SMART SHOES FOR BLIND PERSON

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Abstract: *Eyes-we all know that this is the best gift god give us. All the things happen around us, this whole world is visible to us, because of eyes. We can also say that we are very blessing for this precious gift. But there are some people who can't able to see the things happen around them, they can't see what's going on their surrounding areas, because they are blind or they lost their vision permanently. Those people face many challenges in their daily life. They used walking cane, or stick to move and detection of any object. But stick is not give proper results and it is used for limited range. There are many types of sticks and other devices are available in market but they are very expensive, so poor people can't buy it. This paper presents smart shoes for blind person. This smart shoe is easy to use and it creates user-friendly environment for blind person. It is wearable system. And it is not expensive. In this ultrasonic sensor, buzzer, battery, Arduino Uno and jumper wires are used.*

Keywords: - *blind person, easy to wear, easy to use, smart shoes.*

1. INTRODUCTION

What happened around us, all the things and this whole world is visible to us, because we have proper eyesight. But there are many people around us they can't able to see all the things happen in the world and those people face many challenges in their day to day life.

This paper presents the Smart shoes for that blind person. In that Arduino Uno, ultrasonic sensor, buzzer, battery and jumper wires are used. This circuit is implemented on shoes. Blind person can use these smart shoes indoor as well as outdoor. In every blind person friendly device ultrasonic sensor is use. It is like main part of the circuit or device. When any object detected in the path of blind person ultrasonic sensor give signal to buzzer and buzzer start beeping and alert the blind person.

2. BLOCK-DIAGRAM

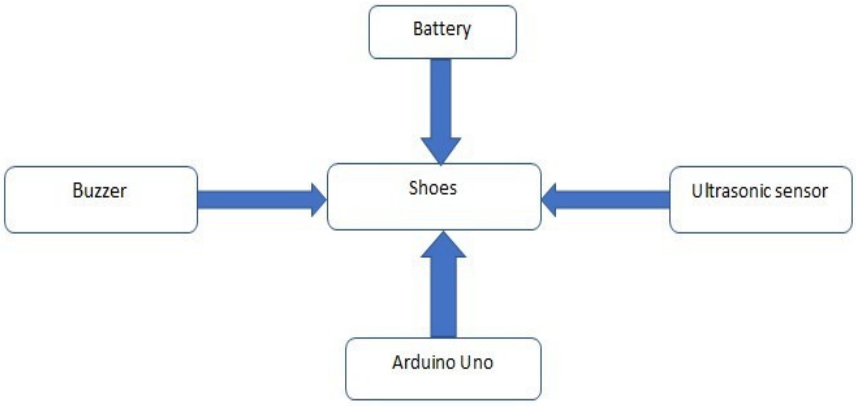

Figure 1: Block diagram of smart shoes

Figure shows that block-diagram of smart shoes. Following components are used in these shoes.

1. Arduino Uno: - Arduino Uno is a complete breadboard which is based on microcontroller named ATmega328P. On Arduino Uno all components are attached. It works on 5v power supply.

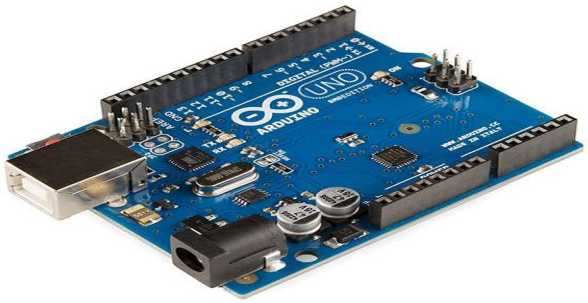

Figure 2: Arduino Uno

2. Ultrasonic sensor: - ultrasonic sensor is used for object detection. It has four pins. 1. VCC, 2. Trig., 3. Echo, & 4. GND. VCC pin is used for 5v power supply. Trigger pin is used for transmitting ultrasonic wave. It is act as transmitter. Echo pin is used for receiving reflected wave. GND pin is connected with ground system.

Figure 3: Ultrasonic sensor

3. Buzzer: - buzzer is an Audio signalling Device. It is also called as a beeper. It creates high pitch noise to alert the blind person. It need 5v power supply to work.

Figure 4: Buzzer

4. Battery: - battery is used to generate power and it supplies to the other components. Here +9v battery is used.

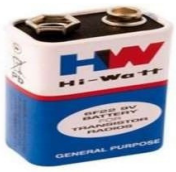

Figure 5: Battery

3. CIRCUIT DIAGRAM & HARDWARE IMPLEMENTATION

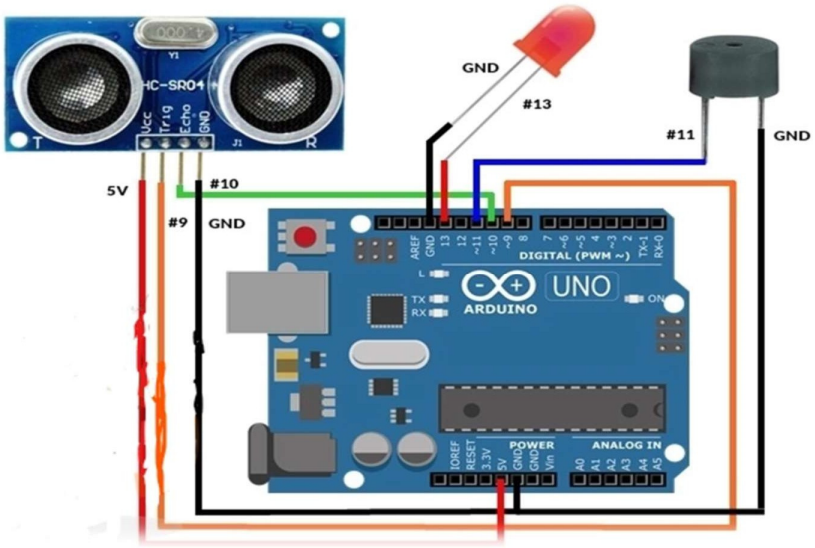

Figure 6: Circuit diagram

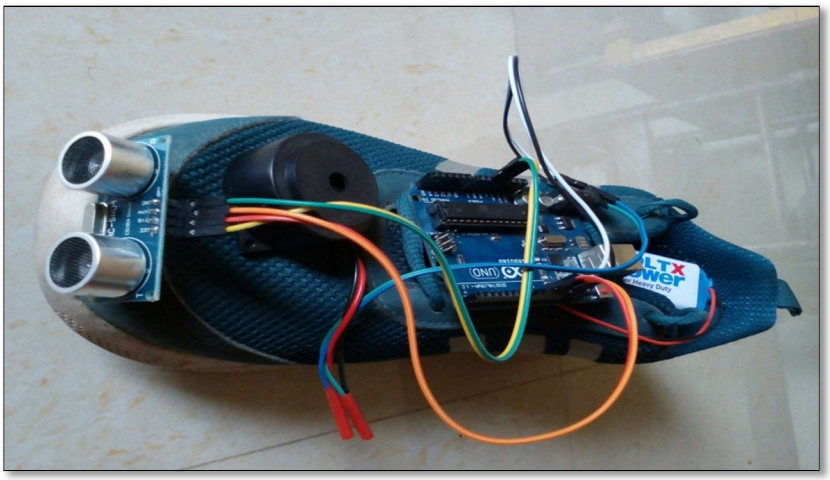

Figure 7: Hardware Implementation

Advantages:

1. It is easy to use.
2. Blind person can move easily in surrounding areas.
3. It creates user-friendly environment.
4. It is wearable system.

Disadvantages:

1. Can't cross road.
2. If person is deaf than person can't hear the sound of buzzer.

4. CONCLUSION

Smart shoes are easy to use and it creates user-friendly environment. All the components like ultrasonic sensor, buzzer, and battery work properly. This project is very helpful for the visually impaired person.

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