

ABSTRACT

Along with the development of emerging technology, robot technology is a tool that can be used to help humans, with several advantages, one of which is the robot can be used in places that do not allow to reach manusia.contohnya is in the water, because not everyone can swim. Therefore, it is necessary to limit the distance between man and object or place that worked. At the end of the project was made autonomous roboata that can move from one place to another independently.

So when making the most important autonomous robot is a robot navigation system. At the end of the project, the writer made a navigation system based on image processing. To use the webcam video capture process, for image processing using matlab R2009a, after that use arduino uno as its medium between matlab with the motor driver. Robot can recognize objects red / orange depending on light quality.

Based on the design of the navigation system of the robot is generated based on image processing. Which can work very well in the afternoon with a maximum distance of 3 meters. And a captured image obtained is better to use a webcam instead of using the camera CMU 4.

Keywords: *autonomous robots, Arduino, matlab R2009a, motor driver, webcam*