

Perancangan dan Implementasi Robot Pembersih Menggunakan Algoritma Dijkstra pada Ruangan Tertutup

Adelia Novianti Fauzi¹, Vera Suryani², Bayu Erfianto³

^{1,2,3}Fakultas Informatika, Universitas Telkom, Bandung

¹ adeliafauzi@student.telkomuniversity.ac.id, ²verasuryani@telkomuniversity.ac.id,

³erfianto@telkomuniversity.ac.id.

Abstract

In modern and busy times like today, sometimes cleaning the house is no longer the main thing until it becomes a burden. House cleaning activities such as sweeping are also classified as energy-consuming and inefficient activities compared to using cleaning robot technology. By utilizing cleaning robot technology which is an electronic device that functions as a dust and dirt cleaner on the floor that can work independently automatically so that it can assist human work in carrying out house cleaning activities. The cleaning robot can work independently and dynamically which is capable of avoiding obstacles with the speed of the algorithm and the distance of the path formed. For the cleaning robot to work optimally, the Maze method and Dijkstra's algorithm are applied. The maze method is a method that studies the movement of the robot to determine the speed and direction that can be determined as needed. Meanwhile, Dijkstra's algorithm is an algorithm that is widely used to solve the shortest path problem for storing the initial position on the robot. Based on the experimental results, the cleaning robot successfully passed the steps with a total of 16 tiles measuring 40cm and a 4x4 room.

Keywords: Cleaning Robot, Maze Method, Dijkstra's Algorithm