Pengembangan Sistem *Monitoring* dan *Pet Feeder* Pada Kandang Hamster Menggunakan IoT Untuk Optimalisasi Perawatan Hewan Peliharaan

(*Development of a Monitoring System and Pet Feeder in Hamster Cages Using IoT to Optimize Pet Care*)

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ABSTRACT

This research aims to develop a monitoring system and pet feeder in a hamster cage based on the Internet of Things (IoT). The background of this research is based on the owner's limited time in providing food, water, and maintaining temperature conditions in the hamster cage. The system developed uses an ESP32 microcontroller connected to a DHT22 sensor for temperature monitoring, a water level sensor to detect air availability, a servo motor as a feed opener and a water pump to provide water in the drinking container, and an RTC for automatic scheduling and a Blynk application for monitoring and controlling remotely. The research stages include problem identification, literature study, problem formulation, design and assembly of tools, and testing using the black box testing method, and finally the results of the analysis. The test results show that the system is able to carry out the functions of temperature monitoring, feeding and drinking control automatically and manually, while maintaining the cage temperature within the ideal temperature range for hamsters, namely 26 °C - 30 °C. Thus, this system can improve the effectiveness of hamster care and reduce the risk of death caused by the hamster disease, namely wet tail. In addition to reducing the risk of death, this IoT system also helps increase hamster weight gain by 3.6 grams in 1 month. The IoT system still has limitations such as the lack of sensors to detect food in the cage container.

Keywords: *Internet of Things*, *Hamsters*, *Monitoring temperature*, *Pet Feeder*, Blnyk