

ABSTRACT

This research aims to develop and implement a backend using Node.js with a REST architecture in the Ternakami application for detecting Pink Eye disease in livestock. The methods used are quantitative, experimental, and prototyping, with JMeter as the primary tool for performance measurement. By comparing Ternakami (Node.js) and Ternaku (Python), the test results show that Ternakami has better stability and consistency, with an average response time ranging from 84 ms to 136 ms and a low standard deviation (46.32 ms to 104.06 ms). Conversely, Ternaku shows significant fluctuations with a standard deviation reaching 808.14 ms to 1114.83 ms. Ternakami also demonstrated higher reliability with an error rate of only 9.00% and an average response time of 732 ms. Although Ternaku has a faster response time (262 ms) and higher throughput (42.9 req/sec), the very high error rate (89.25%) indicates server overload issues. User survey results show a high level of satisfaction with the Ternakami application, with a Customer Satisfaction Score (CSAT) of 90.91%. This research is expected to prove the superior performance of the Node.js backend implementation with REST architecture in the context of the Pink Eye disease detection application and provide valuable insights for developers in choosing a suitable backend framework for their specific application needs.

Keywords: *Backend, Node.js, Python, REST, Eye Disease Detection, Pink Eye.*