Diploma / Master Thesis

Defining BPMN 2.0 Process Fragment Language

Beginning: as soon as possible

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. In order to re-use parts of the business process, the term of “Process Fragments” has been introduced [2]. A process fragment is a “connected graph, however with significantly relaxed completeness and consistency criteria compared to an executable process graph […] A process fragment has to consist of at least one activity and there must be a way to complete it to an executable process graph”[3].

In order to use process fragments in a process language the latter has to be extended with additional language constructs that will comply with the process fragment concept [2]. An extension of BPEL [6] language to BPEL process fragment modeling language is described in [6] and a first approach on defining BPMN process fragments is done in [7]. The goal of this thesis is to define an extension of the BPMN 2.0 language constructs to support process fragments. The requirements of the BPMN 2.0 process fragment modeling language should be defined, as well as the types of reusable constructs that the language should support. Based on this analysis a syntactical definition of the process fragment modeling language should follow. When the language is defined it should be implemented as a BPMN 2.0 extension and evaluated with the usage of BPMN 2.0 models.

Tasks

• Literature review concerning process fragments and process fragment modeling languages
• Deep analysis and understanding of BPMN 2.0 structure and usage
• Requirements analysis of the process fragment modeling language
• Definition of the syntax of the process fragment modeling language
• Implementation of the process fragment modeling language as BPMN 2.0 extension
• Evaluation of the approach
• Extend current tools to develop a process fragment modeler for BPMN 2.0

Required previous knowledge and experiences

• BPMN 2.0 [1]
• Java Programming skills and expertise
• Business Process Management
• …or the declared intention to deeply dive into these topics in advance

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 [8] and [9]. The preferred language of the work is English.
Literature

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