

Wemos D1 R1 Based Laying Chicken Cage Automation

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ABSTRACT

In Indonesia, the government has regulated the provisions on employee working hours in the Manpower Act No. 13 of 2003 which requires every entrepreneur to implement the provisions of 40 hours of work a week. Laying hens is a promising side business, in Tanjung, Tabalong, South Kalimantan because the need for chicken eggs in the market is still lacking and continues to increase both in terms of personal or household consumption, the need for food stalls, and restaurants. The laying hens farming sector in Indonesia is still mostly manual where the workers feed the chickens one by one, sorting the eggs which takes a long time. This makes employees unable to do a side job of laying hens at the same time as the work they are doing with 40 hours a week. To overcome this problem, laying hens cage automation was designed with the help of RTC and stepper motors for feeding and also conveyors equipped with BH1750V1 sensors, LEDs and servo motors for sorting eggs and water level sensors for feeding chicken drinking water automatically based on Wemos D1 R1. The test results of the prototype chicken feeder and automatic chicken egg sorter can work well and get success which includes accuracy, precision and sensitivity above 80%. As for the automatic drinking water filler, it works well by obtaining an accuracy above 80%.

Keywords: *Automation, RTC, BH1750V Sensor, Water level Sensor, Wemos D1*