

ABSTRACT

Robot with automatic control is a robot that can move by itself without human intervention. Basically capability that embedded in the automatic robot based on the ability of living creatures, especially human beings possess. One example of human capabilities are often embedded in automated robot is the human ability to recognize the place around and can memorize the location. With the ability to recognize the environment, a robot with automatic controls can move from one point to another by having the basic state of the surrounding environment.

To be able to recognize the surrounding environment, the robot should have a component that serves as the sensory organs in humans. At least the selected sensor to be able to do the mapping is a sensor that can read the state of the environment. In this study were selected sensor with the type of distance measuring sensors and sensors that can read directions. The sensor can measure the distance can be used to create a virtual axis so that we can model the robot currently on the Cartesian coordinates. Distance measuring sensor is placed in front of the robot with a robot facing forward to create a virtual y axis and the other ultrasonic sensors placed on the side facing the robot to create a virtual x-axis. A single digital compass sensor is used so that the robot can detect changes in orientation of the robot so that the virtual axis can be changed according to the orientation of the robot.

In this final with two ultrasonic distance measuring sensor and a digital compass sensor, mapping can be done by modeling the robot currently on the Cartesian coordinates. Both ultrasonic sensors can do its job to form a virtual axis pretty well. The value of the sensor measurements are sent to a laptop will be processed by a Windows application that has been made thus illustrate the points that will shape the environment are detected by the robot. The level of similarity original plan of the surrounding environment with the mapping is done the robot reaches 75%.

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