ABSTRACT

Indonesia is a country that is crossed by the equator with tropical rain which is the original habitat of the Swallow. In the past, in cultivating Swallows, the farmers only had an empty, uninhabited building and did not give special treatment. However, since the Swallow's Nest export business has accelerated and the Swallow's cultivation is growing, it is necessary to have special treatment at the Swallow's House (RBW) as an effort by the Swallow farmer so that the Swallow Bird wants to nest in his Swallow's Bird House (RBW). The factors that most influence the development of swallow cultivation are temperatures that ideally range from 26°C-29°C and humidity of 70%-90%. The purpose of this study is to create a monitoring and control system for temperature and humidity at the Swallow's Bird House (RBW) based on the Internet of Things (IoT) by using an Internet of Things (IoT) application support device which is ThingsBox. Observation of system performance was started out from June 23, 2022 to July 14, 2022. From the monitoring results, it is known that the control room has an average temperature of 28.51°C and an average humidity of 78.67%. And the room without control has an average temperature of 29.45 °C and an average humidity of 70.89%. From the control results, it is known that the control system works according to the set point (Temperature <26°C and >29°C, and humidity <70% and >90%). The controlled room is considered to have succeeded in achieving the ideal temperature and humidity due to the activity of the Swallow Bird and there have been 10 Swallow's Nests since the system was operated.

Keywords: Sensor, Microcontroller, Temperature, Humidity, and Swallow