ABSTRACT

The amount of waste is closely related to the population, as the population increases in a certain area, the amount of waste generated will also increase. With the increasing amount of waste, it is essential to be wary of the negative impacts that may occur, one of which is environmental pollution caused by improper waste disposal. One way to reduce waste accumulation is by converting organic waste into compost that can be used in agriculture to enrich the soil. However, in the composting process, immature compost is sometimes produced, which can severely damage plants. This study aims to build a system that can monitor temperature and humidity values to maintain optimal conditions and perform automatic watering under specific circumstances when needed. The system is developed using the Internet of Things (IoT) concept, with a microcontroller connected to humidity sensor YL-69 and temperature sensor DS18B20. The data collected will be processed using Fuzzy Logic to control the temperature and humidity according to the sensor readings. Additionally, the system can display the current temperature and humidity conditions.

Keywords: compost, humidity, temperature, Internet of Things, Fuzzy Logic