

ABSTRACT

Along with the times, the development of robotics technology in the industrial sector are also expected to grow. In the field of industrial, robotics technology used to facilitate the work. One of them in terms of delivery of goods. In this thesis the author will design a robot control system that can be applied to the delivery of goods. System designed will perform color recognition to the mobile robot using image processing. The introduction of color image processing method used is thresholding.

This system will make the introduction of the color of the robot car that has been determined and will give instructions to the robot car to run alternately. Image processing will be done using Visual Studio software that is integrated with OpenCV. For communication between a laptop with robot cars will use the Xbee and will also be used arduino uno with fuzzy logic control for running the car robot.

The result from this research is a prototype tool of goods delivery by using a sensor line follower as motion control and use the camera with the image processing as the alignment of the two robots that will move alternately by the color detected by the color detection system on the camera. Robot will run with the maximum pwm = 255 when the robot is in the middle of the track and the motion control system can control so that the robot is not out of line.

Keyword : image processing, thresholding, Xbee, fuzzy logic, OpenCV, colour detection