Aalto University

Dissertation press release   **12.11.2020**

Find root causes to business process problems using process mining

Title of the dissertation	Process Mining Based Influence Analysis for Analyzing and Improving Business Processes Prosessilouhintaan perustuva vaikutusanalyysi liiketoimintaprosessien kehittämiseen
Contents of the dissertation	Continuous improvement of business processes is essential - but often difficult and slow. In particular, documenting the current state of processes and identifying problems through workshops and interviews is challenging and ineffective, often leading to an incomplete, inaccurate, or even false understanding of the situation. This dissertation presents a new way of documenting processes and finding the root causes of process problems automatically based on the data stored in information systems. The new influence analysis method has been commercialized as part of QPR Software's QPR ProcessAnalyzer product and is used by many large companies worldwide. The method finds the root causes of process anomalies, long lead times, bottlenecks, and inefficiencies. Based on the analysis results, process development resources are directed to the most significant problem areas, development is accelerated due to better understanding, and continuous data-driven monitoring of processes can be established. The dissertation appendix describes how the Finnish Metsä Board uses the method for supply chain development, the English EY consulting company uses it for risk management and auditing, and the Belgian KBC Group uses for improving and automating banking and insurance processes. The dissertation belongs to the fast-growing process mining research field. Active research is currently being conducted at dozens of universities around the world. Several software vendors - such as the Finnish QPR Software Plc - develop and deliver process mining solutions and services to customers. This dissertation focuses on identifying the root causes of process problems and supporting business process development. The opponent is Wil van der Aalst, the famous full professor at the German RWTH University of Aachen named the godfather of process mining.
Field of the dissertation	Computer Science, Process Mining
Doctoral candidate	Teemu Lehto, M.Sc (Tech) Born in Helsinki 1970
Time of the defence	Thu 26.11.2020 at 2:00 pm
Place of the defence	Aalto University School of Science, Remote connection via Zoom. Link: https://aalto.zoom.us/j/69725785094
Opponent	Prof.dr.ir. Wil van der Aalst, RWTH Aachen University, Germany
Custos	Assistant Professor Alex Jung, Aalto University, Department of Computer Science, Finland
Electronic dissertation	http://urn.fi/URN:ISBN:978-952-64-0138-6
Doctoral candidate's contact information	Teemu Lehto, QPR Software Oyj, tel. +358 40 546 0202, email: teemu.s.lehto@gmail.com