

Abstract

The selection process for new students at Telkom University, also known as SMB Telkom University has been running for years and already has its process flow. However, the existing process flow can be further improved to better reflect the actual field processes and become more accurate. Process mining can enhance this process flow by creating a new process flow based on event logs or previously executed processes. One of the algorithms in process mining is genetic process mining, where process mining is performed multiple times over several generations and genetic algorithms such as crossover and mutation are applied to generate a more accurate process model compared to other process mining algorithms such as heuristic and inductive mining.

After conducting experiments, the best process model that was produced was at the 100th generation which has a fitness point of 0.755910819 and precision point of 0.742857143, even though the result of the evaluation was good after examining the resulting Petri net or process flow that was produced it was concluded that the process model obtained from the application of Genetic Process Mining to SMB Telkom University is not very good because the resulting Petri net has several duplicate activities and appears to be non-linear. This could be due to several factors i.e., incompatible, or inaccurate data.

Keywords: New Student Admission, Telkom University, Process Mining, Genetic Process Mining