Modern Safety Guard For Blind

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Abstract

The legally blind people are those who have the visual acuity of 20/200 or (6/60). It means that a blind person needs to stand within 20 feet (6 meters) to see an object which someone with normal visual acuity can see from 200 feet (60 meters) away. In our project proposed a device that overcomes the difficulties faced by blind people walking time. And they travel safely, confidently, and independently in the home and the community.

Keywords: ADC, GSM, GPS, Microcontroller.

Introduction

We are detecting an object/obstacle/fire based on its distance from the person concerned using a GPS, sound alarm from a buzzer will alert the user about the object/fire and the person can avoid the object/fire safely without hitting [1]. Thus a device is designed that helps in proper locomotion of blind people by detecting problematic or erroneous outputs in critical conditions [2]. Also use of GSM to communicate with the guardian [3]. This paper is focusing on the detection of object/fire that is in front of the user within the specific distance range which is depending on the type of distance sensor used [4]. An ultrasonic distance sensor is used [5]. As the object is closer to the sensor, the signal produced is increases as well [6]. And flame sensor is also used which is used to detect the fire and safe the blind [7]. The signaling mean of the walking stick is a buzzer which produces sound when the object is detected [8]. The components of the system involves microcontroller 8051, ultrasonic sensor, flame sensor, GSM module sim900, buzzer, power supply [9]. A Micro controller consists of a powerful CPU tightly coupled with memory RAM, ROM or EPROM), [10] various I/O features such as Serial ports, Parallel Ports, Timer/Counters, Interrupt Controller, Data Acquisition interfaces-Analog to Digital Converter (ADC), Digital to Analog Converter (ADC), everything integrated onto a single Silicon Chip [11].

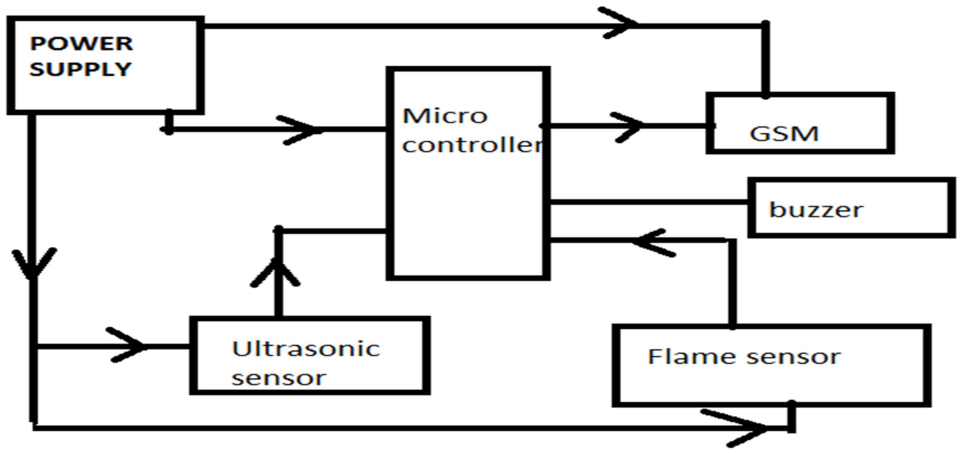

Figure 1: block diagram of working of modern safety guard

Conclusion

1. Blind people travel safely, confidently, and independently in the home and the community.

2. The Blind person can avoid the object safely without hitting the object.

3. The blind person can avoid the fire safely.

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