

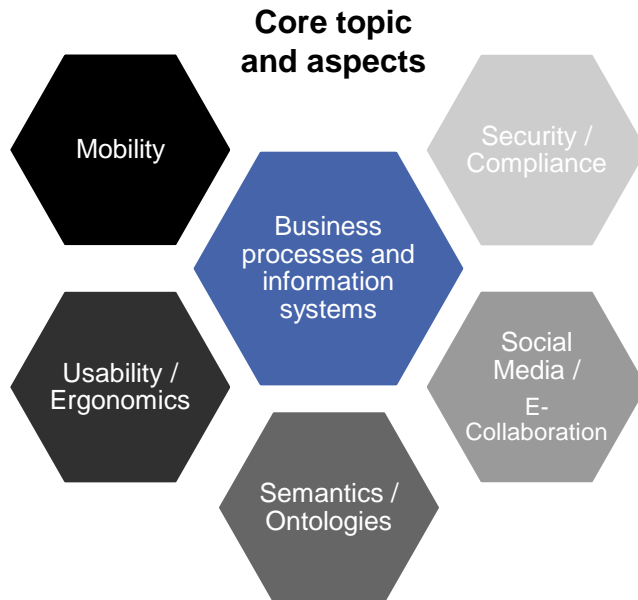
Towards an Open Process Model Repository for Evaluations in Business Process Management Research

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Modelling

Simulation

Analysis

Methods and tools

IT-support / Software development



Integration and implementation

Necessity for a Process Model Repository

Motivation

- Research in Business Process Management (BPM) centers around business process models, e.g.:
 - Process model matching
 - Compliance checking of process models
 - Discovery of process models (Process Mining)
- An open and freely accessible process model repository including a rich variety of exemplary process models would support a solid and rigorous empirical validation of both technical and non-technical solutions which involve process models
- An accepted set of exemplary models would provide for standardized, repeatable and comparable experiments

Necessity for a Process Model Repository

Data availability

- Publications rarely attach all required data
 - Company specific models which are not publicly available
 - No or incomplete publication of involved process models
 - References to data stored at external source (e.g. web, ftp) without permanent availability
- **PROBLEM**
 - the repeatability and comparability of published solutions is hampered
- **SOLUTION**
 - Open and freely accessible process model repository where process models involved in publications can be stored

Necessity for a Process Model Repository

Standardization

- Case studies in scientific publications exhibit a great variety of process models
 - individual and specific models from different application fields
 - different formalisms/modeling languages
 - different control flow structures, different size
 - different labeling style of elements
- **PROBLEM**
 - the comparability of approaches is hampered
- **SOLUTION**
 - a standardized set of business process models accepted by the BPM community which is publicly available in an open process model repository

Necessity for a Process Model Repository

Application scenarios

- Repeating of scientific evaluations and experiments performed by other researchers
- Comparison of different solutions for a problem
- Source for empirical research by enabling the analysis of a large bandwidth of exemplary real life models (requirement: representative content)
- Researchers (academic staff, students etc.) working with process models could save a lot of time and effort retrieving suitable process models

Existing Approaches

- There are several approaches (e.g. Apromore, Open Model Initiative) and proposals, however none of which has been widely accepted



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Open Models as a Foundation of Future
Enterprise Systems



Towards the realization

Organizational perspective

- Launch a working group which promotes the idea and connects interested persons both from industry and academia
- Provide a centralized information source related to process model repositories and/or process model sets
- Examples might be the Petri Net World Website or the IEEE Taskforce on Process Mining (<http://www.win.tue.nl/ieeetfpm/>)

www.informatik.uni-hamburg.de/TGI/PetriNets [Imprint/Disclaimer](#)



Welcome to the Petri Nets World

The purpose of the *Petri Nets World* is to provide a varie services constitute, among other things, information on f mailing lists, activities, and

IEEE Task Force on Process Mining

Trace: • [process mining manifesto](#) • [start](#)

Towards the realization

Technical details

- Allow for integration of various models with different characteristics in possibly heterogenous formats
- Possible features:
 - Classification scheme for process models
 - Tagging of process models
 - Version control
 - Public comments / discussion on individual models (similar to Wikipedia)
 - Automatic transformation of process models between different notations
 - Additionally provide process logs to support the emerging Process Mining field
- First steps:
 - Requirements engineering (e.g. by means of an empirical study, interviews)
 - Analysis of existing projects in the same area (e.g. Apromore)
 - Transfer established approaches from other disciplines (e.g. linguistic corpora)

Towards the realization

Alternative: model generator

- Yet another idea which is fundamentally different from the repository approach would be providing models with the help of a model generator
- Currently, a handful of approaches pointing into that direction exists, but they have a limited scope (e.g. restricted to a specific modeling notation and specific use cases)
- A more generalized and comprehensive model generator should be able to produce process models with various characteristics for different use cases
- Possible parameters:
 - Number of activities/elements
 - Inclusion of certain workflow patterns
 - Modelling notation
 - Labeling style
 - Domain defining the model vocabulary (e.g. health care, logistics)

Conclusion

- A model repository is of great importance for solid and rigorous scientific research in BPM
- There are many challenges which need to be addressed towards the creation of a comprehensive and useful model repository
- Organizational perspective
 - launch a working group
 - create a centralized information source
- Technical perspective
 - design a concept
- Alternative: model generator

Thanks for your attention!