

Women Safety Device Using Wireless Communication

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ABSTRACT – These days ladies are dealing with many protections troubles with in the city. In such instances they sense handicap and need assist to protect them. Even though many technologies had been brought for women’s nevertheless kidnapping, eve teasing and sexual harassment are taking area in our society. Girl’s safety has been a large difficulty and it’s been the most essential duty of each person. There may be no risk of the welfare sector unless the situation of the women is progressed. Because the historical time, ladies are given maximum respected place within the society but every day and every minute some women of all walks of existence have become stressed, assaulted and violated at diverse locations everywhere in the global. It’s miles anticipated that 35% of the women have skilled physical and/or sexual violence sooner or later of their live. When the ladies face in to unsecured situations, to make certain the safety, automated detection device desires to establish which ship an alert message which incorporates the location to the police branch. This can be finished by means of sensing different factors such as body response like trembling, dreading and heartbeat which may be sensed using sensor and to provide the alert message. On this we accrued physical parameters of the human body.

Key Words: Temperature, Pulse rate, Alert Message

I. PROBLEM STATEMENT

1.1 INTRODUCTION

In previous few years of crime record towards girls has elevated a more quantity. Women are pressured a more quantity. Women are pressured no longer best within the night time but also throughout day hours at home, running place, purchasing and so on. There’s variety of women’s who’ve been terrified of strangers for their protection. Around 80% of the women in world have worry regarding their safety.

In many years ladies generally received step out from their residence for work, so there was more safety. But in the latest situation, women’s need to be employed and need to work out of doors, but there is the shortage of protection; various systems were constructed to offer safety for girls. Each gadget uses a one of a kind form of techniques to locate the harm and dangerous situation of women. Some of them used panic sensors to come across the circumstances of the girls by heartbeat and temperature in the body. Sound detectors are used to discover the variations in ladies voice while they may be in hazard situation. Most systems use cellular gadgets for detecting harm and hazardous conditions, which include telephone mike to hit upon girls scream, digital camera to take photos and to file video. On this paper, we surveyed paper; we surveyed the one-of-a-kind current mach--ine kind current mechanism used for making sure the protection of women when they are away from domestic.

1.2. Literature survey

In beyond a long time ladies’ commonly gainer’s step out from their house for paintings, so there has been more safety. But in the recent scenario, women need be employed and need to work out of doors, however there can be demise of safety; various systems had been constructed to provide protection for ladies. Each gadget use a some sort of techniques to stumble on the risky situation of girl of them used panic sensors to detect the condition. These measurements are done by heartbeat and temperature sensors of the women.

We all mentioned about the trouble declaration and put out our personal thoughts and changes to deliver this small scale undertaking which can be made rapid. We saw more than one motion pictures and had many discussions on a way to implement our concept in an efficient way and what are the measures we need to take while doing the assignment. We researched about one of kind

sensors that could provide vital records of the affected person.

II. ARCHITECTURE

2.1 List Of Figures

- 1) NodeMCU ESP8266
- 2) MAX 30102
- 3) Neo 6M GPS
- 4) LM35 Temperature Sensor
- 5) Jumper Wires
- 6) Velcro Board

2.2 Components Used

1. NodeMCU, which means Node Micro Controller Unit, is a free, open-source software and hardware developer environment built. With a wi-fi module ESP8266, which is very useful while building an IoT solution. Node MCU has wi-fi /networking enabled; it has analog and eight digital pins and a few other pins. It supports serial communication protocols like SPI, I2C, UART, and more. The firmware is based on the LUA scripting language (eLua project). It had a non-os SDK for wi-fi module to support. As this is an open-source project, which makes it easy and suitable for working on projects based on IOT.



fig: 1 NodeMcu

2. The MAX30102 is an integrated pulse oximetry and heart-rate monitor module. It includes internal LEDs, photo detectors, optical elements, and low-noise electronics with ambient light rejection. The MAX30102 provides a complete system to ease the design-in process for mobile and wearable devices.



fig:2 MAX301032

3. LM35 is used for the sense body temperature. This device will allow one to measure their mean arterial pressure (MAP) in about one minute and the accurate body temperature will be displayed on the Android. The LM35 series are precision integrated-circuit temperature sensors, whose output voltage is linearly proportional to the Celsius (Centigrade) temperature.



fig:3 LM35

4. Neo 6M GPS, is a complete GPS module that is based on the NEO 6M GPS. This unit uses the latest technology to give the best possible positioning information and includes a larger built-in 25 x 25mm active GPS antenna with a UART TTL socket. A battery is also included so that you can obtain a GPS lock faster.



fig: 4 GPS

5. A jumper wire is an electrical wire or group of wires used to connect circuits without soldering. They have connectors or pins at their ends. Depending upon the configuration of end connectors, they are classified into three types: male-to-male, male-to-female and female-to-female.



fig:5 Jumper wires

6. Vector board is a type of Printed circuit board where we mount the elements on the vector board. Using the hardware elements like soldering and the components

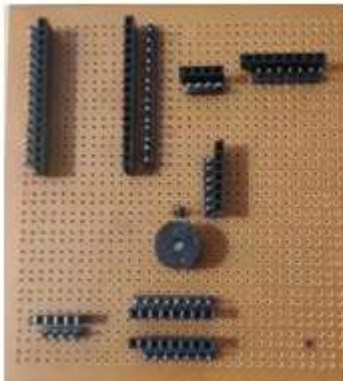


fig: 6 Vector board

7. A soldering iron is a hand tool used to heat solder, usually from an electrical supply at high temperatures above the melting point of the metal alloy. This allows for the solder to flow between the workpieces needing to be joined.



fig: 7 soldering rod

2.3 Software

1. Arduino Integrated Development

Environment (IDE) is an open-source cross platform IDE. The Syntax of this programming language is very much similar to that of C language with a little bit difference in keywords. Arduino IDE is generally used for Arduino Based Projects and in the field of robotics. We write program for different sensors and motors for them to work according to the user input.



fig:8 Arduino IDE

2. Fritzing is an open-source electronic design automation (EDA) software to design electronics hardware, printed circuit boards and schematic circuit diagrams. It is an offshoot of the Processing programming language and the Arduino microcontroller.



fig: 9 fritzing

III. IMPLEMENTATION AND WORKING

3.1 BLOCK DIAGRAM

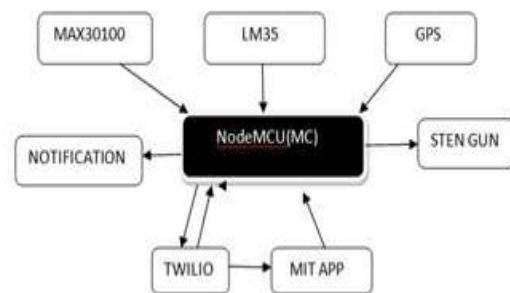


fig: 10 Block diagram

3.2 CIRCUIT DIAGRAM

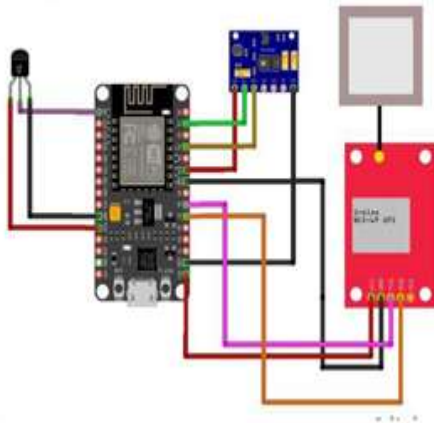


fig: 11 Circuit diagram

3.3 METHODOLOGY

Every women needs to wear this smart watch type structure where continues measurement of all primary sensors measure the things. When the user in hazard situation the heart rate varies according to the pressure and stress what he feels if the user was really in hazard situation then automatically message will sent to the guardians. The next step is in the hands of guardian he needs to on the sten gun using mit app then the women can easily use the shock gun for defense purpose.

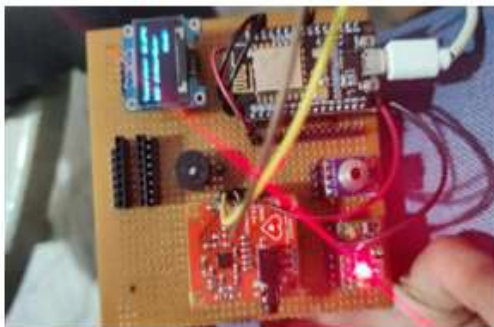


fig: 12 Working process

IV. EXPERIMENTAL RESULTS AND CONCLUSION

4.1 Results

Our project has been implemented successfully. We got the values of temperature and spo2 levels of the person which we assumed to attack. And we got the location of the person on our guardian phone..

4.2 Future Enhancements

Coming to the future work of the project if we can able to implement these below things to the existing work then the usage gets benefited. Such

improvements like detection of abnormal sounds. If we can reduce the sensors size automatically the product size will be reduced.

4.3 Conclusion

In conclusion, the Women Safety Device was successfully able to fetch heartbeat and temperature readings of a woman's body. A threshold condition of 100 beats per minute and 38°C was set above which the buzzer would turn on, after turning on, it sent the message to the police and known relatives via a TWILLO messaging module. The sent message includes the current position of the woman which is fetched by the location tracking GPS module. When the device was turned on, readings displayed on the OLED screen and also it send the message to the guardians and women can use the shock gun in order to defence them.

4.4. References

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