ABSTRACT

The development of microcontrollers and sensors is currently happening very rapidly. Sensors and microcontrollers are becoming increasingly used in various aspects of human life along with technological developments. One aspect developed was the development of devices to help people with disabilities such as the visually impaired, deaf and deaf. With sensors that are more accurate and microcontrollers that have a variety of features and can be programmed as needed, people with special needs can be helped through everyday life more easily. Therefore, in this research made hardware in the form of glasses that can notify the user that there is an object, hole, or slope in front of the user and tell the distance between the object and the user. An embedded system-based wearable tool for the blind uses Arduino UNO as a microcontroller, ultrasonic sensor, DFPlayer, and a speaker. This tool serves to detect objects that are in front of the user. If there are objects or obstacles in front of the user, the device warns the user that there are obstacles in front of the user. If the object or obstacle is less than one meter from the user, the device warns the user to turn left, turn right, or turn around. If there is a hole or slope in front of the user, the device will give a warning to the user.

Keywords: *Blind, Wearable devices, Embedded system*