

## **ABSTRAK**

The volume of waste generated increases with the increase in population. In 2017 the amount of waste produced nationally was 65,200,000 tons of waste, in 2018 it increased to 66,500,000 tons of waste. The accumulation of garbage every year has increased along with the increase in population, so that the accumulation of garbage occurs more quickly and garbage collection activities that are still carried out manually can make it difficult for cleaning staff.

Based on these conditions, in this study, a garbage height measuring device was created which would later make it easier for waste cleaners to be able to check the condition of the garbage height via WhatsApp online. IoT to get NodeMCU information as a microcontroller, ultrasonic sensors to determine the height of the garbage and the Ublox Neo 6mv2 GPS Module to determine the value of the longitude and latitude location points.

Garbage-based IoT is able to improve the performance of garbage janitors and make them more efficient. This tool uses WhatsApp to convey information. From the results of testing the tool, it is known that the tool has worked well. The garbage height measuring device can be said to be successful after testing the functionality, usability, accuracy of the tool, the distance of the tool range and testing the Quality of Service (QoS) in the form of delay and throughput. The results of the delay test have an average value of 8.609 ms and the throughput test has an average value of 13,809 bps.

**Keywords:** Internet of Things, WhatsApp, NodeMCU, GPS, sensor ultrasonic