Implementation of Automation Testing Using Katalon Studio on the SIPEMKAS Website (Student Academic Performance Monitoring System)

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ABSTRACT

The SIPEMKAS website is a web-based academic information system used to monitor students' academic development in the school environment. The problem underlying this research is that the SIPEMKAS website, which is still under development, has never undergone a structured functional testing process, resulting in the absence of adequate testing documentation and no guarantee of system stability when further development is carried out. These conditions may cause functional errors in the main features of the system. This study aims to design testing documents to ensure the website's functionality runs properly and to implement automation testing using Katalon Studio. The method used in this research is the Software Testing Life Cycle (STLC) *with an Agile Scrum approach through six stages: requirement analysis, test planning, test case development, test environment setup, test execution, and test cycle closure. The testing conducted includes* functional testing, regression testing, *and User Acceptance Testing* (UAT). *The resulting documents include a Test Plan, Requirement Traceability Matrix* (RTM), *bug report, test report, and release notes. The results of this study show that testing on 170 test cases produced an initial success rate of 88.24%, which increased to 99.28% after bug fixes and regression testing were performed. The* UAT *results obtained an average score of 86.25%, categorized as Very Good. This study proves that the design of structured testing documents and the implementation of automation testing using Katalon Studio are effective in improving the quality of the SIPEMKAS website, making it feasible for use.*

Keywords: *Automation Testing, Software Testing Life Cycle, Agile Scrum, Katalon Studio, School Website, User Acceptance Testing*