

ABSTRACT

On 2010 there are approximately 285 million people suffers impaired vision. Approximately 51% of it was caused by aging process and 43% caused by refraction abnormality. Since 1967 Indonesia have made several efforts to prevent blindness when blindness be avowed as national disaster. Banknotes are payment tool used on economical transaction on every country. Given so, banknotes become every person's basic need, including those who suffer impaired vision. Their feebleness in seeing things is a problem in a way that they rely solely on their sense of touch to determine banknote's nominal. That opens a possibility for them to make a mistake in determining banknote's nominal or even misguided on a transaction.

This research devise a tool to help those with impaired vision determining banknote's nominal. This device detect banknote's nominal through color difference in every paper money. Sensor used is color sensor devised from LEDs and photodiodes, which output will be modified by microcontroller into information which will be given in form of voices. Artificial Neuro Network was used for banknote's color pattern detection.

Result from this research is a device to help the blinds detect banknote's nominal, which supported by successful rate of 90%.

Keywords: *Blind, tools, paper money, color sensors, Neural Networks*