

Semantic Technologies for the Project Management Life Cycle Improvement

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Outline

- Background
- Scenarios
- Ontological Engineering Approach
- Ontology & Terminology
- Prototype
- Evaluation

1

BACKGROUND

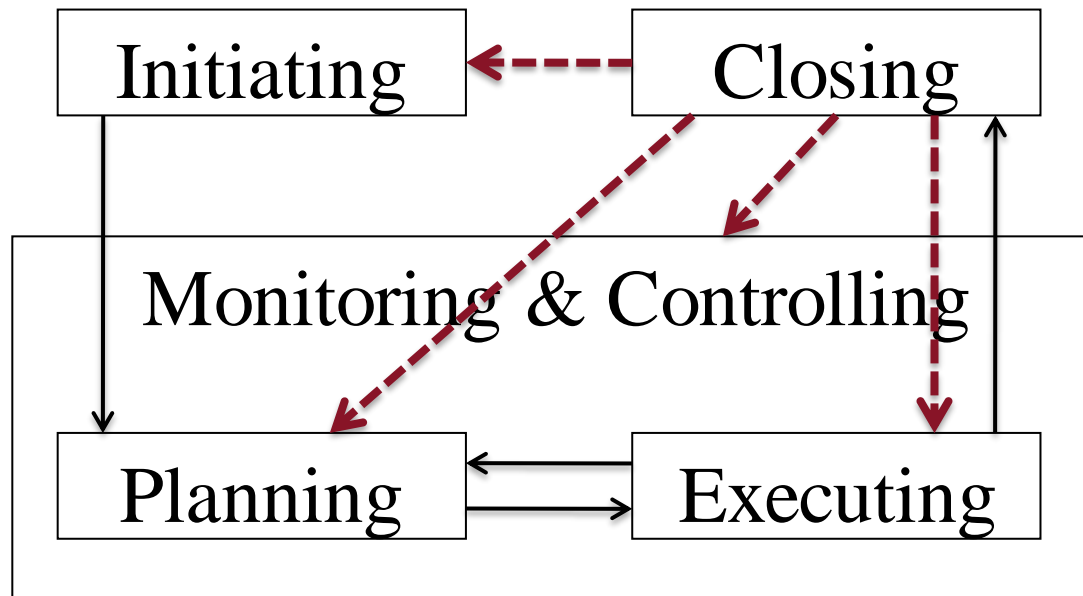
Project SemProM

- Semantic based Project Management
- 3 year funded fellowship – FFG (FIT IT)
- Research Question:
Do semantic technologies improve project management processes?
- Project management system enhanced with semantic technologies
 - Project management knowledge base

Problem Relevance

- Project management still contains lots of shortcomings
- Current shortcomings:
 - companies do not reuse existing knowledge of finished projects
 - they do not archive information in a central and well-structured storage
 - cockpit of up-to-date information is missing
- ➔ PM systems mainly support the ongoing phase of the PM life cycle and do not consider the initiating and closing phase

Project Management Life Cycle



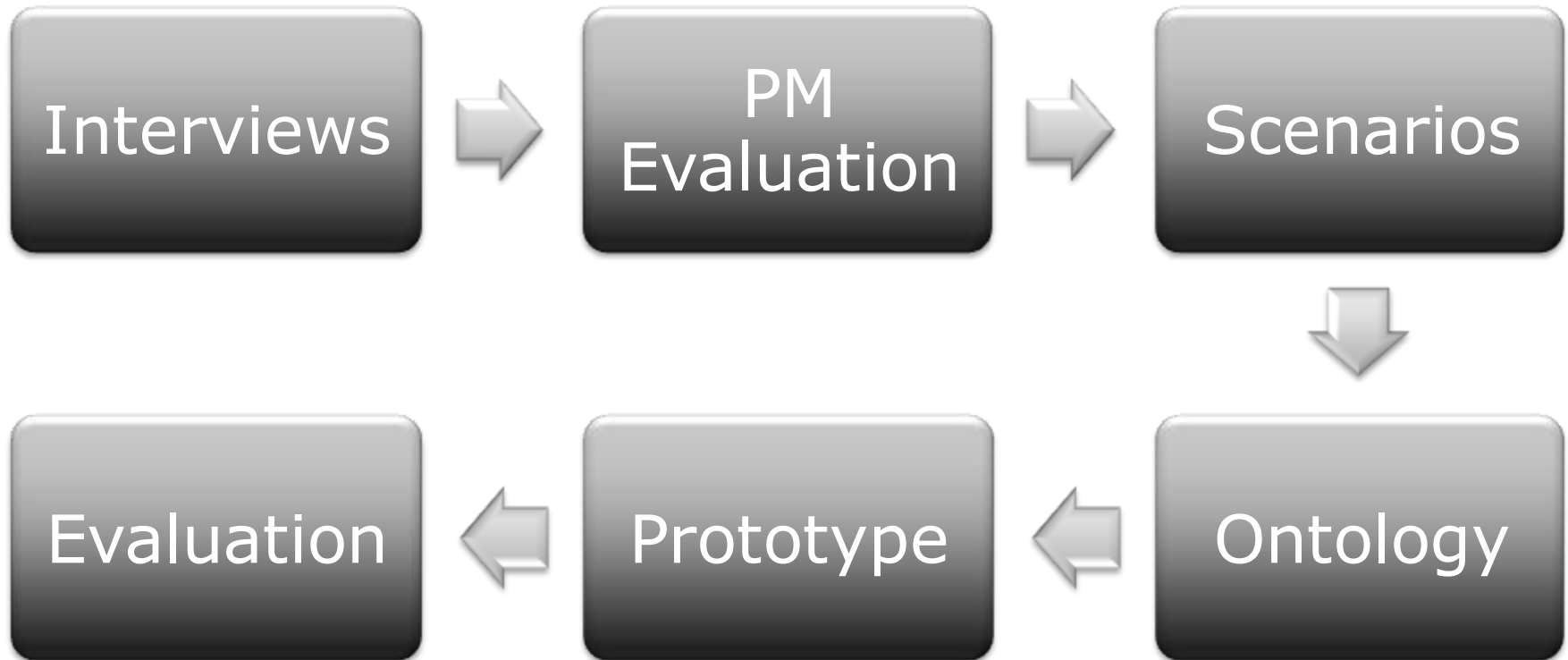
Benefits

- Knowledge of projects is easier detectable and can be retrieved for further projects
- The system is able to react on unforeseen circumstances
- The interchange of relevant information gets simplified
- PM systems should be easily extensible

How to implement?

- Project management ontology
 - Semantic annotations
 - Semantic search
 - Stored information is semantically linked and archived in a central storage
- Semantic knowledge base to query project relevant information improving the project management life cycle

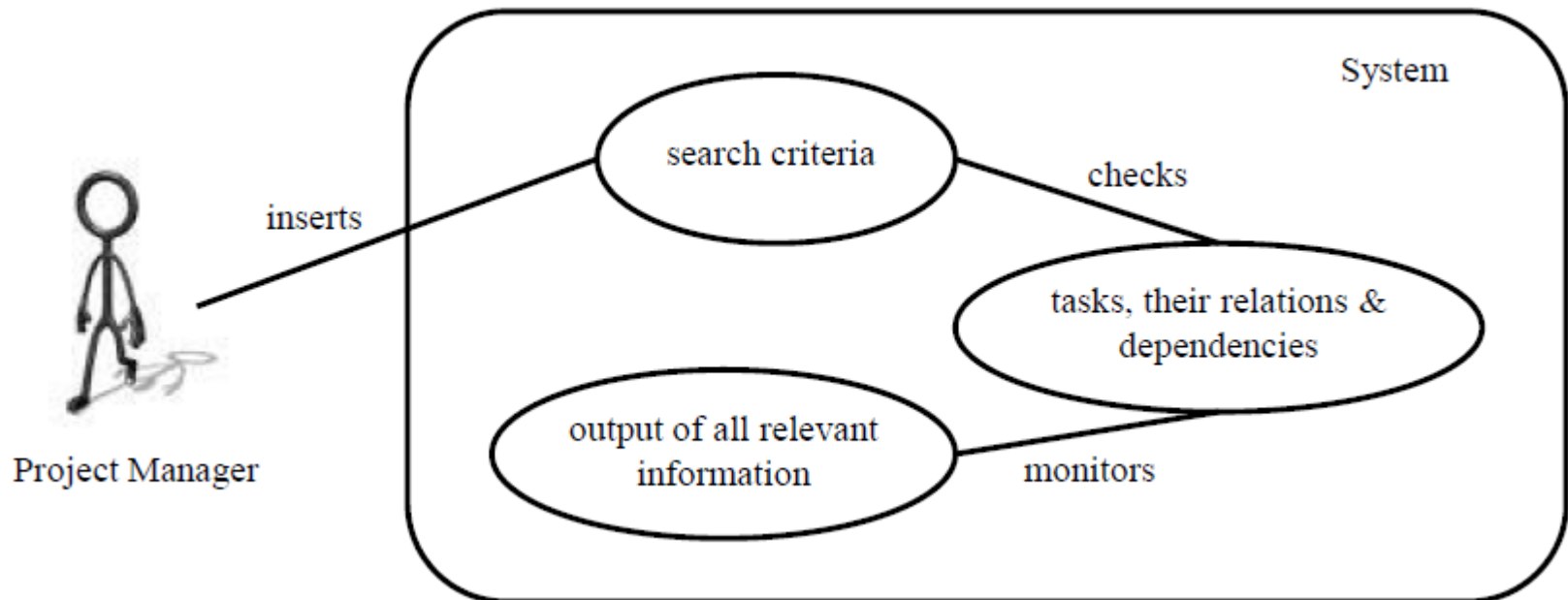
Working Steps



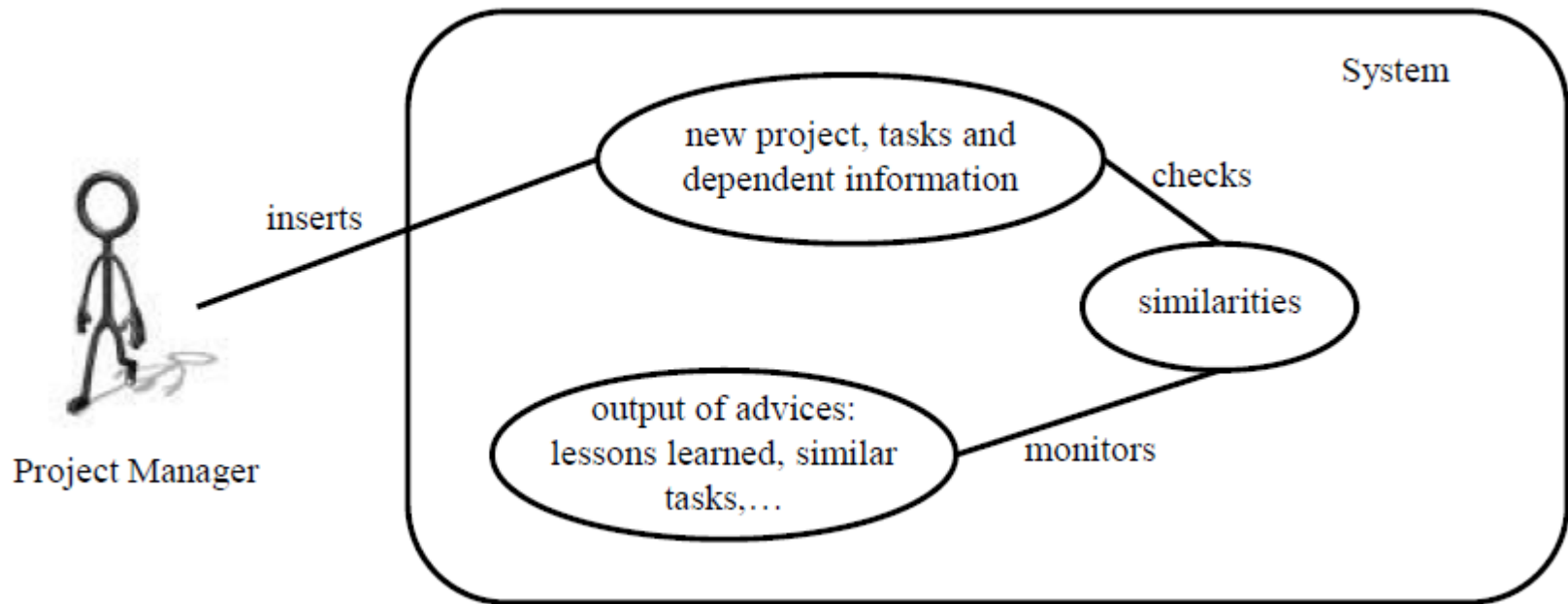
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SCENARIOS

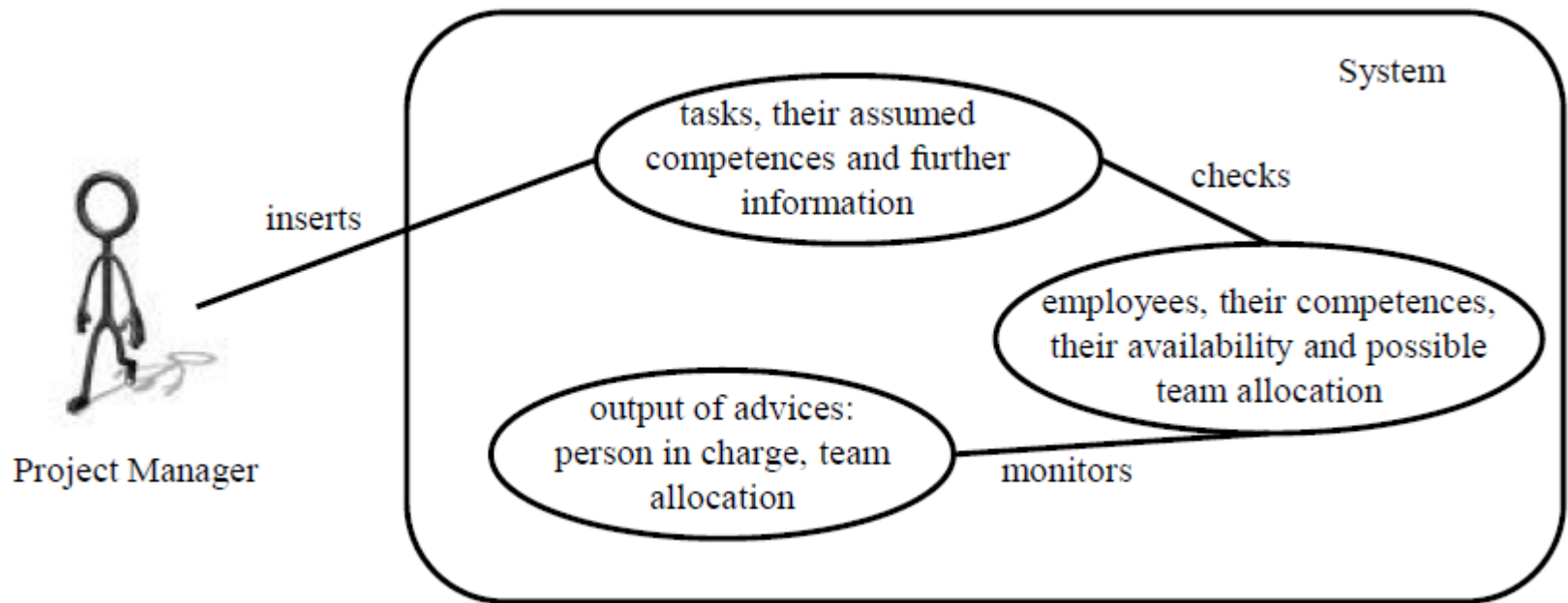
Scenario 1 – Bob needs Holidays



Scenario 2 - A new Project



Scenario 3 - Team Suggestions, etc.

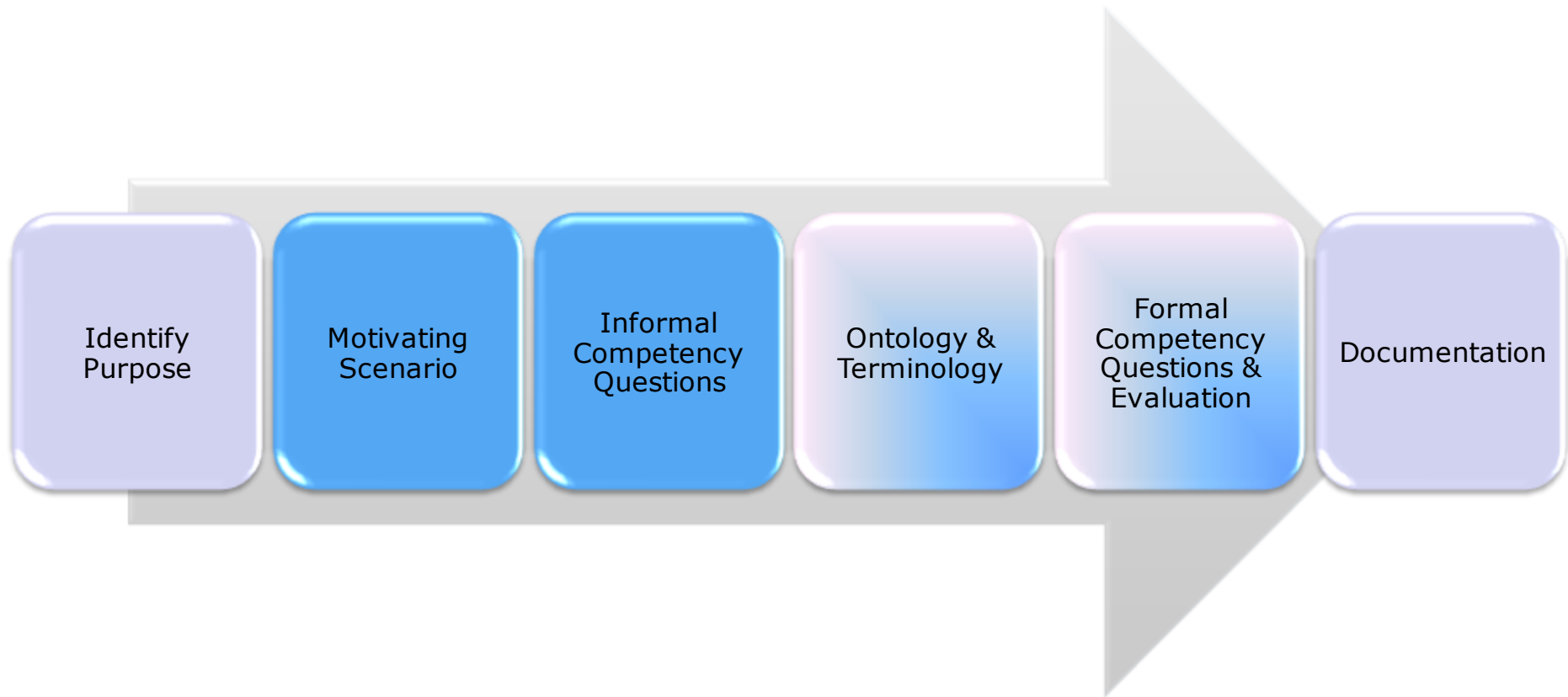


3

ONTOLOGICAL ENGINEERING APPROACH

Ontological Engineering Approach

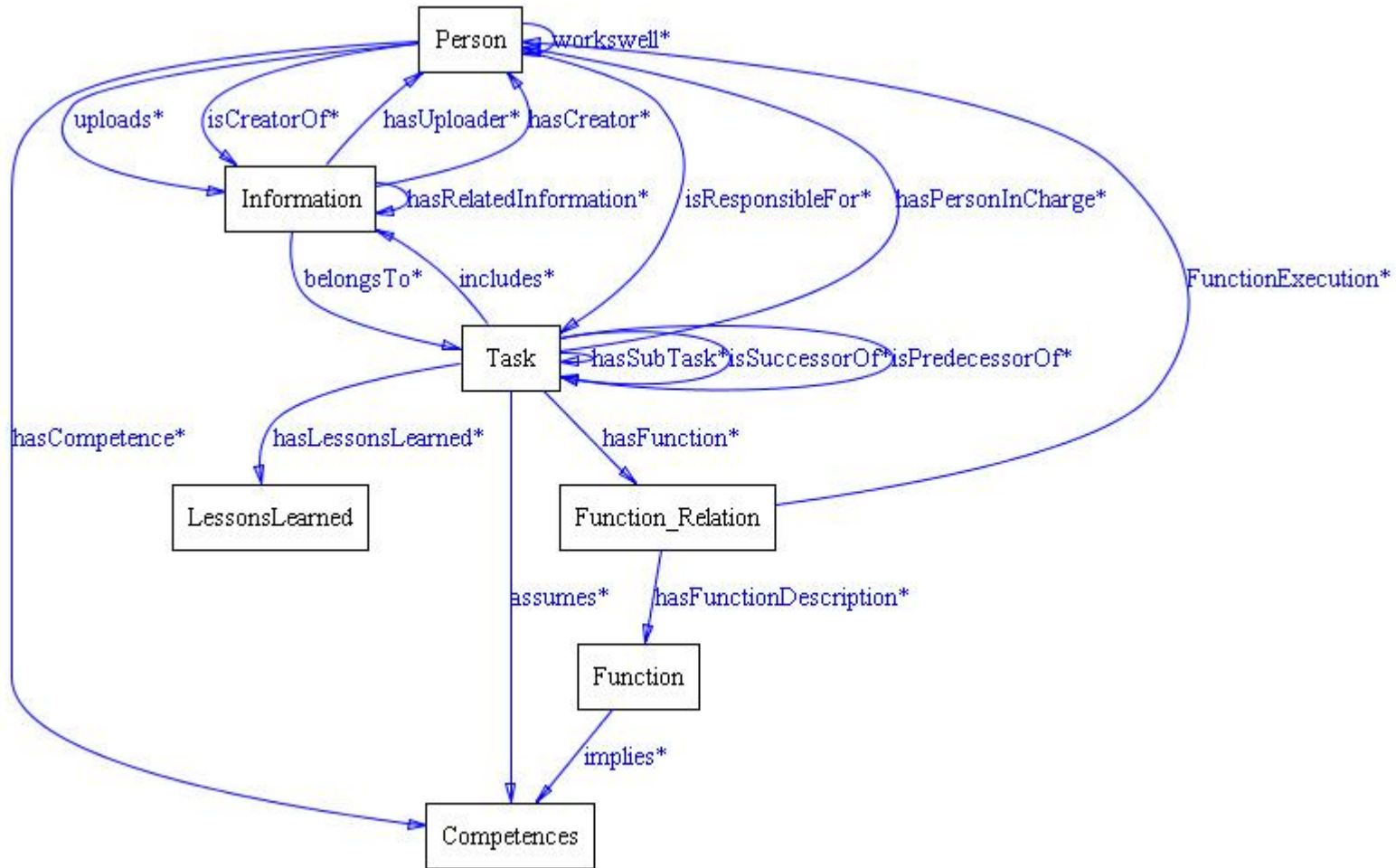
- Mixture of Uschold and King & Grüninger and Fox



4

ONTOLOGY & TERMINOLOGY

Ontology – main concepts



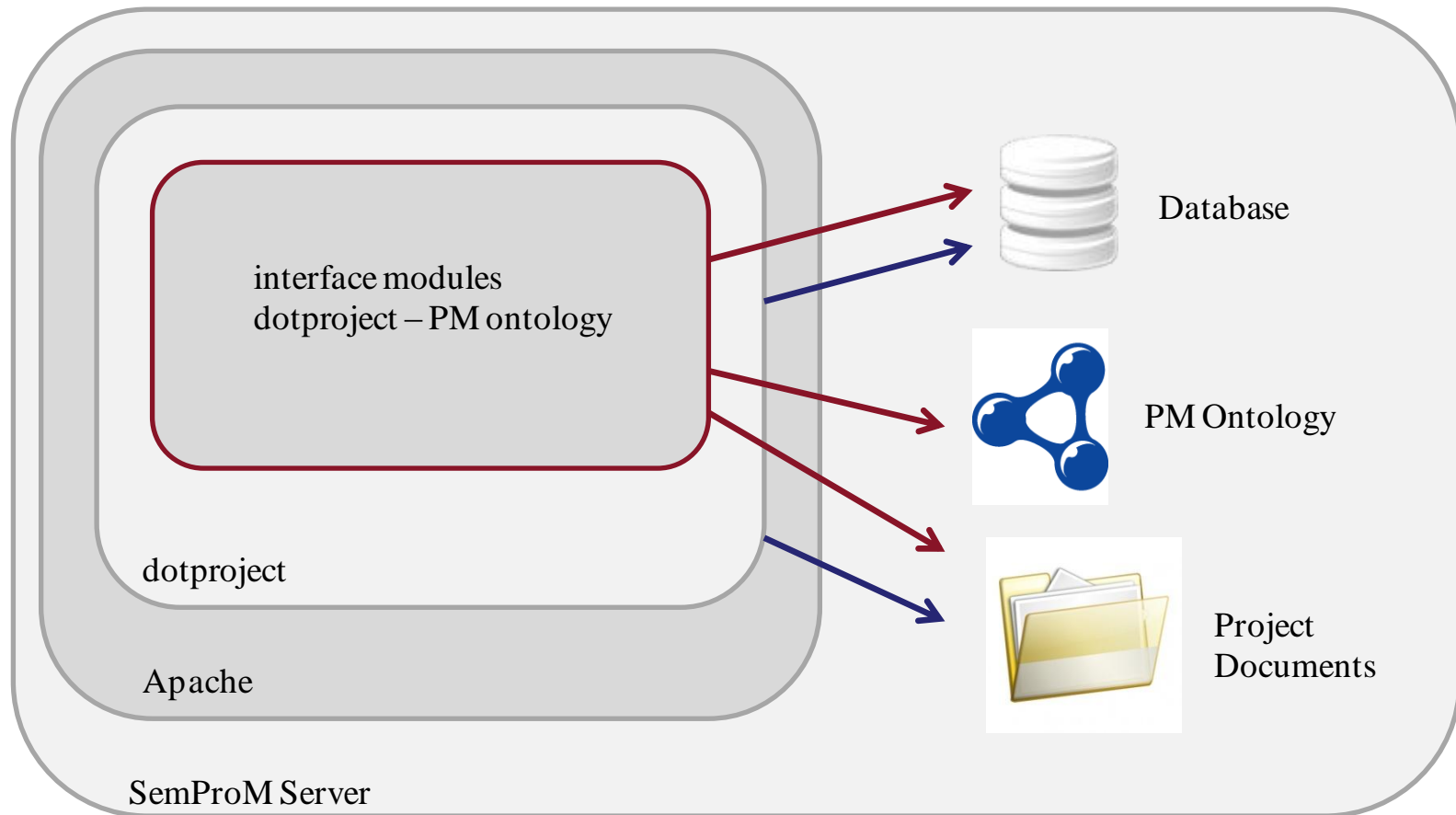
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PROTOTYPE

Prototype – Key Facts

- Open source project management system **dotproject**
- Ontology
 - RDF
- Semantic Search
 - Ontological Reasoning
 - SPARQL

Rough Architecture



6

EVALUATION

Evaluation

- Prototype testing
 - Define guided test procedure & questionnaire
 - 4 test persons (project manager)
- Evaluation of the research question
- Ontology
 - Prototype

7

CONCLUSION

Conclusion

→ Purpose of this project:

- semantic based project management knowledge base
- improve the project management life cycle, especially the initiating and closing phase

■ On the way:

- Ontology engineering approach
 - lots of different engineering approaches
 - define the right approach for the present requirements
- Ontology
 - modular
 - arbitrary extendable
- Evaluation
 - covers ontology as well as prototype



1

Birth

Form question in
your mind



2

Evaluate

Is it a reasonable
question?



3

Remember

Until you can
ask the question



4

Courage

To ask the
question out loud

8

**THANKS FOR
YOUR ATTENTION**