Implementing a Layouting Algorithm for Process Discovery

Marie-Christin Häge & Jana-Rebecca Rehse

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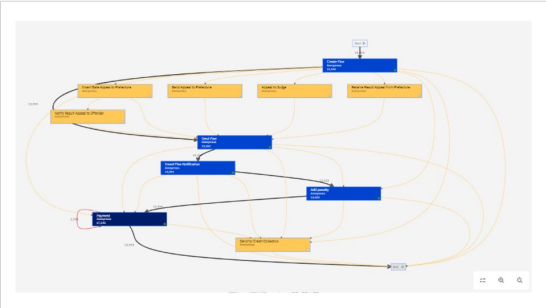
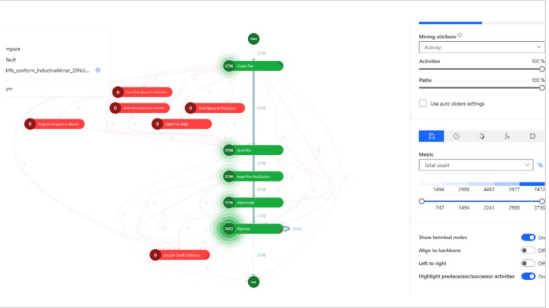
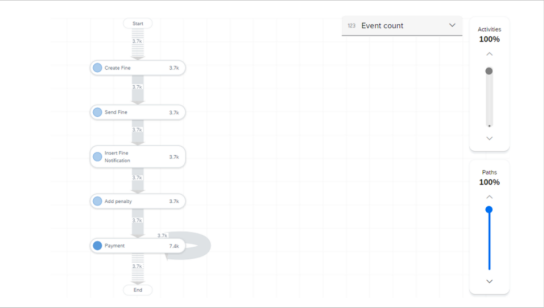
Fakultät für Betriebswirtschaftslehre

Motivation







Problem

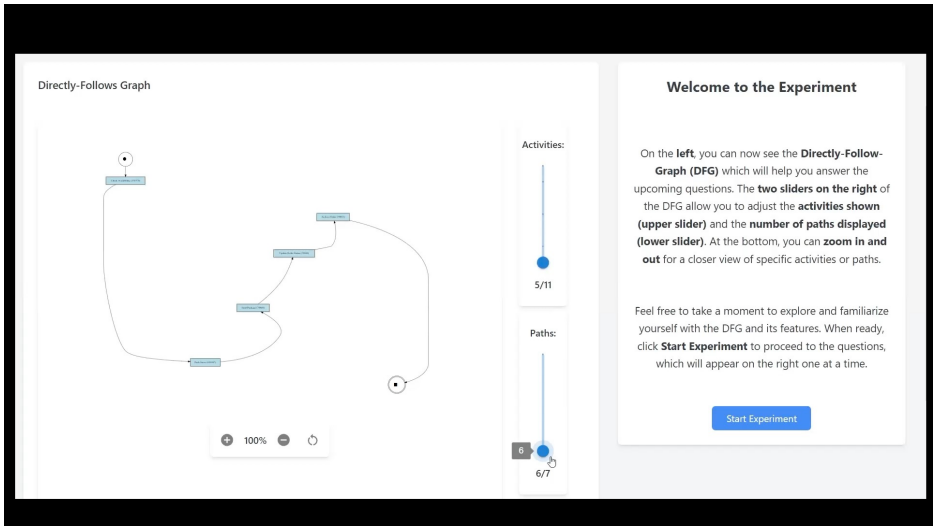
- Tools use completely different visualizations and also algorithms behind them → hard to compare and define what is best

Goal

- We want to compare different layouting algorithms & test it empirically

Current Status

Website for empirical research available



First Experiments Conducted

- Comparison of two layouting algorithms
- Results showed no significant difference between them
- => Further research with other layouting algorithms needed

Project Goals

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- **Implementation of new layouting algorithm following Mennens (2019)**
  - Directly-Follow-Graph needs to be implemented and visualized based on Mennens (2019) approach as new idea next to other two existing options
  - Include a slider allowing a dynamic adjustment of the path and activity level
- **Extension of current website**
  - Allow three different layouts to be tested at the same time
  - Adapt it so that it can be used together with survey platforms, such as Prolific
    - Evaluate answers of pre-questions directly to assess if they fulfill requirements and only then let them enter experiment (necessary for Prolific)
    - Provide unique completion code to each participant

Project Requirements

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- **Language:** English or German
- **Duration of the project:** 6 Months
- **Number of participants:** 3-5
- **Prerequisites:**
  - **Recommended:** IS515 or IS514, Interest and Basic Understanding in Process Mining
  - **Highly recommended:** Programming Skills in Web Development (JavaScript, …)
- **Applicable to MMDS**
- **Person of Contact:** marie-christin.haege@uni-mannheim.de
- **Online:** no