

# **IMPLEMENTATION OF AN ANDROID-BASED SMART TRASH BIOT MONITORING SYSTEM APPLICATION FOR RESIDENTS OF MLANGI DUSUN**

**RIDWAN MAULANA**

*Informatics Study Program, Faculty of Science & Technology  
University of Technology Yogyakarta  
Jl. Ringroad Utara Jombor Sleman Yogyakarta  
E-mail : [ridwanmau69@gmail.com](mailto:ridwanmau69@gmail.com)*

## **ABSTRACT**

*The problem of waste accumulation is one of the impacts of increasing population in an area. Of the problems with waste accumulation that often occur, one area that is the focus of attention is in the Special Region of Yogyakarta, specifically in Mlangi Hamlet, Nogotirto Village, Gamping District, Sleman Regency. Lack of awareness among some people is one of the causes of the accumulation of waste which is difficult to control. In this case, a waste disposal system that is still manual and boring will certainly cause people to be lazy and bored of throwing away rubbish in the right place. Seeing the increasingly rapid development of technology in the form of internet connectivity from various electronic devices, it is hoped that the application of the IoT (Internet of Things) concept can be a solution to the problem of waste accumulation in Mlangi Hamlet, Gamping District, Sleman Regency. Smart trash biot is the name for a trash can that has features with more functions than an ordinary trash can or can be called a smart trash can both in terms of usability and appearance. This system design uses NodeMcu Esp32 as a data processor, Ultrasonic Sensor or HCSR04 as a distance sensor and a height sensor for parameters if the trash can is full. Then the data is sent to Firebase to be processed and sent to the resident's Android smartphone as a notification if the trash can is full. It is hoped that this concept can minimize the accumulation of waste in the community, especially in the Mlangi hamlet area.*

**Keywords:** *Internet of Things, Smart Trash Biot, Android, NodeMcu Esp32*