

Seminars in Software and Services for the Information Society - Process Modeling & Management

AVAILABLE PROJECTS

Project #1 (ALREADY ASSIGNED)

Title: Modeling clinical guidelines in BPMN.

Goal: Clinical guidelines are recommendations on the appropriate treatment and care of people with specific diseases. Clinical guidelines are presented in the form of best practices and provide clinicians with appropriate knowledge to enact the medical treatments. The goal of this project is to investigate some of the most used clinical guidelines and modeling them through BPMN.

Tools: Eclipse BPMN or Bizagi Process Modeler.

Project #2

Title: Designing a declarative language for formalizing the data flow in BPMN.

Goal: BPMN provides support for modeling control flow, data flow and resource allocation. For facilitating the handover of BPMN models to developers for enabling the transformation of BPMN into an executable language, data flow modeling is an essential aspect. This is mainly done through so called data objects that are written or read by activities. The goal of this project is to design a declarative language for representing formally the flow and the exchange of data within a BPMN process. Note that part of this language has already been defined.

Tools: Eclipse BPMN, Java.

Project #3

Title: Extending the BPMN plugin of Eclipse for making a BPMN process executable.

Goal: Eclipse BPMN is a graphical editor that allows to specify business processes using the BPMN 2.0 notation. The goal of this project is to customize the plugin for associating to each activity/event/gateway a set of information for enabling the BPMN process to be executed.

Tools: Eclipse BPMN, Java.

Project #4

Title: Modeling dynamic processes in YAWL.

Goal: The YAWL system is among the most well-known Process Management Systems coming from academia. YAWL allows to define stable and well-understood processes and provides support for the handling of expected exceptions, which can be anticipated at design time. But in some real world scenarios, the environment may change in unexpected ways so as to prevent a process from being successfully carried out. In order to cope with these anomalous situations, a Process Management System should automatically recover the process instances at run-time, by considering the context of the specific case under execution. The goal of this project is to extend the XML-based model of YAWL with:

1. the possibility of annotating process tasks with pre-conditions, desired effects and post-conditions;
2. the ability of explicitly representing the contextual data that reflect the scenario in which the process is under execution.

Tools: YAWL.