

ABSTRACT

The graduation administration process at the Faculty of Science and Mathematics, Diponegoro University (FSM Undip), which is currently conducted manually, requires the direct submission of physical documents to various units. This condition results in data storage fragmentation and reliance on physical document circulation, complicating the document verification tracking process. Therefore, this research aims to develop a web-based Graduation Administration System to integrate the entire prerequisite submission and validation flow into a centralized database and realize a paperless mechanism. The web platform was chosen to ensure flexible system accessibility for students and staff across different units without the need for specific device installations. Software development was carried out using the Scrum method, involving a Product Owner, Scrum Master, and Developers over five sprint iterations. This approach was selected to accommodate business rule complexity and the need for gradual validation through an iterative and incremental development cycle. A total of 58 Product Backlog Items (PBI) were translated into functional features covering the digitization of Library Clearance Letters, Tuition Fee Settlement, Equipment Loan Clearance, and Graduation Application (AK.009) equipped with automatic form locking logic. Based on Black Box Testing referring strictly to acceptance criteria, all features were declared valid (100% accepted). The research concludes that this application prototype successfully transforms manual business processes into an integrated digital workflow, eliminating the need for physical document circulation between units, and providing real-time transparency of document status.

Keywords : Data Integration, Graduation Administration, Black Box Testing, Paperless, Scrum