DESIGN AND DEVELOPMENT OF BIRD PEST DETECTION AND MONITORING USING ESP8266 NODEMCU AND IOT BASED PIR SENSOR USING BLYNK APPLICATION

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ABSTRACT

This research aims to assist Indonesian farmers in managing rice fields, especially to fight bird pests. Every year Indonesian farmers experience a decrease in rice production by around 30-50% which is caused by bird pests which gnaw rice seeds every day. Every day, bird pests can eat up to 5 grams of rice seeds. The limited effective and efficient means of repelling bird pests is a major problem for farmers. This research uses an automated tool method based on the Internet of Things. This bird pest detection tool has three main components which are the NodeMCU ESP8266 microcontroller, PIR sensor, and buzzer. This tool works automatically using WiFi connected to the Blynk application. NodeMCU is a microcontroller that can capture WiFi signals so that it can be connected to the Blynk application to run devices using the Internet of Things method. The Blynk application can be accessed on farmers' smartphones to get notifications or the actual condition of the rice fields. This tool successfully detects bird pests in the fields and provides notifications from the Blynk application via a smartphone. The work of the bird pest detector is considered efficient and effective for farmers.

Keywords : *Internet of Things, NodeMCU ESP8266, Blynk Application*