

ABSTRACT

Color blindness or color blindness is the inability of a person to distinguish several colors that can be distinguished by others. They will be difficult to distinguish certain colors (partial color blindness) or even whole color (total color blindness). Therefore, this Final Project aims to present a solution where people with color blindness can find out colors for sure by using a color recognition application that can be easily accessed for all smartphone users.

In this research, a system that can distinguish six solid colors, namely red, green, blue, orange, yellow, and purple, uses the thresholding method. The way the system works is to digitize color objects and then color classification based on the range of HSV color values that have been entered into the system. After that, a thresholding process is carried out so that color objects can be recognized. The algorithm is applied to the Android system and uses the HSV color model.

The output of this application is the name of the color of the object that was identified. The color recognition results are in text form and are displayed on the screen of an Android smartphone. From this study the best color recognition results are obtained at night in the room with 34 lumens of light intensity. The performance obtained was 93.1% using HVS paper and 83.57% using glossy paper.

Keywords: *color blindness, color recognition, HSV, android, thresholding.*