ABSTRACT

Traditionally, harvesting tomatoes can be done by farmers by picking the fruit depending on the shape, size, and color of the tomato. With the development of technology, determining the maturity of the tomato fruit is not only done conventionally (manual), but can also be done by computing (technology-based). The way of computation can be done by using a camera as an image processor of the recorded image (image processing). Tomato fruit is identified based on the RGB color input. The image obtained from the capture after getting the RGB value will be converted to the HSV value for quality detection. After this process, the tomatoes will be labeled according to the level of maturity. In this process, it not only detects the color of the tomatoes but can count the number of tomatoes detected according to the color. The distance that can detect tomato color is from 10 cm to 40 cm, while more than 50 cm, the tomato color cannot be detected. For light that can detect the color of tomatoes in the room that is 3 lux (dark) to 89 lux (light), while the light outside the room is 2 lux (dark) to 1155 (light), the color of tomatoes can be detected.

Keywords: tomatofruit, image processing, computing, RGB, HSV, light, lux