ABSTRACT

The robotics world is now fast developing and becoming an attraction. Because the role of robots that can replace some human work. Almost all fields of production have used robots to improve work efficiency and product quality. Automated Guided Vehicle (AGV) is one of several robot models used in the industrial world to move goods from one place to another easily. AGV has expertise according to the specifications made, one of which uses vision sensors for automatic navigation systems that are needed so that users are not difficult to operate.

In this final project, designed a fuzzy logic based navigation system on an Automated Guided Vehicle (AGV). The data used are the trajectory shift values obtained from the vision sensor, negative values for left-turning motion, positive values for right-turning movements and zero values for straight motion. As a result targeted of this research, fuzzy logic control is designed to be able to regulate AGV motion and move automatically.

Up to 18 fuzzy rules have been used is sufficient for AGV to move stably. The system is designed to detect color paths that have a deviation of 2.4 cm by analyzing the accuracy and precision of the test results. The results of the tests carried out have an insignificant error value. In the trajectory friction test, the resulting value does not exceed the predetermined value limit. Friction with a positive value for right turning, negative value for turning left and zero value for straight turning. The resulting error value is an influence on several factors, including hardware, friction value data that changes rapidly, etc.

Keywords *: Automated Guided Vehicle, AGV, Fuzzy Logic, Vision Sensor*