ABSTRACT

Chicken cattle is a business that has a great profit prospect because the consumption of chicken meat in the community increases every year. Good management of chicken farms is needed so that farmers can get a good quality chicken harvests for consumption by the community. In managing chicken farms, there are important factors that must be considered such as temperature, humidity, feed consumption, drinking water and ammonia, therefore special attention is needed to these factors.

In this study the authors designed a monitoring system to look at conditions in the farm such as temperature, humidity and ammonia, besides that the author also made a automatic feed, drink and lighting control system. Smart cage system that the authors designed is based on Internet of Things (IoT), so that conditions on chicken farms can be monitor and control in real time through the internet network. In this system the writer uses Arduino Mega which is connected by a WIFI module and several sensors. Arduino Mega has the duty to send data to the Application Programming Interface (API) to be forwarded to the database. Arduino Mega also has the duty to read data in the API so that the system can read the commands sent and perform the actions.

From the results of several tests that have been done, it is known that the system can work well. In addition, Quality of Service testing was also carried out, the data transmission from the device to the API obtained an average delay of 0.4068s while for the average delay reading data from the API to the device amounted to 0.3995s and the average throughput of reading the data from the tool to the API at 3379bps while the average throughput of data reading from the API to the tool is 4833.35 bps.

Keywords: Chicken cattle, Internet of Things (IoT), Arduino Mega, API