

## **CHAPTER 6**

### **CONCLUSION**

In this section, we will discuss the final conclusions of this study, based on the results of the analysis and testing, conclusions can be drawn:

1. Prototype Trash Separation System based on the Internet of Things functions properly as expected.
2. Optimum Inductive Proximity sensor in reading objects at a distance of 0.3 Cm.
3. Inductive Proximity sensors have a good level of accuracy when metal waste is detected on 4 sides compared to only one side. For the composition of metal 100% the sensor has a reading accuracy level of 100% then for the type of metal waste with a metal composition of 70% and 50% the sensor has a reading accuracy level of 75%.
4. Sending email notifications when the bin is full has a 100% success rate.
5. There is a problem of response time on the Inductive Proximity sensor in reading metal waste with an average value of response time of 4.2 seconds. Based on system testing and sensor testing alone, the same average response time is 4.2 seconds so that it can be concluded that the Inductive Proximity sensor has a slightly longer reading time for metal objects.

The design of this prototype is still lacking where the Inductive Proximity sensor still has a long response time in reading metal junk. Suggestions for further research are that Inductive Proximity sensors can be further optimized in terms of systems and tools so that the response time of sensors in reading metal waste can be optimized and faster. In addition, further research can add sensors to detect non-metallic waste.