

ABSTRACT

The condition of visual impairment experienced by blind people often makes it difficult for them to distinguish each nominal. This is because the types of paper money have many variations and are widely used for transaction activities compared to coins in the rupiah currency. In this study, a tool was designed that can detect the nominal value of rupiah banknotes for the 2016 and 2022 issuances in real time using the TCS3200 color sensor. The research was conducted using the RGB range breakdown method by detailing each nominal using the -2 range to get the minimum value and the +2 range to get the maximum value, the If-Then Rules method from the results of the decision tree calculation, and the decision tree method obtained from the if simplification -then rules. Based on the use of these three methods, the results with the highest average percentage accuracy were obtained from data collection using the RGB breakdown range method of 57.1% for 2016 issue banknotes and 58.57% for 2022 issue banknotes. given from the design of this tool in the form of a sound from a speaker that mentions the nominal value of the detected banknotes. With this research, it is hoped that the tools created can be used and useful for blind people to assist them in conducting transactions using rupiah banknotes.

Keywords: *Blind people, rupiah banknotes, TCS3200 sensor, breakdown range RGB.*