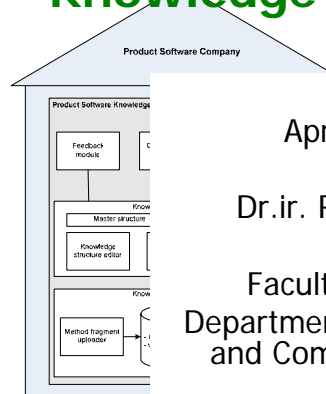




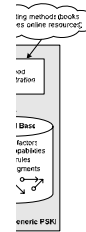
# Structuring method knowledge in Product Software Knowledge Infrastructures



April 5, 2006

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ISOC seminar: Taxonomy Management and Information Integration, 5 April 2006

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## Outline

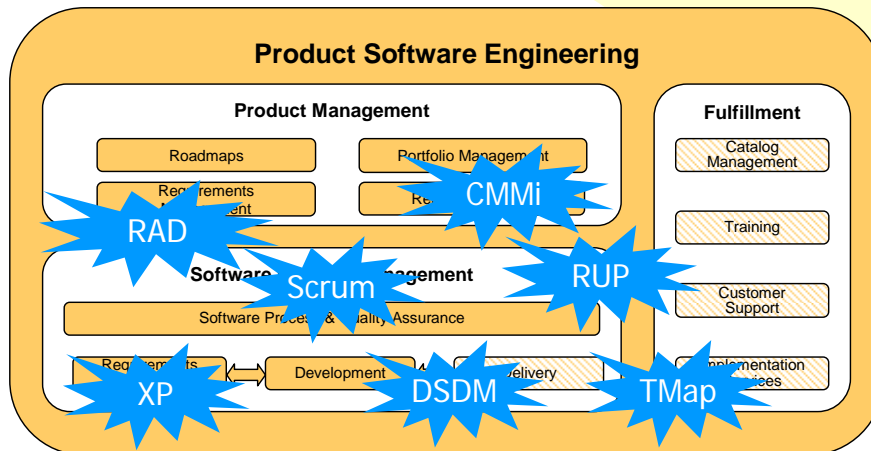


- **Introduction Product Software Knowledge Infrastructure**
- Case study: Baan
- Describing methods using Topic Maps

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# Overview of Product Software Engineering



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## Methods and their elementary building blocks



- A **METHOD** is an **approach** to perform a systems development project, based on a **specific way of thinking**, consisting of **directions and rules**, structured in a systematic way in development **activities** with corresponding development **products**
- A **METHOD FRAGMENT** is any **coherent building block** of a method

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# Knowledge Infrastructure for Product Software companies



- Support the **capture/storage** of method fragments in a method base
- Support the **dissemination** of method fragments in the (distributed) organization
- Support the **manual selection/adaptation** of method fragments for situational methods
- Support the **(semi-)automatic selection & assembly** of method fragments based on project characteristics and assembly rules

## Outline



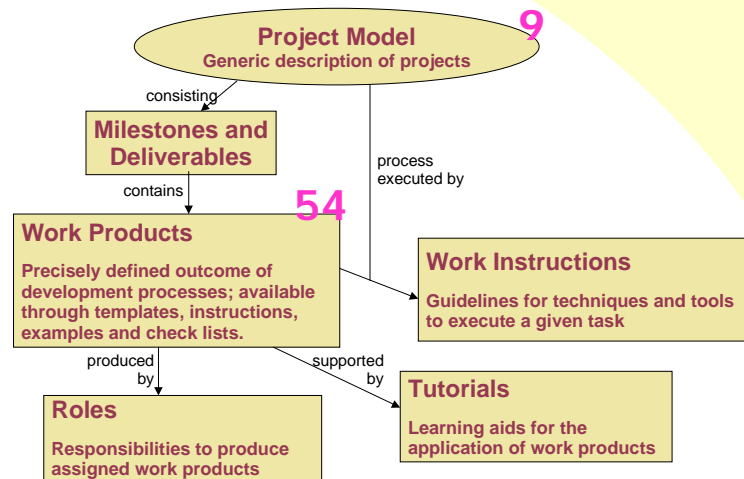
- Introduction Product Software Knowledge Infrastructure
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# Case study Baan



- 1300 software developers at Baan Development
- 11 offices in NL, India, Brazil, Canada, USA, Israel
- 5 product lines: ERP, Business Intelligence, Baan OpenWorld, e-Enterprise, Supply Chain solutions
- Started early 90's to describe their software development method
- Started as a paper handbook, in 1997 decision to switch to an Intranet environment

# Structure of DMethod



# Homepage of Baan's DMethod

# Example: Project model

Milestone / work product	State
Project start	
<b>Project Proposal</b> (only for Common Tech)	Actual
<b>Project plan</b> : SWD (first edition)	Actual
<b>Configuration Item-list</b>	Actual
Definition study	
<b>Definition study</b> (first edition)	Actual
<b>Configuration Item-list</b>	Actual
Project plan	
<b>Project plan</b> : SWD (next edition if needed)	Actual
<b>Project Evaluation</b>	Actual
<b>Configuration Item-list</b>	Actual
Functional design	
<b>Definition study</b> (next edition if needed)	Actual
<b>Functional design</b> (first edition)	Actual

States:  
 - Initial  
 - Preliminary  
 - Actual  
 - Historic

## Example: Work instruction



The screenshot shows a Microsoft Internet Explorer browser window displaying a web page titled "Work Instruction Customer Commitment". The browser's address bar shows the URL: <http://www.baandev/bdm/html/editions/Actual/WorkInstructions/Customercommitment/Description.htm>. The page content includes a navigation menu with links for "Introduction", "Overall Description", "Flow Chart", "Detailed Description", and "Document Information". The "Introduction" section is active and contains the following text:

**Introduction**

This work instruction describes the process of making customer commitments within Baan Development.

The following types of customer commitments are distinguished that are described in this work instruction:

- Commitments on Content (what)
- Commitments on Timing (when)
- Commitments on both Contents and Timing

**Purpose**

The purpose of this work instruction is to define a uniform, unambiguous process of making customer commitments to customers within Baan Development by defining:

- What is a commitment?
- How and when can a commitment be made?
- Who can make commitments on content and/or on timing?
- How and by whom are commitments tracked?

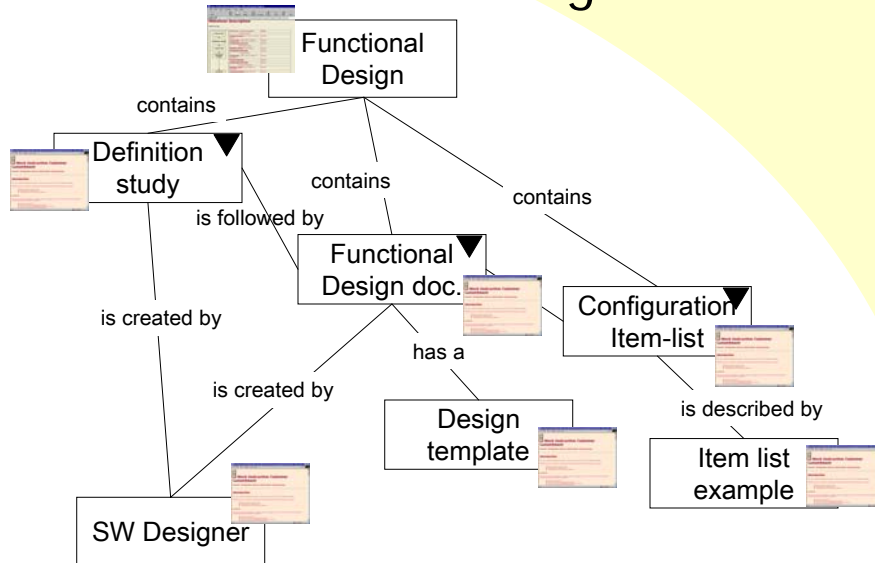
The browser's status bar at the bottom indicates "Local intranet" and the page number "11". A red circle highlights a traffic light icon in the top left corner of the page content.

## Outline

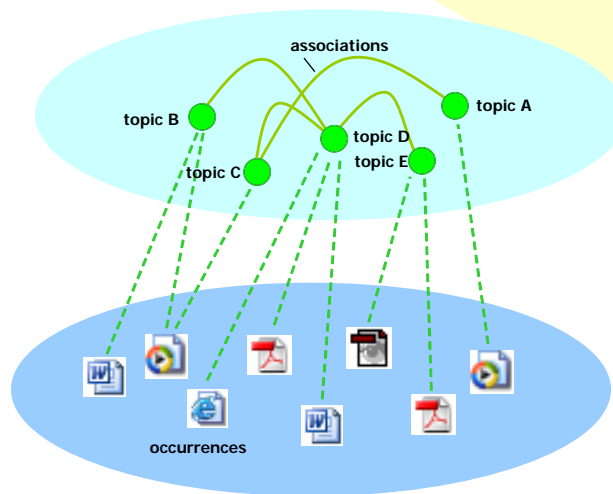


- Introduction Product Software Knowledge Infrastructure
- Case study: Baan
- **Describing methods using Topic Maps**

# Method as a collection of linked method fragments



# Topic maps

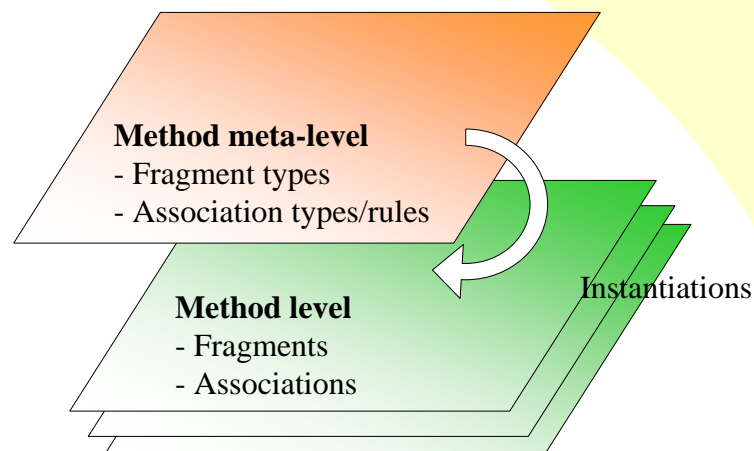


## Describing methods using XTM



- *Method fragments* can be defined as *topics*
- *Links* between fragments can be defined as *associations* between topics
- *Webpages or other media* containing information on method fragments are defined as *occurrences*
- => Rather straightforward!

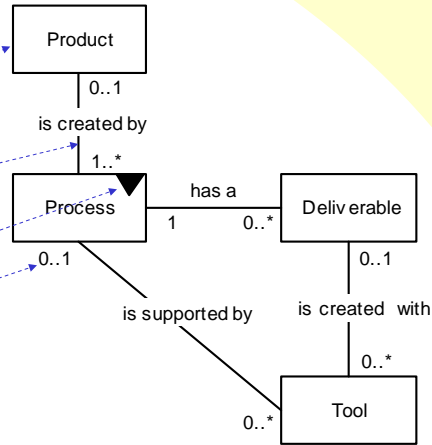
## Meta-modeling of methods: structure definition of methods



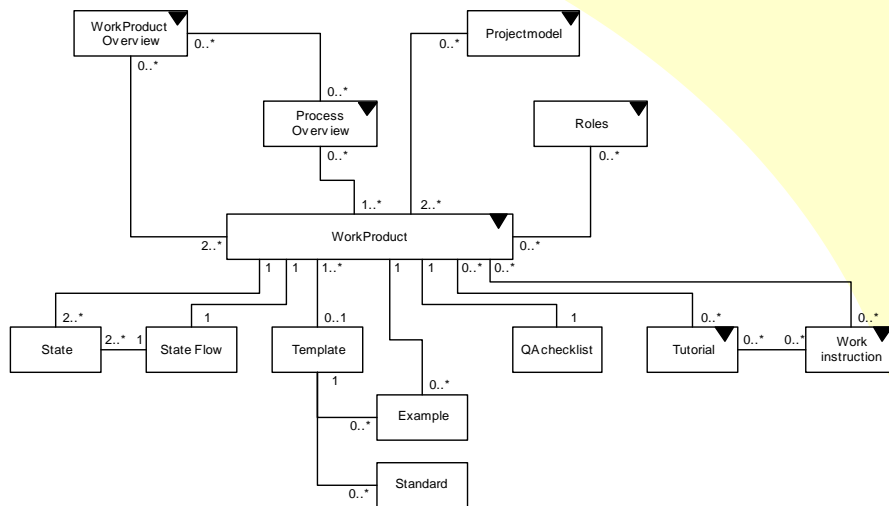
# Meta-model: Knowledge Entry Map



- Concept
- Association
- Entry Point
- Rules



# Example: KEM at Baan

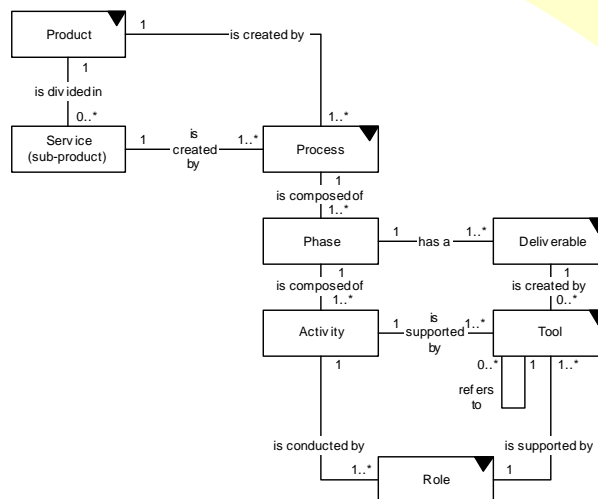


## Variants & Conditional associations



- **Variant**: Different appearances of the same method fragment, e.g. a Template for a Data model: UML vs. E-R
- **Conditional association**: The existence of an association between method fragments depends on a certain condition, e.g. there should be a Template OR an Example associated to each Work Product

## Example: KEM at Centric



## KEM in XTM/OSL (1)



- *Concepts* can be defined as *Topic types*
- *Associations* can be defined as *Topic types*
- *Direction of associations* are defined using the *scope tag* in *Topic types*
- *Entry points* are defined as *Topic types*
- Rules are defined using OSL (association and role tag)

## KEM in XTM/OSL (2)



- We did not succeed in expressing variants and conditional associations in XTM/OSL
- Alternatives might be using RDF or OWL instead

# Questions?



<http://www.eternaegypt.com>

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**Library**

Treasures of Tutankhamun  
Four

Personal Appearance and Clothing  
Collection of 5 Articles

Languages and Scripts in Egypt  
Collection of 6 Articles

The Royal Chamber of Tutankhamun  
Article

Clothing of Ancient Egyptian Pharaohs  
Article

Hieroglyphs  
Article

**Glossary**


**Book of the Dead**  
collection of funerary spells usually written on papyrus and placed with the deceased in the tomb in order to lead him throughout his journey in the underworld

**emblem**  
A symbolic object used as an identifying mark.

**Other Multimedia**

Virtual Environment

Animation



[Click To Zoom](#)

**Attributes**

Culture: Pharaonic  
Technique: Inlaid  
Hammered  
Chased  
Soldered  
Cast

Style: New Kingdom

Materials: Obsidian  
Quartz / Rock  
Crystal  
Lapis Lazuli  
Glass  
Gold

**IXXX**

Type: Mask

**MAD**

Location: Egyptian Museum  
Created: Valley of the Kings

**Timeline**

Created: 1331 B.C. - 1323 B.C.  
Acquired: AD 1925

**Topics**

Topic: Arts and Crafts  
Crafts  
Jewelry  
Government  
Leads  
Society and Culture

