ABSTRACT

Knowledge asset management in academic environments is an important aspect. The Department of Informatics at Universitas Diponegoro currently has a mechanism for managing students' thesis reports through electronic document submission for internal administrative purposes. However, this mechanism has not yet provided a repository that can be accessed by students, nor has it been equipped with academic discussion features to support the exchange of tacit knowledge among students during the thesis completion process. Based on this condition, this study designs and develops an application named REPOTA, which functions as an integrated digital repository as well as a medium for academic knowledge exchange to support the knowledge management cycle at the Department of Informatics. The system involves three user roles, namely Administrator, General Students, and Final-Year Students. The system development is implemented using the Laravel framework and applies the ICONIX Process methodology, which relies on dynamic and static modeling through four main stages: Requirements, Analysis & Preliminary Design, Detailed Design, and Implementation and Testing. The design process emphasizes mapping system functionalities into 13 use cases and representing them using Robustness Diagrams and Sequence Diagrams. The system integrates an Information Retrieval feature to improve document search accuracy and an interactive discussion feature to facilitate the knowledge conversion process. The results of Black-Box Testing conducted on the 13 main use cases indicate that all system functionalities operate successfully without logical errors. Furthermore, based on usability testing involving five respondents using the System Usability Scale (SUS) instrument, the REPOTA system achieved an average score of 94.5, placing it in Grade Scale A with the Best Imaginable category within the acceptability ranges Acceptable. In conclusion, the REPOTA system is effective in systematically organizing thesis knowledge assets and provides an optimal user experience for the academic community of Universitas Diponegoro.

Keywords: Knowledge Management System, ICONIX Process, Thesis, Discussion Forum