

ABSTRACT

Chicken eggs are one of the main choices of Indonesian people to meet their food needs. Good quality chicken eggs is the main focus of this research. Sorting the quality of chicken eggs can be done manually with the help of a light source such as a flashlight, if in large quantities it takes quite a long time and the number of sorting counts is not well monitored. To overcome this problem, in this research an internet of things tool for chicken egg quality detection system was designed using NodeMCU ESP8266 based on the Thingspeak iot platform. This system will read good (fresh) eggs and bad (rotten) eggs and calculate the accumulated number of sorting results which will be monitored on the Liquid Crystal Display (LCD) board and smartphone. The working principle is to read the light intensity value received using an Light Dependent Resistor (LDR) sensor and the help of an NodeMCU ESP8266 microcontroller. The more light intensity that is read, the better the quality of the egg, and vice versa. In the study, a threshold value of the Analog to Digital Conversion (ADC) was determined to be 7, obtained from the calibration readings of the LDR sensor. Therefore, eggs with a value of ≤ 7 are classified as bad (rotten) eggs, while eggs with an ADC value > 7 are classified as good (fresh) eggs with the average system sending and receiving delay value is 215.9ms (good category) and average value of network packet loss is 0.86% (good category).

Keywords: *Egg quality, NodeMCU ESP8266, LDR sensor, Thingspeak*