

# Improve the blind persons invisible Eye using IOT

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**Abstract-** Blindness is a state of absent the visual awareness due to physiological or neurological factors. These person are individual damage, but he can survive or fight to life. The blind person are moving to any other, but he does not have a eye for walk. To our aim is designed a stick which can provide or say user to how to move. The sticks can be say obstacle are available or not. In recent years, several approaches have been made to create systems that allow seamless tracking and navigation both in indoor and outdoor environments. We can implement the IOT base concept where multiple sensor are used with control by Ardiuno. A pair of infrared sensors can detect stair-cases and other obstacles presence in the user path, within a range of two meters. Then experimental results achieve good accuracy and the stick is able to detect all of obstacles.

**Index Terms-** Ardiuno uno, Ultrasonic sensor, Gas Sensor, buzzer, vibration motor, Blind stick.

## I. INTRODUCTION

The population is increasing there are increase in numbers of people who are victims of locked in syndrome; and other paralysis diseases. And they depend on others due to dropping of self-motility. One of the most severe difficulties for the visually impaired is safe independent mobility. Having independent mobility is a significant factor in ensuring that this aging group can perform simple daily tasks without depending on others. Someone Indicates that visually impaired people have a low level of mobility. The thrive of eye controlled device which controls the electronics devices loads would help people and ease the life of people in which a person can control every electrical devices such as lights, fans, air condition etc. through the movement of eyes. According some surveys 285 million peoples are visually impaired in the world. Some are not cost efficient. To overcome these difficulties, smart canes with vibration alerts and an extended obstacle detection range have been introduced in

existing system there are Difficulties, many “smart” products for the visually impaired have been introduced in the last four decades, including smart canes and handheld or wearable devices that are equipped with a sensor system.

However, several usability problems mean that users with visual impairments rarely adopt a smart cane. There are some existing systems are available but they are not user friendly and not easy to handle and light weight. Based on that we have proposed system will help to track blind person’s family members. Our proposed solution approach is to design a embedded device (stick) that will help visually impaired individuals with their independent mobility. The device will detect them and alert the user of any potential obstructions in their path. A technological approach would be useful because access to internet and GPS will help increase their independence by helping them get to normally travel to. Fire can be detected by using Gas sensors and any obstacle by using ultrasonic sensor and based on that will alert to person via speech or vibrator.

## II. RELATED WORK

In Existing system many “smart” goods for the visually weakened have been presented in the last four years, containing smart canes and handheld or wearable devices that are armed with a sensor system. A smart cane offers and envelopment over a old-style white cane because it has the capability to identify substances above the cane and up to a range of 2 m away using an ultrasonic sensor. A white cane permits objects to be sensed over touch and echolocation from tapping. Another basic cane design has been armed with laser or ultrasound transmitters and sensors and an informative human interface. To improve the movement of both blind and visually weakened people in a specific area. This versatile model is developed to help the blind person to navigate alone safely and to avoid any difficulties

that may be met, whether fixed or mobile, to prevent any possible accident.

Problem with blind people is how to navigate their way to wherever they want to go. Such people need assistance from others with good eyesight. Design a portable device for visually impaired individuals that will provide direction to new locations and alert the user of obstacles in their path during outdoor navigation.

The motivation of this research is to improve the ability of ambulation for people with a Blind eye. Present an invisible eye for the blind people making life easy for the blind with help of Internet of Things (IoT).

### III. PROPOSED SYSTEM

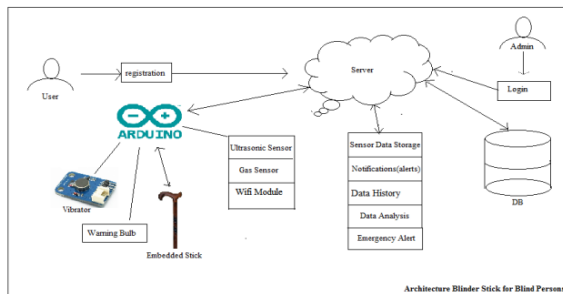


fig1. System Architecture

Too effectively and efficiency discovered the Blinder for the visually impaired persons. In this system, we focused on blind people will now be able to lead life as normal people will be able to move and self-reliable with the help of IOT and sensors. We have presented approach to develop stick which is not much costly. Various sensors used to take benefit for the different purposes. Ultrasonic sensor used to detect the obstacles between the paths. Gas sensor is used to detect fire. Wifi module used to detect and track location of blind people and the RF to detect stick if gets misplaced.

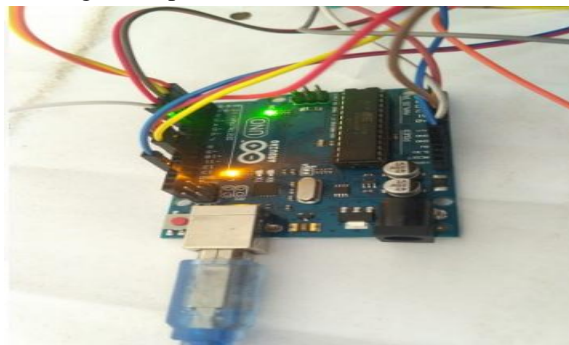


Fig2. Ardiuno uno

These all sensor are used with aurdino controller to take input and send using Internet. Input will be processed and respective alerts to person and if when the blind strolls in a noisy place and cannot hear the alert sound from the system. A vibrator is attached to it which alerts are sent to persons and store into the database for future work.

#### A. System Algorithm:

Input: USL, USR, USD, Sm, LS, VM, S

where,

USL=Ultrasonic sensor Left

USR=Ultrasonic sensor Right

USD=Ultrasonic sensor Down

Sm=Smoke Sensor

LS= LED Strip

VM= Vibrator Motor,

S=Sound

Output: LS, VM, S

1. if(flag)
  2. Get ultrasonic sensor reading
  3. Check ultrasonic sensor reading to threshold reading
    - if (USL<Threshold )
      - go to step 5
    - if(USR < Threshold )
      - go to step 5
    - if(USD > Threshold )
      - go to step 5
  4. if(sm)
    - go to step 5
  5. blow Led Strip
    - Start sound
    - vibrate Motore
- End.

### IV. RESULT AND DISCUSSION

In Blind person stick we have implement in Hardware and software based concept. In IOT base hardware we can implement the different sensor for fetching data. Our system can provide the every 10second result. Every 10 second he can refresh the value and get sensor value.

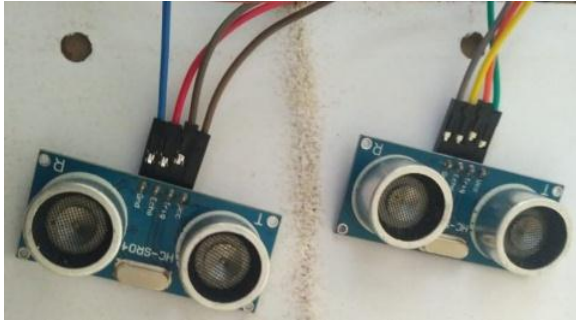


Fig 3. Ultrasonic Sensor

The ultrasonic sensor can calculate the different level distance using the obstacles. It has light rate to calculate distance depends upon duration rate.

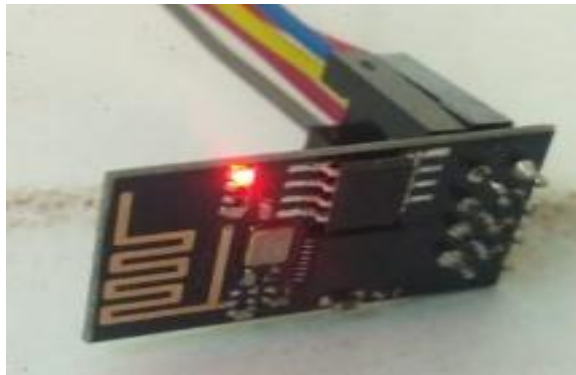


Fig 4. Wifi Module

All the result are stored into computer we can used to wifi module to forward your result. If you have a strong network then we can easily forward the result to cloud.

#### V. CONCLUSION

To increase accuracy and efficiency of proposed work and by using machine learning generate result which will be used to help them. where we have retrieved the results and we are ready to guide them with their path and alert them based on obstacles detected in between walking path. In this paper, we proposed a work that helps to blind peoples and can able to move and reliability by using the IOT technology which is currently in demand

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