ABSTRACT

Cleanliness of a region heavily dependent on local janitor. The task of a local janitor cleans every corner of the city and even the highway, by pulling wheelie bins and sweep along the highway. Doing two things at a time is not very effective, and takes much longer. The final project is created with the aim to help the janitor ie with automatic garbage carts human followers.

The design of the wheelie bin has two parts, namely belt-positioning the user as a human being and a cart that will follow a human. This device uses the Arduino Mega 2560 microcontroller as the main control. Input derived from transmitter infrared sensors located on the belt and the infrared receiver is located on the cart. The output of this device in the form of the movement of the motor that will move towards a position sensor infrared transmitter.

From the test results it is known that the device can only reach a maximum of 70 cm transmitter position. This is because the absence of the amplifier on the sensor infrared transmitter and receiver. The level of accuracy of the performance of the device to move forward is 93%, retreated 80%, 86% right, and left 90% with the trial 30 times every move. Tools can be turned at an angle of 15^{o}, 30^{o} and 45^{o}. However, at an angle of 60^{o} and 90^{o} device can't follow the movement of people. From the results of the questionnaire that was distributed, this tool is quite helpful janitor.

Keywords: infrared sensor, microcontroller, servo motors.