

ABSTRACT

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Judul : IoT-Based Pest Trap Monitoring System

*rice field rats (*Rattus argentiventer*) are one of the major pests that reduce rice productivity and cause economic losses to farmers. This study aims to design and develop an Internet of things (IoT)-based rat trap monitoring system. The system utilizes an ESP32 microcontroller as the main controller, infrared and ultrasonic sensors for rat detection, servo motors as the trap door mechanism, and the Thingier.io platform for real-time monitoring. Sensor data are transmitted via the internet, allowing remote monitoring of trap conditions. The testing results indicate that the system is capable of automatically detecting, counting, and monitoring rats entering the trap. Therefore, the proposed system can be used as a supporting solution for rat pest control in agricultural areas.*

Keywords : *ESP32, Infrared Sensor, IoT, Rat Trap, Ultrasonic Sensor*