ABSTRACT

Garbage has become a serious problem in Indonesia, especially in urban areas. Prefer people to throw garbage in various public places such as on roads, rivers or empty yard. Considering being one of the causes of flooding, in addition to disrupting environmental hygiene and health.

Seeing the garbage problem, in this final project a robot arm 5 DOF (Degree of Freedom) was designed which has an easily controlled system in the form of a robot arm system that is entirely controlled through an application interface built using MIT App Inventor on a PC (Personal Computer) . With Wemos D1 R1 as the main controller.

In the testing phase is carried out using a smartphone as a robot arm controller. This robot arm has 5 degrees of freedom or degree of freedom with a maximum angle of 180 degrees. From the trials carried out, the prototype of the robot arm moves according to the command through the controller application. Robot arms can be controlled with a distance of approximately 40 meters and a maximum load that can be lifted approximately 10 grams.

Keywords: *DOF 5 arm robot, Wemos D1 R1, MIT App Inventor*