

ABSTRACT

In a wide area chicken poultry, it's a common thing to see the difficulties from monitoring coop's condition such as its temperature, humidity, and cleanliness. A mistake or lateness in handling the temperature and humidity of the chicken's coop could give a bad effect to chicken's health. The chicken will give response directly when the temperature goes out of normal. The decreasing amount of eggs production or heat stress can be the effects from chicken's response to the changes. There are some prevention solution to minimize the effects, one of them is the implementation of monitoring system.

In this final assignment, a chicken poultry monitoring system using ZigBee wireless sensor network that is accessible by smartphone was created. The use of ZigBee here is based on ZigBee characteristic which are reliable in data transmission and also its low power consumption. Besides that, the use of smartphone as a client side end-device means to do real-time monitoring wherever and whenever at ease. In this research, there be an experiment to analyze the performance of the system and power consumption from the ZigBee wireless sensor network. Where in this experiment, zigbee does the transmission in every 1 second and with 400 mAh battery can last longer in about 23 days. as for the system's performance, it shows a 33 ms delay and RSSI that still can be caught by the zigbee device within -80 until -95 dBm with a distance less than 100 meters.

Keywords : Zigbee, smartphone, monitoring, chicken's coop, temperature, humidity.