Master project opportunities

ProcessGold is a software supplier that brings together Process Mining and Business Intelligence to help customers gain insight into their business processes. The ProcessGold platform combines data extraction, process mining techniques, and visual analytics in order to produce dynamic, visual reports which are easy to monitor and analyze for process stakeholders. These reports form the basis for deeper, fact-driven analysis and continuous process improvement projects.

We are constantly improving our product, and in this context, we offer master graduation projects and internships on a wide variety of topics—see below. In all projects, the student/intern should be able to work out the problem definition in collaboration with ProcessGold and the university supervisor, come up with a conceptual solution, and, where applicable, realize the solution in a proof-of-concept, preferably in the ProcessGold platform.

The graduation projects at ProcessGold offer the student a combination of theoretical research and practical application, while working at ProcessGold offers the student a unique insight in process mining in business and shows what a process mining company looks like from the inside.

Visualization

Parallelism visualization

In some business processes, activities may be performed in parallel. Typically, mining algorithms, such as the inductive miner [2], are used to mine these parallel patterns. In practice, these algorithms are sensitive to noise and the results can be hard to interpret when visualized in a process graph. We would like to investigate the following:

1. How can we visualize parallelism as mined by process mining algorithms such as the inductive miner?
2. How can we use visualization to leverage the capacity of the human visual system to recognize patterns? In other words, how can we improve on the visualization of a process graph to enable the user to more easily recognize parallel patterns.

**Expected output** A prototype component to visualize parallelism in a process graph, integrated in the ProcessGold platform.

**Type of project** Programming, some process mining, and visualization.

Interactive grouping of processes

Process data often consists of multiple sub-processes or groups of cases that exhibit similar behavior. Displaying and analyzing all these cases as a single process model may be difficult and confusing. Therefore, we would like to investigate how we can let the user interactively separate the cases of these processes into meaningful groups that can be explored separately—see Lammers et al. [1].

**Expected output** A proof of concept of the visualization and interaction integrated into the ProcessGold platform.

**Type of project** Programming and visualization/interaction design.
References
