

ABSTRACT

Robot Vacuum Cleaner Automatic is an electronic equipment that functions as a floor cleaner from dust that can work independently and can return to the initial/storage position. In order for the robot to work properly, it is necessary to map a room that can be arranged as needed. Therefore, Maze and PID methods are applied. The Maze method is a method that studies the movement of the robot, where the path of travel to be traversed by the robot vacuum cleaner is determined by columns and rows that can be determined according to needs. While PID is a method of controlling the stability of the robot road. The workings of this robot vacuum cleaner begins with mapping the area to be cleaned, then the robot will move following the programmed mapping and return to the initial position after cleaning using the fastest way. The input is the received input parameter consisting of 3 ultrasonic sensors that function as distance sensors, the input from the 3 distance sensors will be processed by the process section that uses a microcontroller. The microcontroller receives input data from the proximity sensor. Data that comes from the distance sensor is the distance between the sensor and the obstacle, where the distance value is used in mapping and also as input data for the movement of the automatic vacuum cleaner robot. This automatic vacuum cleaner robot moves using a DC motor equipped with a rotary encoder as input in measuring distance of the robot. All data received from the input and has been processed by the microcontroller, can be displayed via a LCD.

Keywords : *The Automatic Robot Vacuum Cleaner, Method Maze, PID method, columns*