ABSTRACT

Sense of sight is one of the vital organs for humans. Most of the information we get comes from the senses of sight and the rest are from the other senses. Thus, it is understandable if a person experiences impaired in vision, the ability to capture the information will be very limited, because information obtained will be much reduced compared with those sighted. With such a background, the authors attempted to design tools that can make it easier for people with visual impairment to make it easier to navigate when doing activities. Tools are designed to be visually impaired walkers using ultrasonic sensors based microcontroller.

In the design of blind walkers based microcontroller, there are four steps done. The first stage is to determine the specifications of the required tools and components. The second stage of the physical design tool. The third stage in the software design, the final project in question is a free software on the microcontroller or often called the language used, the language C. The last stage is the direct experiments made with visual impairment.

Once the tool is designed and then managed, experiments carried out to the user that the penandang blind. As for some of the tests performed is testing the reach distance sensor, ultrasonic sensor signal at the input and output signals in the ultrasonic sensor. After the experiments it can detect other things from 0 until 4 meter, but in this case ultrasonic sensor just has been setting from 0 until 80 centimeters. So be deduced tool among others; aids the visually impaired can be successfully created and has been working in accordance with the expected results, equipment has been successfully tested to the user, and the user can find it, and the user can detect nearby objects using tools has been made.

Keyword: Sense of sight, Blind Aid Roads, Microcontroller, Ultrasonic Sensor.