International Research Journal of Engineering and Technology (IRJET) e-ISSN: 2395-0056
Volume: 07 Issue: 07 | July 2020 www.irjet.net p-ISSN: 2395-0072

HAND STICK FOR VISUALLY IMPARIED PEOPLE

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Abstract – *The Smart Stick comes as a useful tool to make life easy and enable unseeing people to use in perfect manner .In this paper, we have proposed an answer, developing in good manner and kept on with Infrared Sensor to detect the staircases & Ultrasonic Sensors to detect each and every obstacle in front within 4 meters to detect the obstacles. A sensor is placed under the stick to detect and avoid puddles. The Warning Message is alarmed and gives a vibration feel for the user within 4 meter to detect each and every object. The Embedded System works with the microcontroller 18F46K80, ISD 1932, Shaking Machine & Non –Volatile Storage to detect the nearby objects and physical contact we use the Proximity Sensor. This stick enables all the things in a wide range of 4 meters during 39ms and it makes a respect message empowering twice the speed when he/she feels.*

Key Words: Infrared Sensor, Ultrasonic Sensor, Electronic Travel Aids [ETAS], Visually Impaired, Blind Navigation, Proximity Sensor, GPS+GSM Based arduino.

1. INTRODUCTION

Usually people find more difficulties when they can't detect and identify small things in detail with normal eyes. People may have an accurate level of field of vision with eyes open; these people are considered as an unseen person. Such unseen persons are in need of some devices for the visually impaired disorder. People usually have less eye sight due to immunity power & they have more difficulties to move around which are designed to solve this problem. To capture and record the objects which are present in the road. The Sensors are used in the device. The passive sensors are used in which the sensors are used to accept a sign. It determines the way in which it is transmitted, emitted & reflected by electromagnetic radiation.

1.1 Literature survey

1. A Survey of a Electronic stick for visually impaired people.

Author: sung jea kana, young ho.

Description: from this paper we got a reference and an implementation idea of the upcoming technology like GPS(Graphics Positioning System) and GSM(Graphics System Messaging).Which will provide an help for tacking the location & used for making module of smart stick for visually impaired people & it gives a unique idea about GSM &GPS from an android mobile to that blind people 's.[1].

2. It has almost more values for overcome the implement and to renovate the active cane for visually impaired person. It is easy to use because it's intimate and cheap; blind to sense free to nature and isn't adjoining by power line as in griddle and pacify. It is used to detect the objects that appear on the ground (which may not be obtainable in glasses).[2].

3. When the unseen walks in the indoor & outdoor for instance such as staircases, plash and the path for walking. the Embedded System : two pairs of ultrasonic distance sensors to detect nearby for unseen form head to ground level with a perfect range of 400cm, Infrared Sensor is used to detect the up and down staircases.[3].

4. The process of the reference for the fitting sensor which is depends upon several conditions such as price, climate condition, the kind of object to be observed, selection range and the accuracy of computation the information and the transmitted frequency We have merged two types of sensors: Infrared Sensor & Ultrasonic Direction Sensor.[4].

5. We have sketched out a stick to detect the objects and speak high for up and down staircases and puddles.

The instructing of the stick is high budget as while coaching of added outcome. The coaching is very much representation of the pole.[5].

6. We included added some different techniques that enables for collecting some knowledge for unsighted and the shake machine in the palm and indicate an alarm message for user friendly. With the help of earphone the sound is used given an alarm or warning detection instead of public uneasiness. Regarding, case of use we use a different variety to locate the cane in the structure where it is far off distant (of cane).[6].

2. PROPOSEDSYSTEMCONSTRUCTION

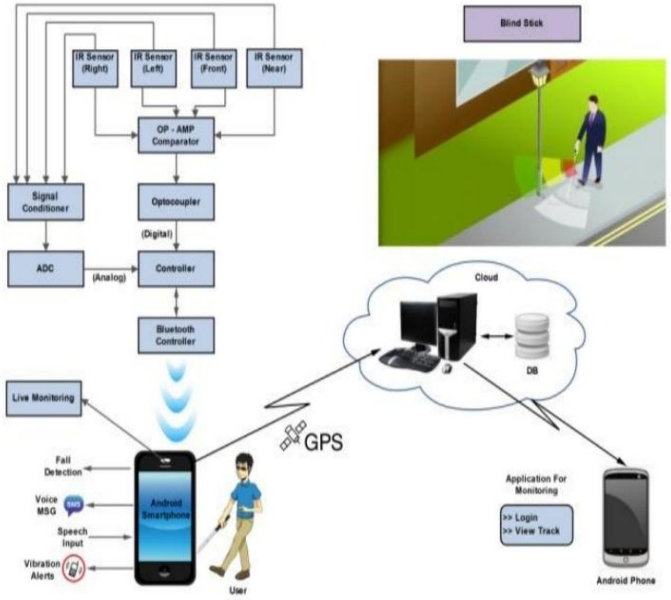

Chart -1: Block Diagram of Blind Stick

A. SERVER

The active sensors are used in which the sensor gets a signal. It detects the consideration signal. It detects the reflected objects and these kind of active sensors are used: Infrared, Ultrasonic Distance, Proximity Sensors are included. For the clear and better vision, clean vane and the guide cane its better to use Ultrasonic Sensors by recognize the perfect distance of the object by the waves and convert into signal and the detect as an alarm signal.

B. ACTIVATION

The light used to sense the information for a period of long and short distance with straight and current exact position of the object we have inserted Laser Sensor. It gives an alarm signal, or an vibration feel for the user in which it detects an object in front. It may uses voice, sound and uses only sole camera and video to record and capture images. The image which is captured which is size up and it is further processed and change into speech, alarm signal audio & vibration feel for user.

C.SMART USE

The amount of sound alarm and vibration is match up with intention of pixels. Some system makes uses of GPS with the arrangement of the structure. The GPS Receiver is noted for the useful for locating the present location and the area land marks. The sensors are used to collect information by transmitted , emitted and receiving through vibration feel or alarm detection to the user.

CALLING THE STICK

Ourselved have included the FM iteration the wireless modulation for detecting many visually imapired person and to identify and o locate the machine if the machine is far away from the use. indiactes the RF transmitter on the way it will generate radio frequency wave in the carrier signal. It include the collected part alone by regulating the carrier signal. Then, the complex signal at equal frequency by changing and converting the electric & magnetic field by its personal receiver. After, the receiver sends the collected information of signal from the carrier port and louden the usual stage for sound.

3. CONCLUSION

The Smart Stick is more effective and more affordable for all visually challenged persons. It detects obstacles lying before the user at a range of 4m and it also detects staircases and water pits. The special features are: it is reliable, low cost, wireless connection, low power consumption and robust solution for navigation within short reaction time. The most important feature of this stick is that it is light weighted though the system has many sensors and other components. Certain aspects of the technique are often improved through wireless connectivity which increases the ultrasonic direction sensor.

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