

## **ABSTRACT**

*Environmental cleanliness is inseparable from human life and is a fundamental element in health science and prevention. In this environmental hygiene problem, many cases were found such as trash bins that were already full but were not immediately transported by janitors, whether outside the reasons for negligence of officers, whether the janitor had a neatly arranged garbage transportation schedule, or because officers waited until all places the garbage in each of their transport areas is full of garbage, which can save costs and energy. But the consequences caused by the above reasons are that it can cause environmental pollution caused by the accumulated garbage being left too long. This problem is very important to note in order to create a clean, healthy and comfortable environment.*

*Smart Trash Bin is a technological innovation in trash bins that can inform janitors if trash bins are filled with garbage. The aim of this Smart Trash Bin innovation is to be able to provide solutions to the above problems, namely helping janitors carry out the task of transporting waste that can save costs and energy*

*The results obtained based on testing, namely the design of the communication system on the Smart Trash Bin successfully realized using a GSM module. In the delay parameter, the GSM module outside the room is slightly superior to the GSM module in the room, which is equal to 7,786 seconds, while in the GSM module room gets an average delay of 7.8577 seconds. In the packet loss parameters, the GSM module during the process of sending data there is no packet lost or has 0% packet loss. The GSM module throughput parameters have a throughput value of 1.1569 bps.*

*Keywords: Smart Trash Bin communication system, Smart Trash Bin.*