

ABSTRACT

The eye is a very important part of the body because the information that can be seen by the eyes is very much, therefore people with visual impairments who have limited vision, in order to obtain information must know the braille letter code that can help in obtaining information. As well as learning media which are still limited in the process of learning braille letters for blind people who require special paper media printed with braille codes.

In this final project, namely the design of microcontroller-based braille learning aids and Android applications, which will become learning aids for the visually impaired and as additional learning media. by using arduino mega 2560 as a microcontroller and solenoid to present the braille letters and can make sound through the speaker and android as word input.

The test results from the design of a microcontroller-based braille learning aid tool and this android application, obtained a test on the Android application to enter the word successfully into the microsd card adapter module, then it will be read using the push button "Speaker" which can run Solenoid and Speaker as well as Push button "Start" can start Solenoid. Then the solenoid will present each input letter, the battery indicator turns on 2 lines indicating low battery, so that the use of the tool can reach 2 hours with an error percentage of 14.4%, for the number of characters that can be sent to the application, a maximum of 69 characters and a maximum bluetooth connection distance of 14m.

Keywords: *Arduino Mega 2560, Solenoid, Android, Speaker, Braille.*