ABSTRACT

The condition of a livestock coop environment, especially temperature and humidity, is a crucial factor that determines the success of livestock farming. Conventional management methods are often considered inefficient and can cause stress to livestock, resulting in decreased productivity and an increased risk of disease. To address this issue, a microcontroller-based system with Internet of Things (IoT) technology has been designed and implemented to monitor coop temperature and humidity parameters in real time. This system utilizes a Digital Humidity and Temperature sensor (DHT22) for temperature and humidity data acquisition, which is known for its high accuracy. The collected data is then sent to an IoT platform and can be accessed by farmers through an IoT-based application. An integrated automatic notification feature allows farmers to receive immediate alerts if the coop's environmental conditions deviate from the ideal threshold. System testing shows that this prototype functions optimally in various environmental conditions with a low measurement error rate. The implementation of this monitoring system is expected to contribute to improving livestock productivity and welfare by maintaining ideal coop conditions, while also optimizing farmers' time and labor efficiency.

Keywords: Livestock Coop, Monitoring System, DHT22 Sensor, Temperature and Humidity, Internet of Things (IoT).