

Process Mining on Learning Activities in a Learning Management System

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Abstract— A learning management system is a system that supports the management of teaching and learning activities in an educational institution. Telkom University has its own learning management system called CeLOE which was developed based on the open-source Moodle application. This study analyses an event log, automatically generated by the CeLOE LMS, that records student and lecturer activities in learning. The event log is mined to obtain a process model representing learning behaviours of the lecturers and students during the learning process. The case study in this research is learning in the study program 365 during the first semester of 2020/2021. The results of the analysis obtained are expected to increase understanding of the learning process and produce recommendations for improving the learning management system. The conclusions obtained from the analysis of the process model include the identification of activities and learning content that are used and carried out by students and lecturers, the most frequent learning activities and resources done by students and lecturers during the first semester of 2020/2021 in the study program 365, and the gap of activities and learning resources during the first semester of 2020/2021 in the study program 365.

Keyword— learning management system, event log, process mining, learning process, study program



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