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Analysis of Application Handling System Process in the Internet Dean's Office Support System Using Process Mining

This paper investigates the process discovery conducted using process mining on anonymized logs extracted from the university's departmental application handling system (ISOD) in CSV file format. The study focuses on analyzing the process occurring within the application handling system. Activities and analyses are based on logs from this system. The proper data processing was needed to allow gaining knowledge from event logs with the usage of process mining. Data preparation involved converting the data into an event log format (XES) with appropriate data types, highlighting Case_ID: Application_ID, activity_key: Application Status, and timestamp_key: Change Date. Date format modification was performed to standardize the Change Date of application status to a timestamp format. Process analysis was conducted on the event log file using process discovery algorithms, both in ProM and Pm4Py software. The results of process mining obtained from both programs were presented. The different types of algorithms and possible analyses utilized in both programs were presented. Among other algorithms, analysis was conducted using Alpha Miner and Heuristic Miner algorithms. Finally, the paper discusses the results of process discovery schemas that create new possibilities for improvements in universities'systems. This study contributes to understanding and improving the efficiency of processes in academic environments. This research shows a new perspective on using process mining tools in educational systems analysis that could result in a major quality improvement.

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