ABSTRACT

Efficient and integrated data management in higher education environments is essential, particularly in supporting academic processes. This study aims to develop a website application for the Industrial Work and Community Service Program at the Faculty of Industrial Engineering, Telkom University, with a focus on the registration module. One of the main problems faced is the lack of integration of master data for students, academic advisors, and study programs, which have so far been managed manually using CSV files. To address this issue, the Iterative Incremental method was employed in system development, allowing for a step-by-step and repetitive approach where each feature can be tested and adjusted iteratively until optimal results are achieved. The system implementation successfully integrated master data from iGracias into KPPM web application via API, enabling more efficient and accurate data management. System testing was conducted using Black-box Testing and Unit Testing methods, which successfully ensured that all main features functioned according to specifications and user requirements. The system is also capable of handling high usage loads with optimal response times. The use of the Iterative Incremental method had a significant impact on enhancing development flexibility and feature adjustments, while Black-box Testing and Unit Testing ensured overall system quality and stability. This research contributes to improving service quality and user experience, as well as the efficiency of academic data management at the Faculty of Industrial Engineering. The findings from this study are expected to serve as a reference for the development of other academic information systems within the university environment.

***Keyword**s: Data Integration, Iterative Incremental, Industrial Work and Community Service, Telkom University.*