ABSTRACT

Waste is still a trending problem topic in almost all developing countries. Especially in Indonesia, the quality of waste after consumption is generally still low. There are still many types of waste that are mixed between one type and another. The mixed waste must undergo a sorting process so that the waste can be separated between types which can then be processed to the next stage as a form of utilization or something else such as recycling.

In this study the author will focus on making a device that can perform waste sorting automatically, for sorting organic and non-organic waste types which aim to assist the waste sorting process which is expected to facilitate the recycling process. This type of research was carried out using qualitative methods to see the results of sensor readings on the type of waste detected by a device designed by the author.

The results of testing the device that has been designed by the author, the device can sort waste automatically with the help of ultrasonic sensors and proximity sensors. The proximity sensor used is inductive and capacitive proximity sensor. Inductive proximity sensors are used to detect ferrous type waste, capacitive proximity sensors are used to detect non-ferrous type waste. The device that has been made has limitations, that is the incoming waste must be dry so it does not interfere with sensor readings, and also the dimensions of the waste must be of a certain size to fit inside the garbage can.

Keywords: Waste detecting device, Proximity sensors, Sorting waste, Garbage can.