The Workflow Patterns for Process Modeling

Student project defined by

Petia Wohed and Paul Johannesson

Theoretical Background
The workflow patterns (www.workflowpatterns.com).

Long term vision
The work in this task will contribute for the development of a method for process modeling support based on the set of the workflow patterns.

Research questions
1. Investigate the frequencies with which the different workflow patterns appear in real case scenarios.
2. Investigate the constellations in which the workflow patterns appear, i.e. identify the combinations of workflow patterns and the order between them which appear frequently.
3. Identify gaps, i.e. business cases which can not be captured through the current set of workflow patterns.

Methodology
1 Collect a number of cases (check the workflow vendors web pages, some of them may contain business process examples demonstrating the strengths of the corresponding products)
2 Analyse every case individually by (a) building a process model in YAWL for it and (b) and identifying the workflow patterns used for building up the model.
3 Summarise the results from the individual analysis

Work steps
This is a very preliminary suggestion of work steps.

1. Read the report on workflow control-flow patterns (http://is.tm.tue.nl/research/patterns/download/wfs-pat-2002.pdf) in detail and the reports on data and resource patterns (http://is.tm.tue.nl/research/patterns/download/data_patterns%20BETA%20TR.pdf and http://is.tm.tue.nl/research/patterns/download/Resource%20Patterns%20BETA%20TR.pdf) briefly.
2. Install YAWL (http://www.yawl.fit.qut.edu.au/) and run the small examples provided in the downloading library.
3. Search and select a number of cases (start the search with the workflow vendors homepages. You can find links to them from the workflow patterns homepage http://is.tm.tue.nl/research/patterns/vendors.htm).
4. Model each case in YAWL. Start with modeling the control-flow perspective. (In case of time you can have a look at the data and the resource perspectives as well).
5. Identify the patterns from which the process model for every case is built up. Measure the frequencies of the appearance of the different patterns.
6. Analyse the combination of patterns appearing. Start with analyzing combinations of two patterns. Extend your analysis for three (and maybe four) patterns. In the case of three and more patterns it is interesting to analyse the order in which the patterns appear.
7. Were you able to represent every detail in the different business scenarios with the existing patterns or did you need to modify your requirements in order to be able to represent the cases in YAWL? What were not you able to capture? Could this be a new pattern?