ABSTRACT

The control system is a major challenge for the development of mobile robots. Problems can be based on positioning and paths. Various kinds of control systems are made to simplify control and inform the place / point to be traversed. A control system has the goal of making it easier for users to control something dynamically and simply.

The control system to be implemented is a control system that can provide the coordinates of the destination point through the Android smartphone program, then processes the input data for the coordinates to run the robot to its destination by calculating the length of time the wheel turns, forward and backward. As for the language used on Android smartphones, it is based on the Java language, while the robot uses the Rover robot / mobile robot.

In this study the results obtained, the mobile robot can move position to the coordinate of the destination on the flat plane automatically according to the formula in the android-based control system with the distance measurement values should be 0cm, 100cm and 200cm while the average calculated distance value is 0cm, 99.13cm. and 197.88cm, so that the percentage difference between the calculated mean distance and the distance should be 0%, 0.88% and 1.06%. Then the data transmission medium used is bluetooth which has a limited maximum coverage area of 10 meters. While the responses obtained for the use of the control application user interface have a value above 3 points so that it is sufficient to improve the user experience in ease and efficiency when controlling the robot.

Keywords: Control System, A Algorithm, Robot Rover.*