

## **ABSTRACT**

*The study aims to address the issue of uncertainty in the rotational speed of a spinning object. This research will design a system to monitor rotational speed by utilizing Internet of Things (IoT) technology with components including a Hall Effect Sensor, NRF24L01 module for wireless data transmission, a 16x2 LCD screen for real-time speed rotation monitoring, and the system will be connected to the ANTARES IoT Platform for data storage and system testing on Quality of Service (QoS) parameters including Throughput, Packet Loss, and Delay. The speed measurement integrated into the prototype obtained an average speed of 360 RPM from the Hall Effect Sensor with a sensor accuracy rate of 99.72%. From sensor Node testing, the number of data sent to ANTARES was 411 data points outdoors and 265 data points indoors. The QoS parameter testing results categorized Throughput as poor with a TIPHON index of 1 and a value of 25.29 Kbps, Packet Loss as very good with a value of 1.2% and a TIPHON index of 4, and Delay as very good with a value of 0.08 ms and a TIPHON index of 4.*

*Keywords: Antares, Internet of Thing, Rotation speed, wireless communication*