GoMoKIT-
Towards an applicable goal-oriented Business Process Modelling approach for knowledge-intensive Tasks

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User wants to rebuild a historical building, which is near natural water.
Modelling approach

New modelling object: Variable process part
- reference to potential tasks
- associated set of rules

Pool of potential tasks for variable process part

rules:
Selecting appropriate activities by pre- and postconditions and goals
Workflow-Engine

Process

Application data

Call

direct inputs

Link to SWRL (RuleSet)

Context relevant data

Link defined in property file

RHEA
Modelling approach

Main goal: Application is approved.

Task Pool

- Outside inspection
- Send application is Accepted Notification
- Historical preservation investigation
- Environmental compatibility check
- Send application is not accepted notification
- Check Layout Plan
Task Pool
Goal: Application is approved.

Task: Outside inspection
Subgoal: A surrounding compatible is approved.
Precondition: Building fits not to surrounding.
Postcondition: Building compatibility is accepted or not.

Task: Environmental compatibility check
Subgoal: Environmental compatibility is approved.
Precondition: Distance to natural water is less than 50 m.
Postcondition: The environmental compatibility is not accepted.

Task: Historical Preservation Investigation
Subgoal: Historical preservation investigation is approved
Precondition: building is a historical building.
Postcondition: Historical preservation investigation is accepted or not.

Task: Send application is Accepted Notification
Subgoal: Application is approved
Precondition: The environmental compatibility is accepted and Building compatibility is accepted and Building is a not historical building
Postcondition: Application is accepted.

Task: Check Layout Plan
Subgoal: The layout plan is approved.
Precondition: 
Postcondition: Application fits to surrounding or not.

Task: Send application is not accepted notification
Subgoal: Application is approved.
Precondition: The environmental compatibility is not accepted or Building compatibility is not accepted or Historical preservation investigation is not accepted.
Postcondition: Application is not accepted
RHEA Architecture

Workflow Engine

In
SWRL (RuleSet)
Application/Context-Data

Out
String (URI) or String[]

RHEA

OntologyManager

SWRLXParser

SWRL2JenaRules

FITRuleEngine

OWLS2BPEL

ExecuteBPEL

Domain and process ontology

JENA2-API

Process
Application data
Steps to get execution plan

1. Search for main goal
2. If found not main goal and no satisfied precondition, throw an exception.
3. Get precondition.
4. Get task with postcondition or subgoal regarding precondition.
5. Check if the task has no preconditions which must be fulfilled by other tasks.
6. Execute found tasks.
GoMoKIT approach
Questions?