ABSTRACT

Car toy is a toy car that can ride and steered children under 5 years old. At first the car toys were created to imitate the concept tricycle, one wheel in front and two wheels in the rear. Sales and updates on the car slowly started mushrooming toys in the shops of toys, ranging from improvements in the detail of the car body toys, the addition of one front wheel to be equipped with DC motors.

In this final project, the author adds fuzzy logic control method on a toy car controlled by using android. Line tracking sensors mounted on the dc motor is used to monitor the data of rotational speed. Fuzzy logic control is used to minimize errors and shorten the response time required DC motor so that the rotating speed constant current child car ride and ntrolled children, weight varies according to the speed like setpoint, especially when the road is straight.

At this stage of trying without load using 0.5 second sampling results obtained, error ± 11.7%, settling time ± 24 seconds. The results of the testing of child car when weighted using sampling 0.5 seconds, error ± 11.74%, settling time ± 18 seconds. At this stage of pengujiaan without load using 1.5 second sampling results obtained, error ± 7.88%, ± 21 seconds settling time. Results pengujiaan child car is loaded using 1.5 second sampling, the error is ± 3.68%, ± 22.5 seconds settling time. On the results of this test can be concluded fuzzy logic control designed in a child's car is able to fix the rotational speed so close to or equal to the setpoint.

Keywords: Fuzzy logic control, line tracking, Android, DC Motor