ABSTRACT

Visual impairments make it difficult for the visually impaired to make transactions. The limitations of the visually impaired can lead to fraud against the visually impaired. The act of fraud that occurs against the visually impaired is not in accordance with the nominal money given or obtained by the visually impaired as appropriate. The visually impaired distinguish banknotes by folding banknotes and then memorizing or remembering based on the placement of the money.

Research on the detection of nominal banknotes has been widely carried out, but in its use, it is still a simulation and has not become a tool that can be carried out. In this Final Project, it is hoped that this tool can create a nominal classification system of banknotes based on the color of each nominal banknote using the TCS3200 color sensor and microcontroller and output in the form of a nominal pronunciation of banknotes according to the nominal detected by the TCS3200 color sensor through the loudloudspeaker.

The results of the design of the banknote nominal detection device using the TCS3200 sensor and the output in the form of sound from the dfplayer through the microcontroller have an accuracy rate of 89.5% in 7 classes. Nominal detection of banknotes using the TCS3200 sensor as a classifier for the color of banknotes. Microcontrollers are used as nominal classifiers of money based on the color of banknotes and sounds as output.

Keywords: *Microcontroller, Voice, Visually Impaired, TCS3200, Banknotes*