Human live location detector by smart shoes

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ABSTRACT

As we know that the number of crimes is increasing day by day, Day by day the cases of kidnapping of children and sexual harassment of women are increasing So keeping human considerations in mind, my team and I have made smart shoes that provide safety to children and woman by any intruder.

I and my team have made two types of smart shoes in which one smart shoe is for children and the other is for women

Keywords: - *Arduino Pro mini, Temperature sensor, Heartbeat sensor, Accelerometer sensor, Gps A9g Pudding.*

1. INTRODUCTION

We have made two types of shoes after seeing the crime in which there is a (TYPE C SMART SHOES) which is for children and another (TYPE W SMART SHOES) which is for women**.**

1.1 TYPE C SMART SHOES

In type c smart shoes which are meant for children there is DEFENCE SYSTEM in it. As we know that children are kidnapped from school, from tuition classes, from malls, etc. But if the child wears the smart shoes then we can save the children from being kidnapped because we have installed GPS & GSM MODULE in the sole of the shoes to locate the current live location of any child. There is also an automatic charging system that provides power backup to power the device as the children walk, By which parents or guardians can able to track their children's live location while going to school or coming from tuition classes etc. on our smartphone.

We have also kept some optional features in this option, in which parents can check their children's blood pressure and body temperature on their phone itself.

1.2 TYPE W SMART SHOES

Here we have provided both types of systems in type w smart shoes which first is the ATTACK SYSTEM and other is the DEFENCE SYSTEM, as we must have seen and read on the news channel that sexual harassment in women is increasing rapidly, In and these smart shoes will be very helpful to the women in which defense system is like as same as the shoes of type c. An extra feature in type w smart shoes is an ATTACKING SYSTEM as the intruder moves towards you then you can able to hit on a sensitive body part of the intruder, due to which there is an electric shock of 4 lakh voltage of electric current inside the intruder for a microsecond and this will make you help to make intruder away from you and you will feel safe.

2. DESCRIPTION

2.1Arduino Pro mini: 2x 8-bit Timer/Counter with a dedicated period register and compare channels 1x 16-bit Timer/Counter with a dedicated period register, input capture and compare channels 1x USART with fractional baud rate generator and start-of-frame detection 1x controller/peripheral Serial Peripheral Interface (SPI) 1x Dual mode controller/peripheral I2C 1x Analog Comparator (AC) with a scalable reference input Watchdog Timer with separate on-chip oscillator Six PWM channels Interrupt and wake-up on pin change.

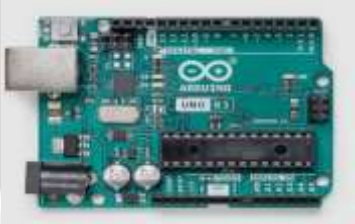

Fig-1 Arduino Pro mini

2.2 GSM MODULE: SIM800L is a miniature cellular module that allows for GPRS transmission, sending and receiving an SMS, and making and receiving voice calls. Low cost and small footprint and quad-band frequency support make this module the perfect solution for any project that requires long-range connectivity. After connecting power module boots up, searches for the cellular network, and login automatically. On board, LED displays connection state (no network coverage - fast blinking, logged in - slow blinking).

Fig-2 GSM Module

2.3 GPS MODULE

The **NEO-6MV2** is a **GPS** (Global Positioning System) module and is used for navigation. The module simply checks its location on Earth and provides output data which is the longitude and latitude of its position. It is from a family of stand-alone GPS receivers featuring the high-performance U-box 6 positioning engine. These flexible and cost-effective receivers offer numerous connectivity options in a miniature (16 x 12.2 x 2.4 mm) package. The compact architecture, power, and memory options make **NEO-6 modules** ideal for **battery-operated mobile devices** with very strict cost and space constraints. Its Innovative design gives **NEO-6MV2** excellent navigation performance even in the most challenging environments.

Fig-3 GPS MODULE

2.4 BPM SENSOR

A pulse wave is a change in the volume of a blood vessel that occurs when the heart pumps blood, and a detector that monitors this volume change is called a pulse sensor. First, there are four main ways to measure heart rate: electrocardiogram, photoelectric pulse wave, blood pressure measurement, and phonocardiography. Pulse sensors use the photoelectric method. Pulse sensors using the photoelectric pulse wave method are classified into 2 types depending on the measurement method: transmission and reflection. Transmission types measure pulse waves by emitting red or infrared light from the body surface and detecting the change in blood flow during heartbeats as a change in the amount of light transmitted through the body. This method is limited to areas where light can easily penetrate, such as the fingertip or earlobe.

Fig-4 BPM SENSOR

❖**Extra components**

I. **Wireless charging module:** The 5V 2A Large Current Wireless Charger Module Transmitter Receiver Charging Coil Module is for a variety of small electronic products, wireless charging, power supply development, and design, with a small size, easy to use, high efficiency, low price characteristics. It is mainly used in mobile electronics products such as for charging the mobile phone wirelessly, game machines, tanks, MP3, MP4, adult products, digital cameras, electric shavers, machine learning, health supply, to complete sealing of the products, waterproof and dust-proof; increase product service life, use more convenient.

II. **PIEZOELECTRIC TRANSDUCER:** Piezo elements come in handy when you need to detect vibration or a knock. You can use these for tap or knock sensors pretty easily by reading the voltage on the output. They can also be used for a very small audio transducer such as a buzzer. Piezoelectric Sound Disc is a transducer that works on the phenomenon of piezoelectricity i.e., electric charge accumulates in ceramic in response to applied mechanical stress or vice versa. Due to accumulated charge, these plates generate an electric signal which leads to the vibration of plates and produces different humming sounds. The frequency of vibration governs the audio that gets produced.

III. **TEMPERATURE SENSOR:** The KY-013 Analog Temperature Sensor Module is based on the thermistor (resistance increases with the ambient temperature changes) which senses the real-time temperature of the surrounding environment changes. Change in temperature data in analog form can be taken from this module on analog IO pins, then through any microcontroller, it can be easily converted and displayed in Celsius degrees or any other respective Unit.

3. Objective

The main objective of these smart shoes is to provide safety for every person in the world, who wear these smart shoes, by tracking their location.

- To provide a real-time watching system on a child whether he or she is going or not going anywhere for parents/guardians.
- To provide notification, About the health of their respective child to take action within the time.
- To provide the rescue of our army/military in the war zone by using real-time location
- And also, to provide rescue to any person, who is trapped in forest or any place.

4. CONCLUSIONS

- ❖ With this unique invention, we can able to reduce the crime rate like the kidnapping of small children and sexual harassment of women by using this product.
- ❖ From this unique product, we can able to feel better by knowing all about your health to take action within the time, with the help of technology to the next level.

5. BLOCK DIAGRAM:

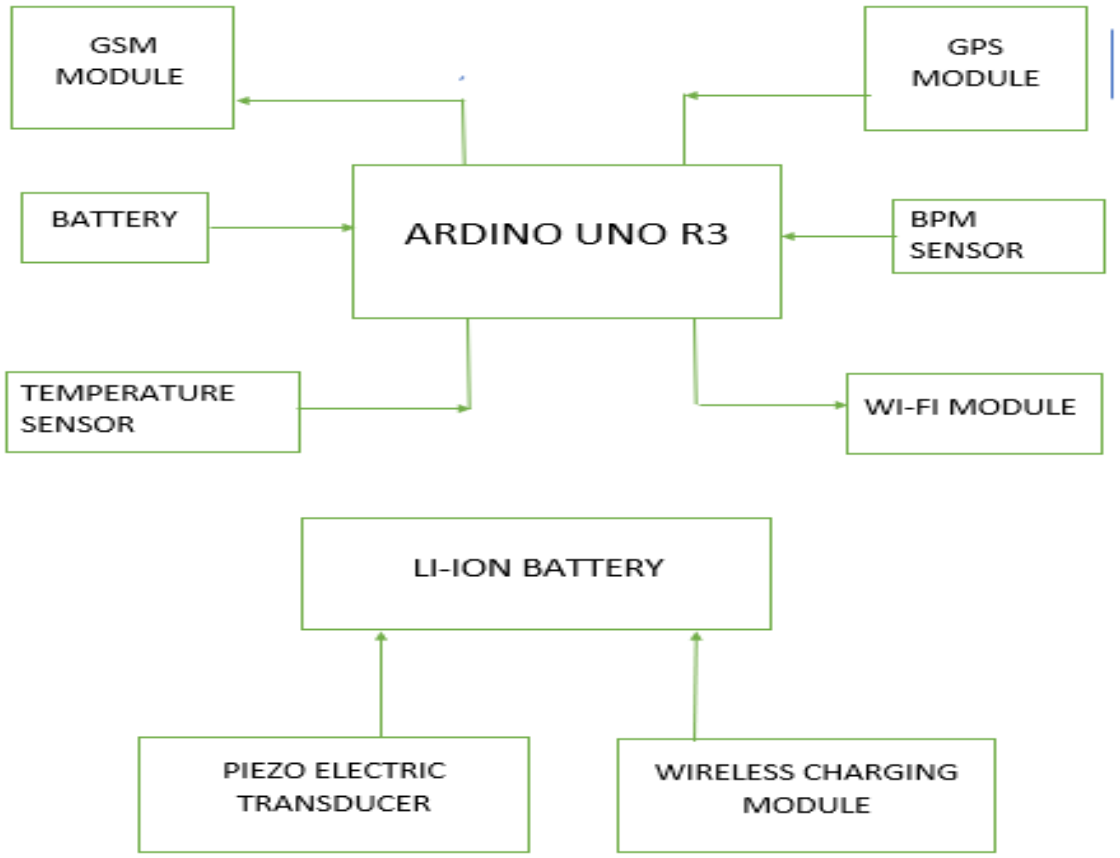

Fig-4 Block Diagram

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