

# **DESIGN OF IOT (Internet Of Things) BASED AUTOMATIC GRAIN DRYING SYSTEM**

**ERGA IRAWAN**

*Electrical Engineering Study Program, Faculty of Science & Technology  
University of Technology Yogyakarta  
Jl. Ringroad Utara Jombor Sleman Yogyakarta  
E-mail : [ergairawan00@gmail.com](mailto:ergairawan00@gmail.com)*

## **ABSTRACT**

*In the Lampung area, especially in the Central Lampung area, there is quite a large area of land for rice farming. The land is relatively fertile for growing rice, therefore many work as farmers to meet their daily needs. But ironically, during the post-harvest period, many farmers complain about the weather they are facing at this time, where the weather is erratic. Therefore, an IoT-based automatic grain drying system is needed. For controlling roof coverings and being able to find out the temperature and humidity in grain using the DHT11 sensor which can be monitored using Blynk. The input sensor uses an LDR sensor and a rain sensor as a detector for weather conditions and morning, afternoon and night conditions which can control the motor as a cover that can be monitored on Blynk. If in the morning conditions the value is less than 600, and the conditions are not raining, the motor moves to open the roof. If in the morning conditions with a value of more than 600, and rainy conditions, the motor moves to close the roof. If the LDR condition is more than 600, the night conditions where the motor moves to close the roof by using a motor movement limiter using a limit switch. Based on the tests that have been carried out, it is known that the average error in testing each sensor is known. DHT11 has an error of 0.68% at temperature. Humidity has an error of 1%. In testing the overall percentage of success tools 100%. Monitoring IoT using Blynk in every condition of all sensors.*

**Keywords :** Grain drying, DHT11, LDR, Rain, limit switch, motor, IoT