Background

BPMN 2.0 [1] is the de facto standard for business process modeling that provides a graphical notation for specifying business processes in a diagram.

Generally BPMN 2.0 is serialized in “special” XML files that follow specific rules of the BPMN 2.0 Standard. However, the different vendors choose various approaches to serialize BPMN 2.0 (e.g. non-standardized formats, or SVG & Json files).

This leads to a challenge when someone tries to parse models of repositories provided by different vendors, since the various parsing frameworks lead to different forms of Java Objects.

Eclipse Modeling Framework (EMF)[2] for BPMN 2.0 maps the BPMN 2.0 models to Java Objects and then offers a strong range of functionalities on them.

However EMF only supports parsing BPMN 2.0 models whose serialization is compliant to the BPMN 2.0 standard format.

For models that are serialized otherwise EMF does not provide a parsing mechanism.

Therefore an implementation of a transforming other Java objects that result from third party BPMN 2.0 parsers to EMF objects is needed.

Tasks

Theoretical Understanding

- Analysis and understanding of the BPMN 2.0 structure and usage
- Understanding the Eclipse Modeling Framework (EMF) for BPMN 2.0
- Understanding the PromniCAT[3] Framework
- Understanding Camunda[4] Library

Implementation

- Parsing BPMN 2.0 models from BPMAI with PromniCAT Library. Design and implement a transformation to EMF Objects.
- Parsing IBM BPMN 2.0 with an extension of Camunda Library. Design and implement a transformation to EMF Objects.

Required previous knowledge and experiences

- Strong Java Programming skills and expertise
- BPMN 2.0 knowledge will be appreciated
- …or the declared intention to deeply dive into these topics in advance

Benefits

- Improvement of Java skills
- Deep understanding of widely used Java libraries and Frameworks
- Understanding of the BPMN 2.0 Language
**Formal Requirements**

The lectures of Business Process Management and the referred to literature are recommended for preparation. The student has to manage his schedule including this work packages and milestones for himself. A helpful guide for planning and writing a thesis can be found in [6] and [7]. The preferred language of the work is English.

**Literature**


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