ABSTRACT

The previous helpdesk system at RSUP Hasan Sadikin was limited to internal access, which caused delays in handling reports from external parties such as patients and vendors, and complicated the maintenance process of the complex system for the development team. This research developed a modern solution; the new version of the RSUP Hasan Sadikin helpdesk website implements a microservices architecture using the Laravel framework, where key functionalities like ticketing, chatbot, and Frequently Asked Questions (FAQ) are broken down into independent, separately manageable services. To ensure the quality of the helpdesk system before integration with existing or running systems, a series of in-depth tests were conducted using SonarQube to analyze maintainability and reliability, as well as soak testing with JMeter to verify that system performance remains stable under high workloads. The research results prove that the implemented architecture achieved an "A" feasibility rating on SonarQube with no system errors and demonstrated stable performance, proving that this service is of high quality and ready for integration with other or existing systems. In addition, unit testing was conducted to validate the functionality of each unit in RSUP Hasan Sadikin helpdesk system.

Keywords: *helpdesk, microservices, rsup hasan sadikin, sonarqube, jmeter, unit testing.*