging systems with technological requirement. On this growing world another serious situation we are being faced with is timeless run. That is nobody has time to spend a single second for hospitalizing a victim. So by our system it gives solutions to these two major issues. This system automatically informs the authorized ones if he needs their service and we cannot estimate the happening of incidents but still one can reduce the chances of sexual abuse, violence, assault by having all safety tools nearby and can easily vanish from the danger situations. This can create a safe environment and also creates a good support for the victims without any gender limitations. This can create a self confidence as it provides all around protection and self-resisting capacity also with a valuable evidence for the victim.

II. RELATED WORKS

The idea of the project is drawn from the Prototype of an Intelligent System based on RFID and GPS Technologies for Women Safety. The RFID is the short form of radio frequency identification. In RFID the tags are used for communication medium by the RFID medium. But due to its expensive cost and loss of signals within the metal contact intermediates it has some disadvantages. This work is single application based. That is it only provides the call for emergency alert and it takes to save a life. The other existing systems were android based. The apps based safety has many limitations such as power problems, network problems, delay of activation etc.

However in this work it provides an all-around protection for the human and it is a combination of self-protection system with health caring. It is not enough to save a life only by providing an emergency alert, sometimes the victim needs to be hospitalized. Our system provides both these functions in on device with additional protection features.

III. PROPOSED SYSTEM

The system proposed in this paper has more functionalities than the existing ones. This system connects two major protection alerts into one and also provides three more functions other than the first two. Whenever an harassment occurs the victim can alert authorized ones by sending a the location of the victim with the help seeking message and can take pictures of the attacker as the direct evidence for the court. The person can also inform more than one authority. The next function is all about the health care of a person. There are many chances for losing one's life due to the lack of proper treatment. In this device we included an automatic heart beat and pressure sensing unit which can automatically informs the ambulance about the location of the patient with the help of a particular threshold rate. If the rates go beyond this threshold the ambulance is informed automatically. Abusing our privacy is a common term now a days so we included a spy camera detector which detects the camera eyes which stare at our privacy .Last and the least there is a chance to break this system by the attacker then to avoid such situations we implemented an electric shock which is about 24v.

IV. BLOCK DIAGRAM

This project provides an analysis evaluation on the primary requirement of intelligence security system with innovation requirement and obstacles to develop the system. The social networking is the part of our life and likewise a source for ladies

harassment by publishing the offending picture taken by surprise electronic cameras, even though these cases may take place with innocence males, in some such cases these men end their life by dedicating a suicide. The abhorrent event that outraged the whole country have actually waken us to go for the security problems and so a host of brand-new apps have actually been established to supply security systems to through phones. This paper provides, an Application for the Safety of Human and it includes two sections. One section employs a switch and this can be triggered by a single click, whenever requirement develops and a message 'ACCIDENT DETECTED' send to the signed up contacts to assist the situation.

The second click on switch determines the place of location through GPS and sends out a message comprising this area URL and a situation based message 'PLEASE HELP' to the signed up contacts to assist the one in harmful circumstances, also the camera section will capture the image of attacker and saved in the memory. The other section also provides a switch, a single click on the switch produces electric shock. A camera detector circuit is an addition to this project. This circuit detects hidden cameras and gives an indication. The circuit will works on the basis of requirement.



Fig. 1: Block diagram

V. INTERNAL SYSTEM ARCHITECTURE

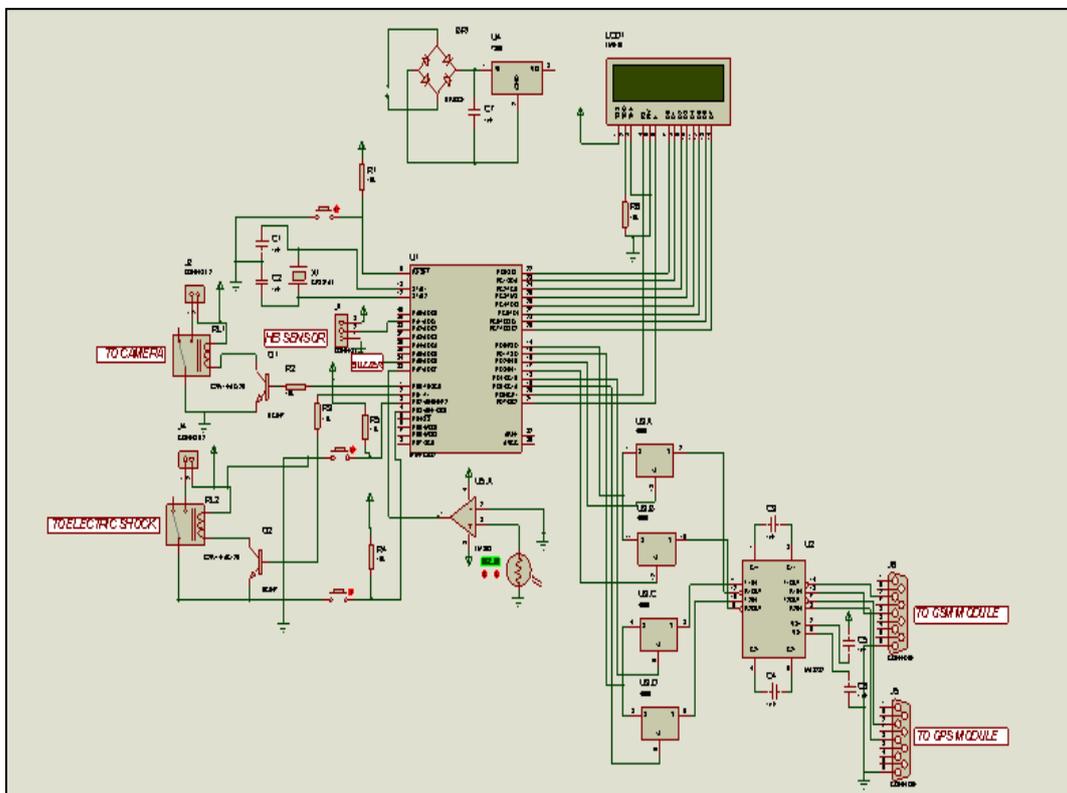


Fig. 2: Circuit diagram

The internal system architecture is mainly combined with the application based circuits such as GSM, GPS connectors, electric shock circuit; heart beat and pressure sensor connectors, camera switch ON circuit with an LCD for displaying the current working of system. The microcontroller used here is ATmega32 as it is a low-power CMOS 8bit microcontroller based on the AVR enhanced RISC architecture. It achieves through puts close to 1MIPS per MHZ. The relays are used for the automatic electronic switching of the electric shock and for turn ON camera for capturing evidences. The pressure and heart beat automatically checked by the sensors and takes necessary actions with the help of microcontroller, GSM and GPRS.

VI. PROCESS FLOW

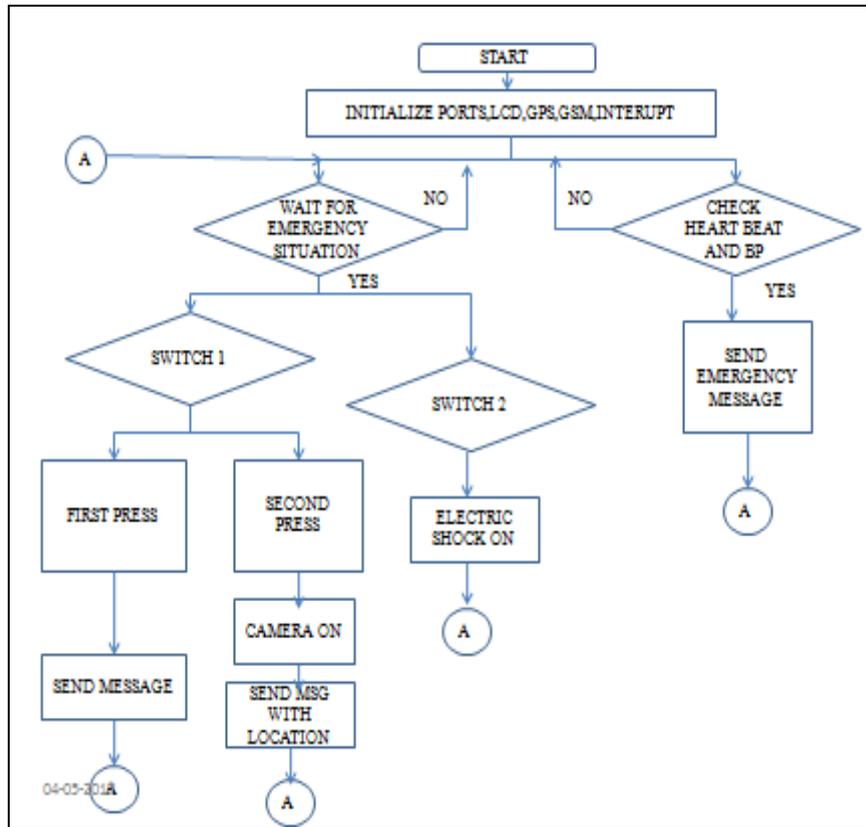


Fig. 3: Flowchart

The proposed system continuously checks the condition of the two switches. If the victim has to face a worst situation he/she can press the switch1 and can activate the device for giving an alert to the authorized persons about the situation with the location specifications. In this same switch there provided two cases. On the first pressing it sends an alerting message seeking help and the next press turn on camera to capture the situation also sends the location specification to the authorized authorities for taking immediate actions. If the victim wanted a self-protection act against the attacker he/she can press swich2 and can activate the electric shock generation. We cannot say that a victim is safe only by informing about their worst situation. We should conform that their health condition is sustained until we reach there to help them. So for this purpose there included heart beat and pressure monitoring system. If their health condition goes under certain limitation it automatically informs ambulance and the authorized persons. There also included a spy camera detector to ensure privacy.

VII. CONCLUSION

In this paper we have proposed an effective system for the overall safety of a human life. This device doesn't have gender limitation in its applications. Through this project we ensuring the safety, security and health care of the society. The device is not only for safety but also helps to bring the culprits to law enforcing authorities .This device is practically and economically possible one

REFERENCES

- [1] JiewenZheng; Inst. of Med. Equip., Acad. of Mil. Med. Sci., Tianjin, China ; GuangZhang; Taihu Wu, Design of Automatic Fall Detector for Elderly Based on Triaxial Accelerometer; Bioinformatics and Biomedical Engineering , 2009. ICBBE 2009. 3rd International Conference, IEEE Beijing.
- [2] Medical alert systems with TeleHealth& telemedicine monitoring using GSM and GPS technology, IEEE Conference, Coimbatore, 2012.

- [3] May, Z.B.; Dept. of Electr. & Electron. Eng., Univ. Teknol. Petronas, Bandar Sri Iskandar, Malaysia. Real-time alert system for home surveillance, Control System, Computing and Engineering (ICCSCE), 2012 IEEE Conference Penang.
- [4] Rana, G.M.S.M. ; Khan, A.A.M. ; Hoque, M.N. ; Mitul, A.F. Design and implementation of a GSM based remote home security and appliance control system; Advances in Electrical Engineering (ICAEE), 2013 Control System, IEEE Conference Dhaka.
- [5] Borges, L.M. Inst. de Telecomun.-DEM, Univ. da Beira Interior, Covilha, Portugal Barroca, N. ; Velez, F.J. ; Lebres, A.S., Smart-clothing wireless flex sensor belt network for foetal health monitoring; Pervasive Computing Technologies for Healthcare, 2009. PervasiveHealth 2009. , IEEE, London
- [6] Rahdar, R. ; Bell Helicopter, Fort Worth, TX, USA ; Stracener, J.T. ; Olinick, E.V.; A Systems Engineering Approach to Improving the Accuracy of Mobile Station Location Estimation; Systems Journal, IEEE (Volume:8 , Issue: 1 ,2013).
- [7] Alwan, M. ; Dept. of Pathology, Virginia Univ., Charlottesville, VA ; Rajendran, P.J. ; Kell, S. ; Mack, D. , A Smart and Passive Floor-Vibration Based Fall Detector for Elderly; Information and Communication Technologies, 2006. ICTTA