Can we use data from process-aware information systems to keep resource profiles up-to-date?

Mathijs Creemers
Contents

• Problem (PHD topic)
• Progress
• Current research
• Conclusion
PROBLEM
What do they know?
Do you know who knows?

• Always changing
• Manual updates
Knowledge Management challenges

• The creation of a knowledge map
• Team selection
• Brain drain
Resource profiles
PHD TOPIC
Adding a knowledge management perspective to process aware information systems.
PROGRESS
Current focus of process mining
Current research regarding resources in process mining

- Performance
- Organizational structure
- Resource workload
- Resource preference
- Resource allocation mechanisms
Methodology

Peffers et al. 2006
PROBLEM IDENTIFICATION

• Literature study
• Interviews
• Case study
Context

• Software development
• Electronic SCRUM board
• Version control system (git/svn)
• Time registration
GIT version control
GIT commit details

Post bupaR Version

<table>
<thead>
<tr>
<th>Author</th>
<th>Gert Janssenswillem</th>
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</thead>
<tbody>
<tr>
<td>Date</td>
<td>2016-11-13</td>
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<td>Maintainer</td>
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</tbody>
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Description:
Functions for exploratory and descriptive analysis of event based data.
Can be used to import and export .xes-files, the IDEF3 extensible Event Model.

# Generated by roxygen2: do not edit by hand
-Method(print.eventlog)
-Method(print.eventlog_mapping)
-Method(summary.eventlog)
-Export activities
  - export("X/E")
  - export(activity_frequency)
  - export(activity_id)
  - export(activity_instance_id)
  - export(activity_presence)
  - export(case_attributes_from_ets)
  - export(case_id)
  - export(cost)
  - export(durations)
  - export(end_activities)
  - export(eventlog)
  - export(eventlog_from_ets)
  - export(filter_activity)
  - export(filter_activity_frequency)
### SCRUM Board

<table>
<thead>
<tr>
<th>Stories</th>
<th>Not started</th>
<th>In progress</th>
<th>Done</th>
</tr>
</thead>
<tbody>
<tr>
<td>Story #1</td>
<td></td>
<td>Task A</td>
<td>Task A, Task B</td>
</tr>
<tr>
<td>Story #2</td>
<td>Task A</td>
<td>Task C</td>
<td>Task C</td>
</tr>
<tr>
<td>Story #3</td>
<td>Task B, Task D</td>
<td></td>
<td>Task A, Task C</td>
</tr>
</tbody>
</table>
Exploratory analysis scrum board

- Applied existing techniques to data from SCRUM board
- Hard to connect to knowledge
- Improved requirements
Design Problem

Improve overview of knowledge in a software development company

By creating user profiles

That detail the technical skills of employees

In order to support functional leads to select the most knowledgeable teams
Requirements

- **Resource profiles:** Technical knowledge, specific java libraries.

- **Based on existing, available data:** from version control system.

- **Remains up to date:** employees don’t need to manually keep track of their technical knowledge
CONCLUSION
Conclusion

• PHD: adding a knowledge management perspective to process aware information systems.

• Current research: Extracting technical knowledge profiles from version control systems.
Questions?