ABSTRACT

Often in reading the resistance value of the surface mount device resistor has problems in reading it because the resistor has a code to be able to determine the value of the component where the resistance value is described using text codes in the form of numbers and letters. Each number and letter on the resistor has a different value and a very small component size, some people find it difficult, especially for people with low vision to read the resistance value of the component.

To overcome this problem, an application will be made to streamline the time and make it easier to read the resistance value of the surface mount device resistor which is written in code and its size is very small. This application uses a smartphone camera to take pictures then the ML Kit Text Recognition will detect the code in the image. Then the resistance value is displayed on the application screen on the Android smartphone.

The image processing system that was designed in this Final Project can read resistance values based on codes for 3 digit SMD resistors of sizes 2512, 1206 and 0805 then 4 digit SMD resistors of sizes 2512 and 0805. The level of accuracy obtained in detecting the code and reading the resistance values of SMD 3 resistors The digit is above 80%. While the level of accuracy obtained in detecting the code and reading the value of the 4 digit SMD resistor resistance is above 80%. The system can work optimally with light intensity of more than 40 lux and the distance between the object and the camera is 7 cm to 15 cm with the angle of the camera to the object of 0 °.

***Keywords**: surface mount device, Android, ML Kit Text Recognition, Resistor.*