

ABSTRACT

The cultivation of hatching eggs for poultry farmers still uses conventional methods or still uses broodstock where the volume or number of eggs hatched is still small, this can be overcome by using an egg incubator. The egg incubator is an incubator that has the same working principle as broodstock when incubating eggs by adjusting the temperature and humidity of the incubation, the temperature and humidity of the incubation are stable at a temperature of 37-39 oC and a humidity of 55-60%. The existing egg incubators are lacking in monitoring the state of the incubator, it is done only by checking or looking at the measuring instruments in the incubator.

For this problem, an egg incubator was created which besides being able to regulate temperature and humidity according to the requirements can also monitor conditions in the Blynk application to facilitate monitoring of incubator temperature and humidity in real time without having to look at the condition of the incubator.

Based on the research that has been done, it is found that IOT-based egg incubators are able to help poultry eggs successfully hatch and temperature control can be done in the blynk application so that the incubator in this study can be used for hatching other poultry such as chickens, ducks, quails and other poultry. As well as monitoring temperature and humidity can be done anywhere as long as the incubator is connected to the internet. So it can be concluded that the system built has an average delay of 38.4 milliseconds. This means that it can be said that the temperature and humidity monitoring system includes real time when processing data.

Keywords: incubator, egg, internet of things, blynk application

ABSTRAK

Budidaya penetasan telur bagi peternak unggas masih menggunakan cara konvensional atau masih menggunakan indukan unggas yang dimana volume atau banyaknya telur yang ditetaskan masih sedikit, hal ini dapat diatasi dengan menggunakan mesin penetas telur. Mesin penetas telur merupakan alat penetas yang mempunyai prinsip kerja seperti pada induk unggas pada saat mengerami telur dengan mengatur suhu dan kelembaban penetasan, suhu dan kelembaban penetasan diatur stabil pada suhu 37-39 oC dan kelembaban 55-60%. Mesin penetas telur yang ada saat ini kurang dalam melakukan monitoring keadaan inkubator, dilakukan hanya dengan mengecek atau melihat alat ukur yang ada pada inkubator.

Pada permasalahan tersebut dibuat alat penetas telur yang selain mampu mengatur suhu dan kelembaban sesuai syarat juga dapat dilakukan monitoring keadaan di aplikasi *Blynk* untuk mempermudah monitoring suhu dan kelembaban inkubator secara realtime tanpa harus melihat keadaan pada inkubator.

Berdasarkan penelitian yang telah dilakukan diperoleh bahwa inkubator penetas telur berbasis IOT mampu membantu telur unggas berhasil menetas dan pengontrolan suhu dapat dilakukan di aplikasi blynk sehingga inkubator pada penelitian ini dapat digunakan untuk penetasan unggas lainya seperti ayam, bebek, burung puyuh dan unggas lainya. Serta monitoring suhu dan kelembaban dapat dilakukan dimanapun selama inkubator terkoneksi dengan internet. Sehingga dapat disimpulkan bahwa sistem yang dibangun memiliki delay rata-rata sebesar 38,4 *millisecond*. Artinya dapat dikatakan bahwa sistem monitoring suhu dan kelembaban sudah termasuk *real time* pada saat pemrosesan data.

Kata kunci : inkubator, telur , internet of things, aplikasi blynk