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 ijircce@gmail.com

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Third Eye for Blind Using Ultrasonic Sensor

P. Pavan Kumar¹, K.Jotheesh Reddy², N.Hema Harika³, E.Lakshmi Prasanna⁴, M.Mallikarjuna⁵,
C.Jeevan⁶

Department of Electronics & Communication Engineering, Siddharth Institute of Engineering & Technology (Autonomous), Puttur,
Andhra Pradesh, India ^{1,2,3,4,5,6}.

ABSTRACT: In this high-tech era, technology has made it possible that everyone can live a comfortable life. But somehow the physically challenged people need to depend upon others in their daily life which ultimately makes them less confident in an unfamiliar environment. But nowadays the explosion of innovative technology provides many opportunities for them to live confidently without feeling as a burden. So, in this project, an intelligent device is represented for visually challenged people to guide them to reach their destination place safely without facing any difficulties. It consists of Arduino, Global Positioning System (GPS) along with sensors like Ultrasonic and other supportive sensors and a GSM.

KEYWORDS: GSM, GPS, Ultrasonic, Arduino, Buzzer, Obstacles, Wearable band

I. INTRODUCTION

As per the definition of blindness, we mean the person without sense of sight. A blind person has no ability to see anything. While struggling for the different levels of comforts of the general population, we have reached to a point where we have started to completely ignore the people who are living a miserable life due to lack of vision. They face enormous challenges in their daily lives and hence end up living a dependent life. They experience a completely different life from the normal people and experience detached and uninterested conduct towards them for being physically disabled. They need other individuals for their movement from one place to another. Sight is the basic sense of life and therefore a person's movement from place to place in this condition is a major challenge for the visually impaired. The target of this task, This project for the blind or visually impaired person will provide a gadget that is helpful to them as well as the persons who depend on any individual due to lack of sight. Third eye for blind task can be an innovation for the sight less individuals, it will help them to move from here and there and among different places with confidence by knowing the nearest obstructions while wearing the band which leaves the ultrasonic waves which inform the person with beep-sound or vibration. It can let the person who is not able to move and distinguish even snags due to lack of vision. They just have to put on the gadget as a band/bracelet or it can be adjusted on the dress on their body. Blind people find it difficult to move in this world as they get distracted by the obstacles, they may even get lost. So in the proposed system the above mentioned cases are taken into consideration and implementation is provided. In order to help the blind people for detecting object the proposed system make use of ultrasonic sensors to track the person. The system makes use of GPS and GSM modules to find the location. The aim objective of this project is to reduce the cost and to provide a better solution for the visually impaired

2. Proposed model:

In this system we are developing the navigation system for the blindpersons. This is very easy to use and work as a navigator to the blind people to easily navigate. In this system the ultrasonic sensor will detect the object and gives sound (object 'beep sound') using object detection technique and gives vibration also. So the blind person will get alert and he will change his movement of direction. Finally with the help of this device the client can know the position of the object and also we can track his location with the help of GPS.

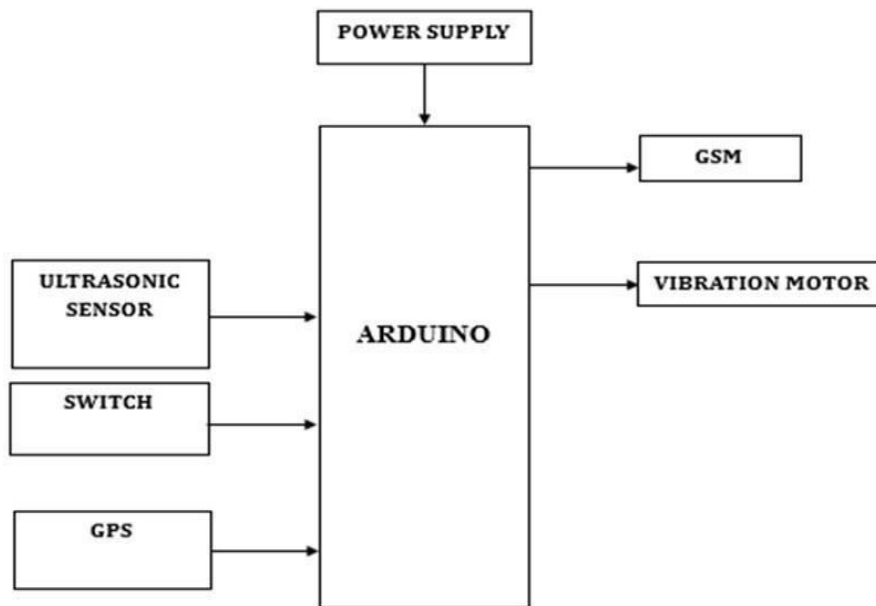


Fig.2. 1: Block Diagram of Proposed System

III. EXPERIMENTAL RESULTS

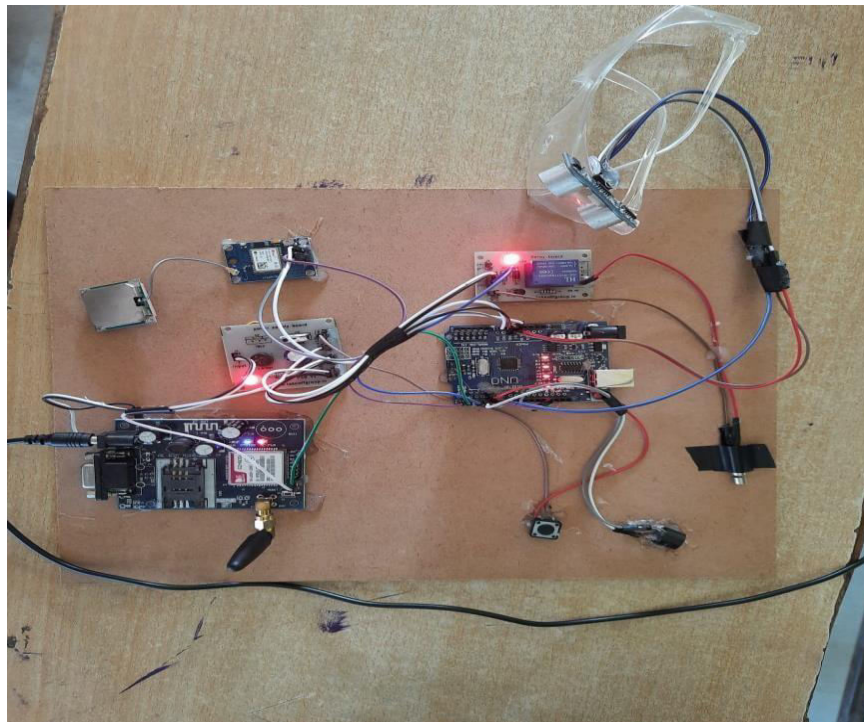


Fig.3.1 : Proposed prototype

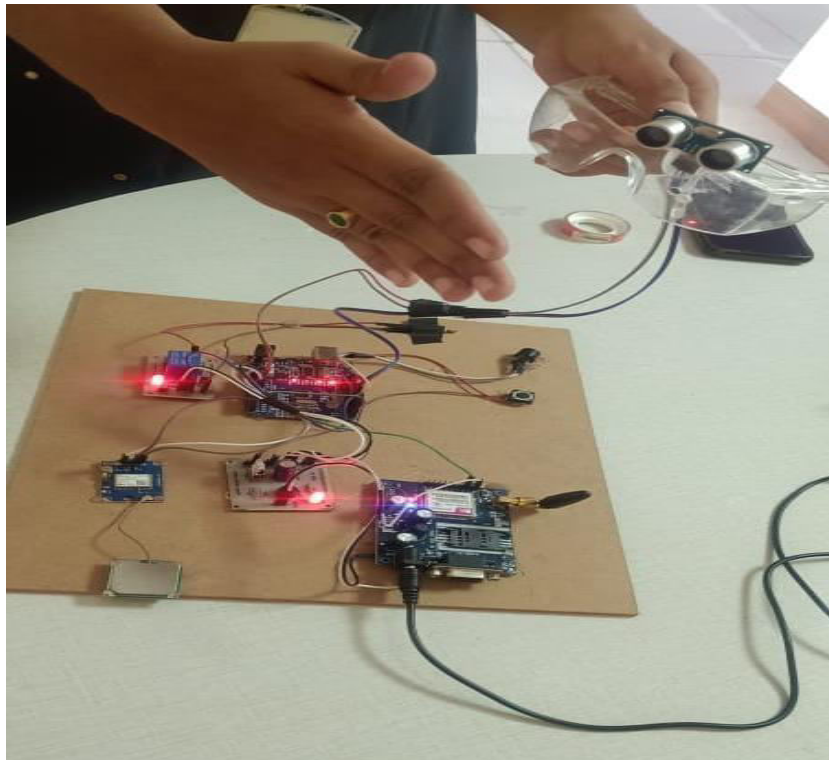


Fig.3: When the object is nearer it will alert the user

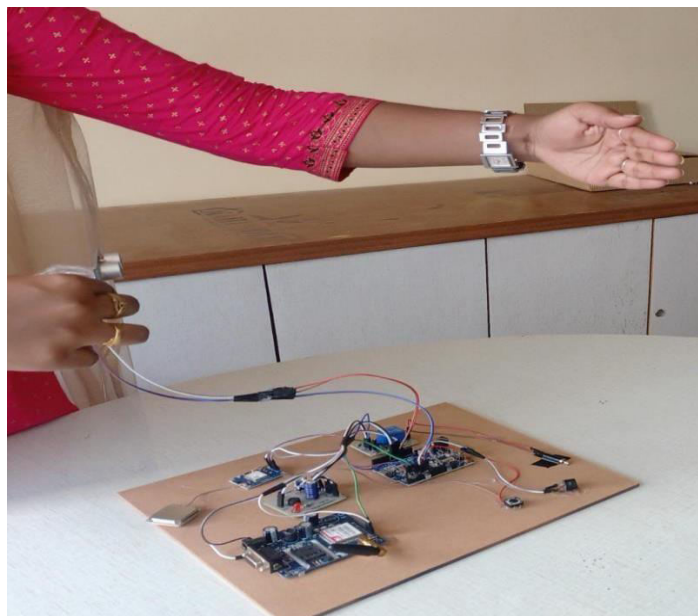


Fig.4: When the object is farther it doesn't alerts the user

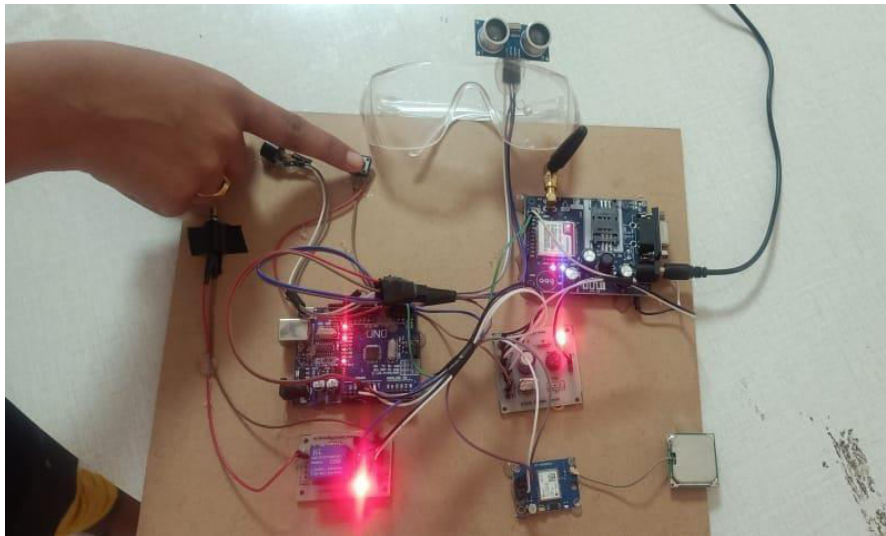


Fig.5: In case of emergency the person can press the button and it will send the alert to the registered persons mobile number

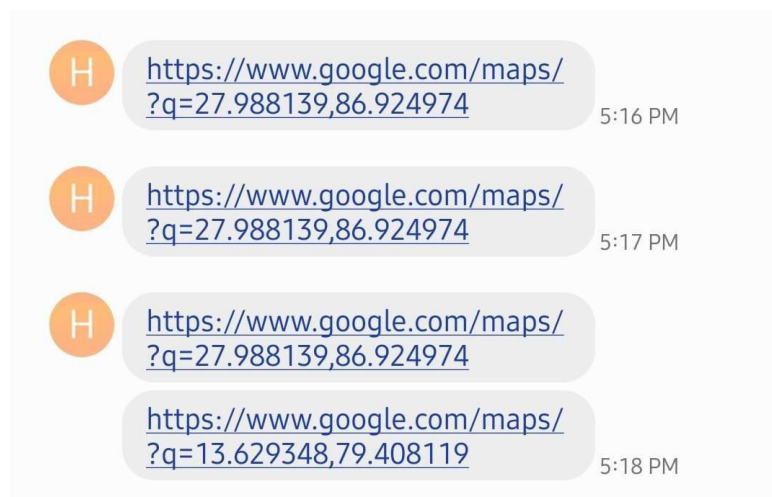


Fig.6: The registered persons can get the alert in the form of links

IV. CONCLUSION AND FUTURE SCOPE

In future with the advancement of quicker response of sensors, like the usage of top notch sensors it can be made highly useful and also the modules that one needs to wear as a bracelet or on any other part of the body can be transformed into a wearable clothing like a coat, so that it can be made fit for working and there can be more advancement in this device for instance we can use piezo electric plates in the shoes of the user which can generate sufficient electricity that the modules can run on.

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