Blind Companion

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The blind and people with visual impairments run the risk of falling or being hit by objects. It is hard to have a permanent companion to help them through. The aim of the project is to add an ultrasonic sensor for detecting stationary objects, and a PIR sensor for detecting moving objects. I have programmed the sensors with vibrators, and the ultrasonic sensor with mobile devices. I used ESP32 to directly connect the sensor to the mobile by Bluetooth. All the sensors are mounted on a shoe of a blind person. They send an alerting phrase whenever there is an object facing them in a distance about 100 cm, through a hand free or air-pods. The mobile acts as an intermediary; yet, if the blind person leaves the mobile, the shoe is equipped with a vibrator too that vibrates to alert him/her. The shoe has been tested on three blind people, and it has worked efficiently.

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