ABSTRACT

The development of technology and telecommunications is very influential on human life. The presence of the Internet of Things (IoT) can help humans in their daily activities. One of the areas that feel the impact is the livestock sector. Broiler breeders are farming whose results are strongly influenced by temperature factors. Inappropriate temperatures can cause illness and even death in chickens and can result in crop failure, so monitoring and temperature regulation is very necessary.

Monitoring and setting the temperature of the cage using a room temperature sensor. In this study, the DHT11 sensor is used to measure the temperature and humidity of the cage in real-time which will be set to always be optimal, where broiler chickens can grow optimally.

After the tool from this Final Project is completed and can be implemented in the community, broiler breeders or breeders are expected to be able to monitor the temperature of their livestock cages directly using an Android application that is connected to a temperature sensor, so that with this tool it can reduce losses caused by illness or death. in chickens due to extreme temperature changes. In this study, the authors tested the accuracy of the DHT11 sensor. At night (23.00-00.35) obtained an average accuracy of 97.9% with an average error of 2.1% for temperature measurements and 96.1% with an average error of 3.9% for humidity measurements, while at during the day (11.00-12.35) obtained an average accuracy of 98.1% with an average error of 1.9% for temperature measurements and 96.0% with an average error of 4.0% for humidity measurements. In this study, Quality of Service (delay and throughput) testing was also carried out from the Android emulator on a laptop to the Antares ID server connected to the internet network. QoS testing was carried out 20 times with a duration of approximately 5 minutes for each test. With the results obtained from the better delay test, it has an average delay of 0.146s at night and an average throughput of 9.78Kbps at night. The output of this tool (temperature and humidity) is displayed on the LCD and is in accordance with that presented in the Android application. The data is sent to the database and will be forwarded to the Android application to be displayed on the monitoring page and can be accessed remotely with an internet connection.

Keywords: chicken, internet of things, temperature, humidity