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ULTRASONIC BLIND GUIDANCE SYSTEM

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Abstract —*Sense of vision to the human being is very important aspect of our life. But there are some unfortunate people who not able of visualizing things. The visually impaired and blind have face many challenges in their daily life. The problem worse ever when there is an obstacle in near of them. Blind stick is an innovative stick designed especially for visually disabled people for navigation. provide a smart ultrasonic aid for blind people. The system is intended to provide accurate measures Artificial vision and object detection. The aim of the system is to provide a low cost and sufficient navigation path for a blind person who get a sense of artificial vision by providing information about the whole scenario of static and dynamic objects around them. Ultrasonic sensors are used to calculate distance of the obstacles near the blind person to guide the user towards the available path. Output is in the form of sequence of audio sound which the blind person can hear.*

***Keywords*-.Ultrasonic Sensor, Artificial vision, Innovative stick, Guidance**

I. INTRODUCTION

Ultrasonic based distance measurement technique in air include continuous wave and pulse echo technique. In the echo method, a burst of pulse is transmitted through the transmission medium and is reflected back to an object kept at specified distance. The time taken for propagate the pulses from transmitter to receiver is proportional to thedistance of obstacle. For less measurement of distance, the device has on the target to reflect the pulse back to itselfthe pulse echo method of range measurement is subject to high levels of signal attenuation when used in an air medium, thus limiting its distance range. Ultrasonic sensor is interface with microcontroller (89s52) and show distance on LCD of all direction one by one. This system visually impaired provide path, for this ultrasonic blind guidance for batter understand.

II. BLOCK DIAGRAM.

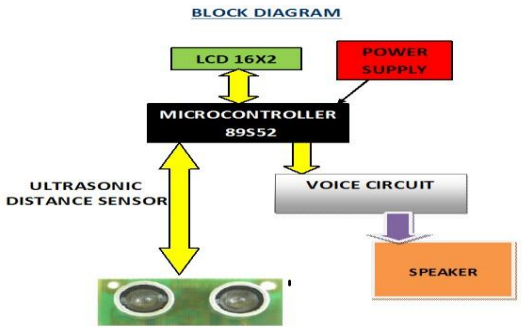

Fig 1: Block diagram

Description:

The system will be working on majority two blocks the one is training and the other is called testing.

The Distance measuring sensors are connected to the input a terminal of the micro-controller, the buzzer and voice circuit is connected to the output terminals. Sensor 1 joined with micro controller. The block diagram consists of the arrangement of the components in a schematic way the block diagram is as shown in fig.When power is applied to the circuit for the first time, all the sensors and are switched off. All sensors are configured as inputs, voice circuit and speaker is configured as outputs. The upward and forward direction, since the distance sensor is mounted on the stick its orientation also changes.

1). Avoid budget overrun and delays: as a result of an effective monitoring of all the important aspects of the project.
2). Objective evaluation of providers: efficiency parameters to define improved actual agreements.
3). Increase the capability of existing systems without current investments and infrastructure.
Save man power by combining the various functions into a single interface, the customer can save time and money More manageable: Reduced costs: lower costs due to reduced support and maintenance, lower requirements on the end user system and simplified architecture

III. FLOW CHART

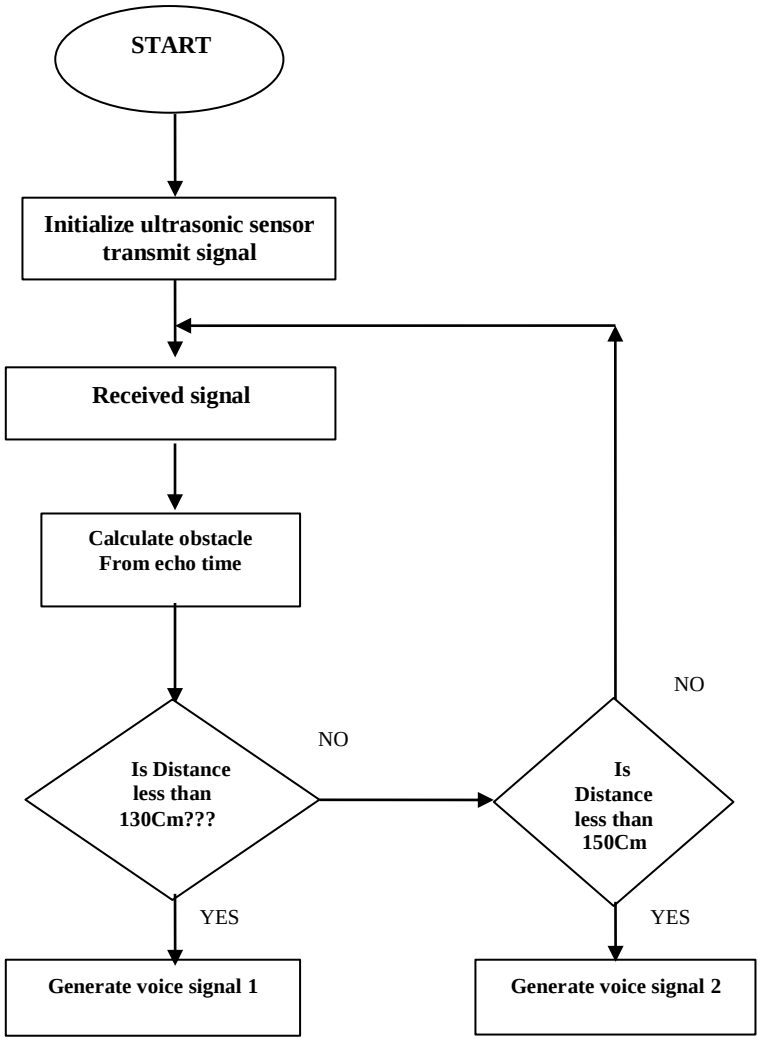

Fig 2: Flow chart of algorithm

Description:
Result Analysis; Result part presents two important cases here. Those are: When any obstacle is detected When more than one obstacle is detected. When Any Obstacle Is Detected When a sensor in the data terminal detects any obstacle, the

buzzer automatically turns on. Hearing the loud sound of the buzzer the visually impaired person will be able to decide at which side there is an obstacle. When More Than One Obstacle Is Detected When more than one sensor of the data terminal detects obstacle, the buzzer automatically turns on and make different kind of noises. Hearing the difference of the sound of the buzzer the visually impaired person will be able to decide at which sides there are obstacles

IV. SIMULATION RESULTS

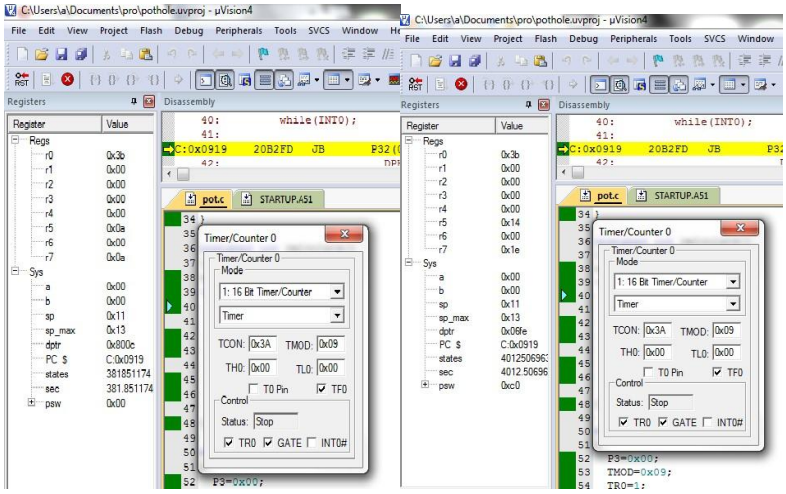

Fig. 3: Graphical user Interface

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