ABSTRACT

The implementation of Outcome Based Education (OBE) at the Faculty of Industrial Engineering, Telkom University is still facing challenges in monitoring the achievement of Program Learning Outcomes (PLO) and Course Learning Outcomes (CLO). The implementation of OBE encounters various obstacles, such as the lack of features for bulk grade uploads, the absence of a system for automatically calculating the achievement of Program Learning Outcomes (PLO) and Course Learning Outcomes (CLO), and the unavailability of Learning Achievement Statement documents (SKCP) in a systematic manner. This study aims to design and develop a web-based OBE monitoring dashboard system that can address these issues by applying an iterative incremental development model with two phases of iteration. In the first phase, development focused on the feature to upload student grades data. Meanwhile, in the second phase, development focused on completing two main features: the feature for calculating and monitoring the achievement of PLO and CLO scores, as well as the feature to generate documents of Learning Achievement Statement (SKCP). Implementation utilizes React JS for the user interface, Laravel Lumen as the backend API, and PostgreSQL as the database. The system validation process is carried out through unit testing and user acceptance testing (UAT), with results showing that the developed system has met user needs and is feasible to be implemented to support the monitoring of student learning achievement based on the Outcome-Based Education (OBE) approach. With this system, the process of evaluating learning outcomes can become more efficient, transparent, and documented.

Keywords— dashboard, outcome-based education, PLO, CLO, iterative incremental model