

DESIGN AND CONSTRUCTION OF CHICKEN EGG INCUBATOR BASED ON FUZZY LOGIC AND IOT

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ABSTRACT

In the incubator that has been circulating in the market is still not automatic. The use of this non-automatic method has several weaknesses which still require human monitoring, therefore we need an incubator for chicken eggs that can optimize temperature and humidity based on set points by making automatic egg incubators based on fuzzy logic and IOT. To adjust the fan speed using fuzzy logic and turn on the lights and monitoring from the Blynk application. The egg incubator incubator is made a control system on the DHT11 temperature and humidity sensor using the fuzzy logic method which can control the fan pwm which can be monitored on the Blynk and LCD. If the temperature is 40C, the relay will cut off the current so the light will turn off, when the temperature drops to 37C the relay will actively turn on the light. Based on the tests that have been carried out, it is known that the average temperature test error on the DHT11 sensor and thermohygrometer is 1.02%. In the humidity test, it is known that the average error is 1.70%. The time required for the system to reach steady state conditions with a setting point of 37C - 39C at low temperatures takes 7 minutes 24 seconds. While at high temperatures it takes 20 minutes 14 seconds.

Keywords: *egg incubator, fuzzy logic, DHT11, IOT*