

ABSTRACT

IMPLEMENTATION OF PROCESS MINING TO EVENT LOG TO KNOW STUDENT LEARNING PATTERNS USING HEURISTIC MINER ALGORITHM

**(Case Study: Telkom University Learning Management System
(LMS))**

By

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The Covid-19 pandemic has caused the entire academic community of Telkom University to conduct online lectures for one whole semester, namely in the odd semester 2020/2021 academic year. All learning activities using a distance learning system called Learning Management System (LMS). In this study, process mining is carried out on the event log from LMS Telkom University. The data used in this research are event logs from Website Application Development (WAD) and Enterprise Systems (ES) course. The process mining method uses to see student learning patterns during lectures by looking at student learning patterns described in a process model so that lecturers can find out student learning patterns during online classes. Process mining is carried out using PROM 5.2 and the Heuristic Miner plugins. The researcher chose the Heuristic Miner algorithm because of its ability to handle noise, and it can express the main events recorded in the event log. After obtaining a process model, analyzing conformance checking on fitness value, the WAD course shows a value of 0.887, and the ES course shows a value of 0.847. This value indicates that the process model can model the event log well. In the precision value of the WAD course, the value of advanced behavioral appropriateness is 0.594, and the value of degree of model flexibility is 0.181. The precision value for the es course shows the value of advanced behavioral appropriateness of 0.411 and the value of degree of model flexibility of 0.155. The value generated from the advanced structural appropriateness is 1.0 in the two subjects in this study on the value of the structure.

Keywords— Process Mining; Heuristic Miner; Event log; Conformance Checking