Money Detector Glasses for Helping Blind People in Recognizing Nominal Value of Money

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The rapid advancement of trading makes many fraud cases are encountered such as counterfeiting of paper money. Persons with visual impairment also undertake trading activities, either as a hawker or a buyer. It is common that blind people try to know the nominal value of money simply by touching it. Based on the above facts, we create a device that can help the blind in recognizing the nominal value of money. Color sensor TCS 3200 DB is used where light reflection from LED contained inside is received by photodiode and processed by a microcontroller. Two platfroms of microcontroller are used: Arduino Nano and Intel Galileo in order to obtain and compare the performance of each microcontroller. The output signal is expressed in form of sound generated by a buzzer. The device is utilized by placing a paper money in front of the sensor at optimal distance of about 2.5 cm. The applicability of the device was tested in a set of experiments comprising thirty trials for each paper money each has different nominal value. The results of the experiments show that this device work accurately for about 90% of trials. The accuracy the sensor is also affected by the physical condition of the money and the ambient light intensity. Keywords: visual impairment, nominal value of money, color sensor, microcontroller, accuracy

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