

# ISW: Software Engineering

## WS 2015/16

### UNICASE

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RUPRECHT-KARLS-UNIVERSITÄT HEIDELBERG



- CASE-Tool
- Basiert auf der Eclipse Plattform
- Werkzeug, mit welchem die TeilnehmerInnen eines Softwareentwicklungsprozesses die entstehenden Artefakte dokumentieren können, wie z.B. Anforderungen, Projektplanung
- Es integriert Modelle von verschiedenen Entwicklungsaktivitäten in einem vereinheitlichten Modell: z.B.:
  - Requirements, Use Cases, UML Modelle, Planung, Bugs und Features
- Open Source Projekt, veröffentlicht unter der Eclipse Public License v1.0 (EPL)
- Infos unter: <http://www.unicase.org/>

- Leitung der Entwicklung:
  - Team von ForscherInnen und DoktorandInnen an der Technischen Universität München
- Industrielle Partner:

**SIEMENS**

**M** Flughafen  
München

people   
the browser entertainment people

**msg**  
systems

**FTI**  
TOURISTIK

## Akademische Partner:

**TUM** TECHNISCHE  
UNIVERSITÄT  
MÜNCHEN

RUPRECHT-KARLS-  
UNIVERSITÄT  
HEIDELBERG



**LMU**

LUDWIG-  
MAXIMILIANS-  
UNIVERSITÄT  
MÜNCHEN



Bonn-Rhine-Sieg University  
of Applied Sciences

**U**  
**N**  
**I** } **Unified Model**  
**C** **Computer**  
**A** **Aided**  
**S** **Software**  
**E** **Engineering**

# Unified Model: Integration von 2 Modellen

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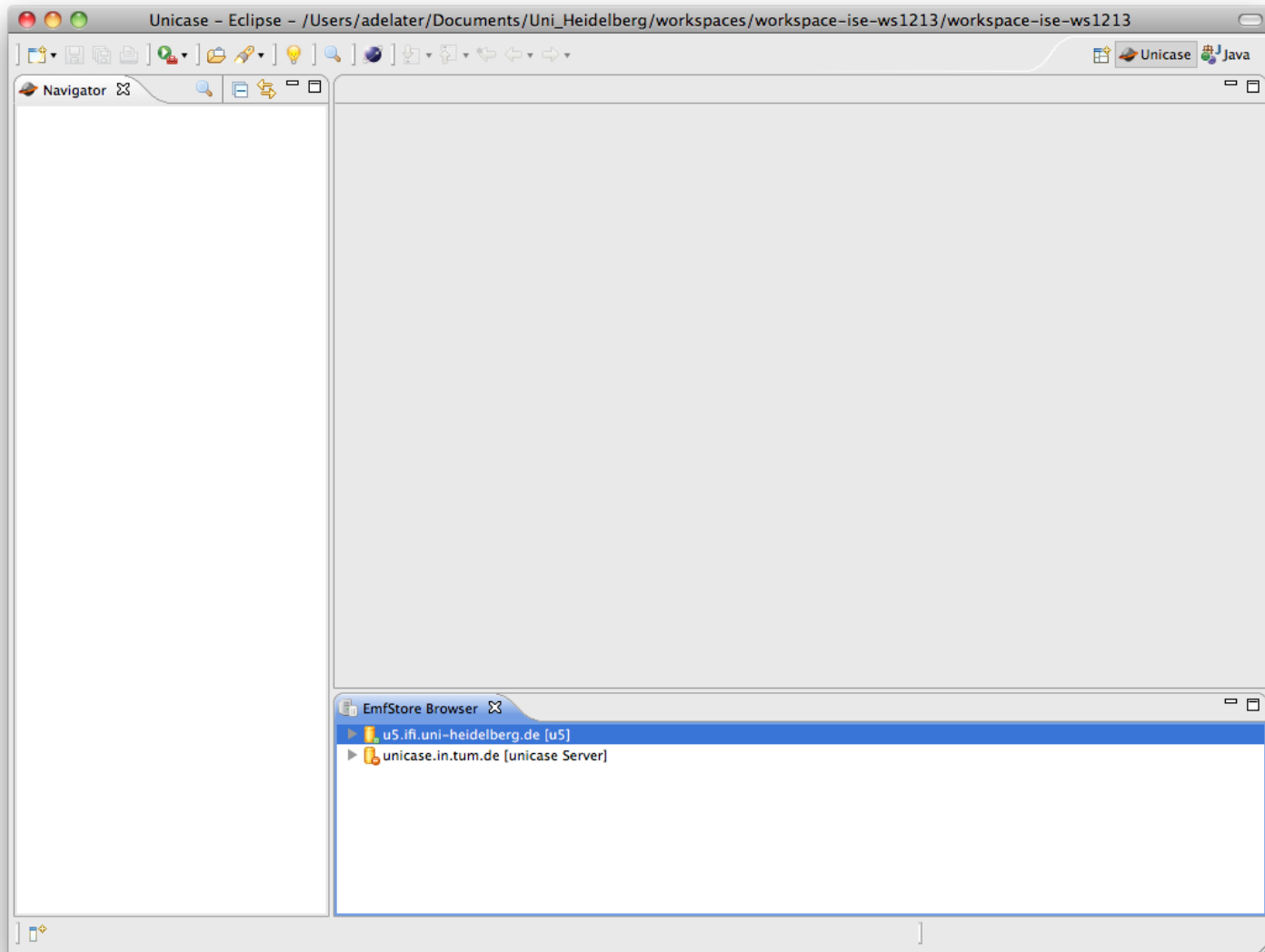
- Requirement
- Use Case
- System Function

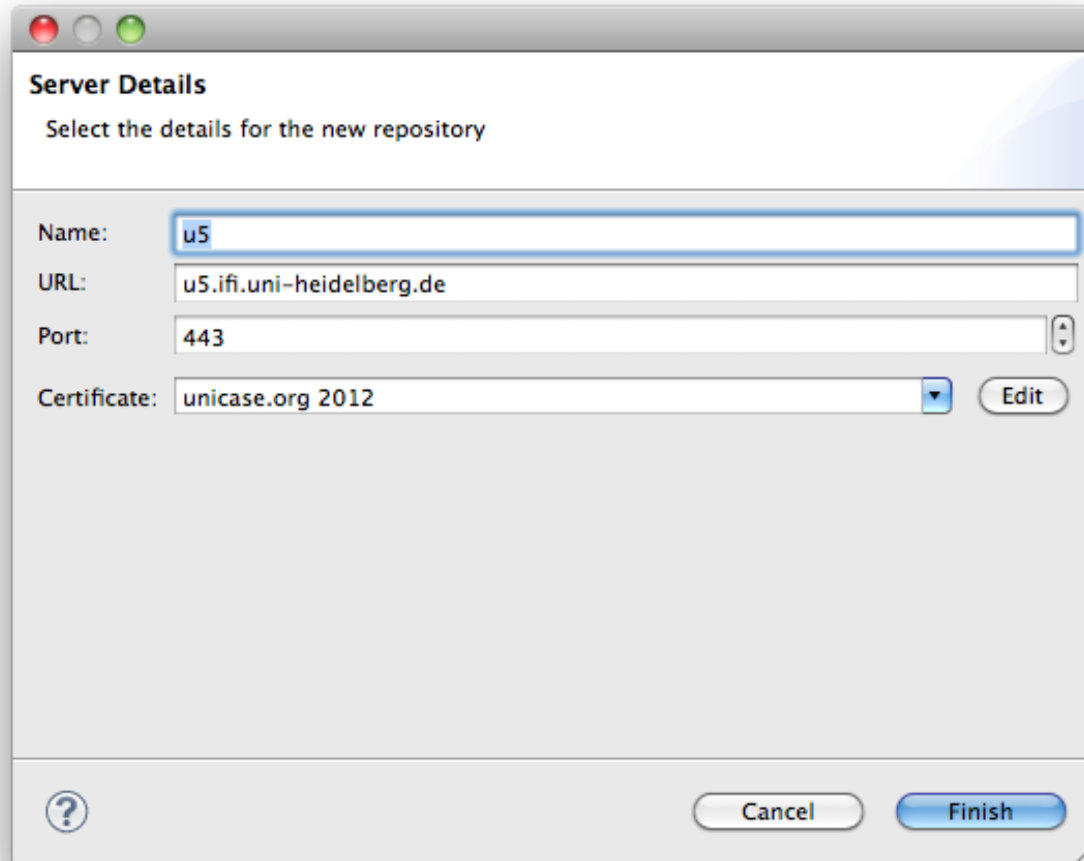
## System Model

## Project Model

- Action Item
- Bug Report
- Meeting

# Teil 1: Grundfunktionen





**Server Details**  
Select the details for the new repository

Name:

URL:

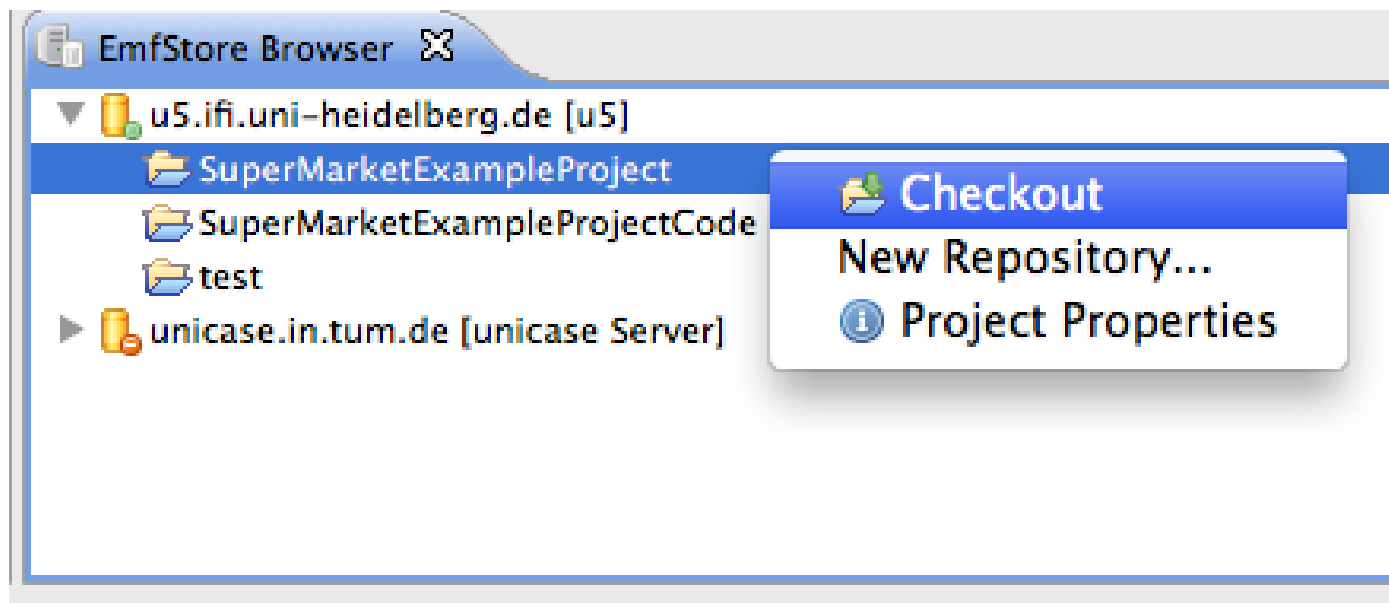
Port:

Certificate:

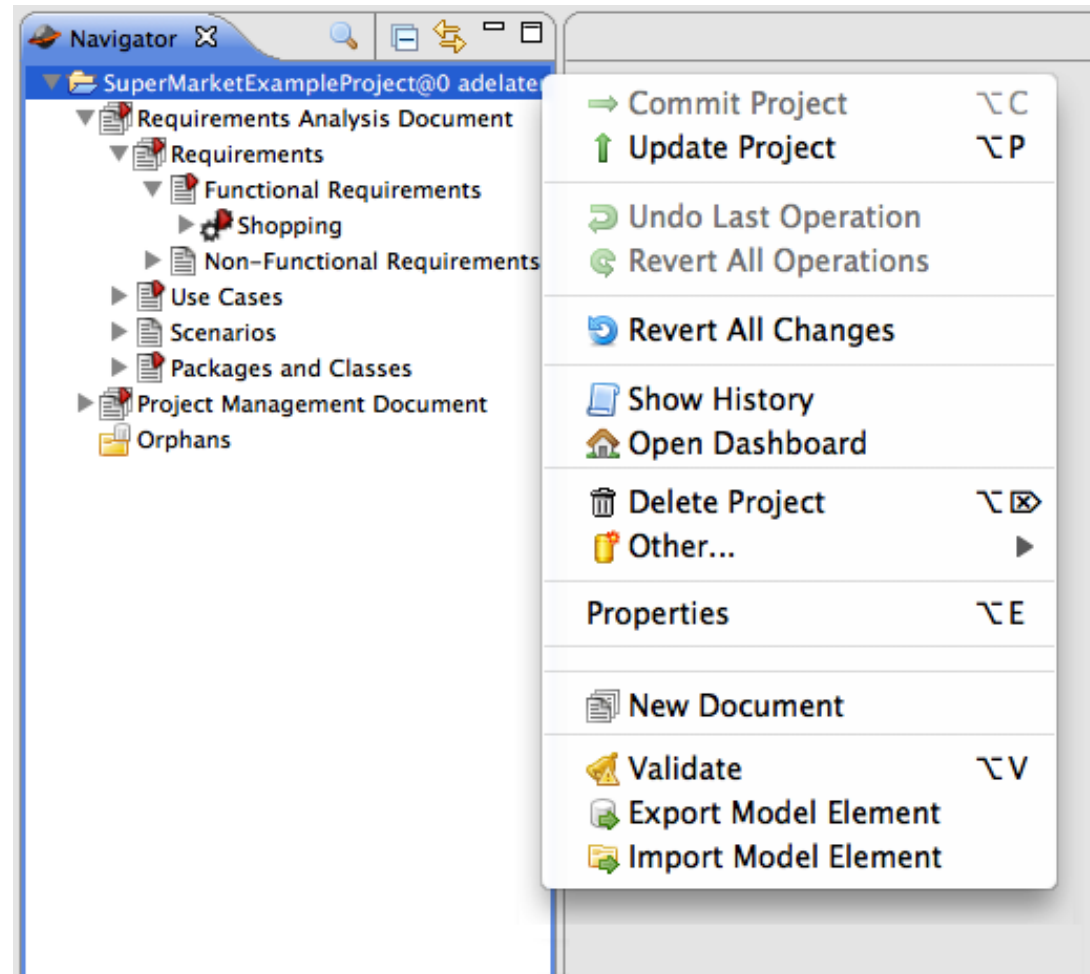
The image shows a 'Server Details' dialog box with a title bar containing red, yellow, and green window control buttons. The dialog has a light blue header with the title 'Server Details' and a subtitle 'Select the details for the new repository'. Below this, there are four labeled text input fields: 'Name' with the value 'u5', 'URL' with the value 'u5.ifi.uni-heidelberg.de', 'Port' with the value '443', and 'Certificate' with the value 'unicase.org 2012'. The 'Certificate' field has a small dropdown arrow on its right and an 'Edit' button next to it. At the bottom of the dialog, there is a question mark icon on the left and two buttons, 'Cancel' and 'Finish', on the right.

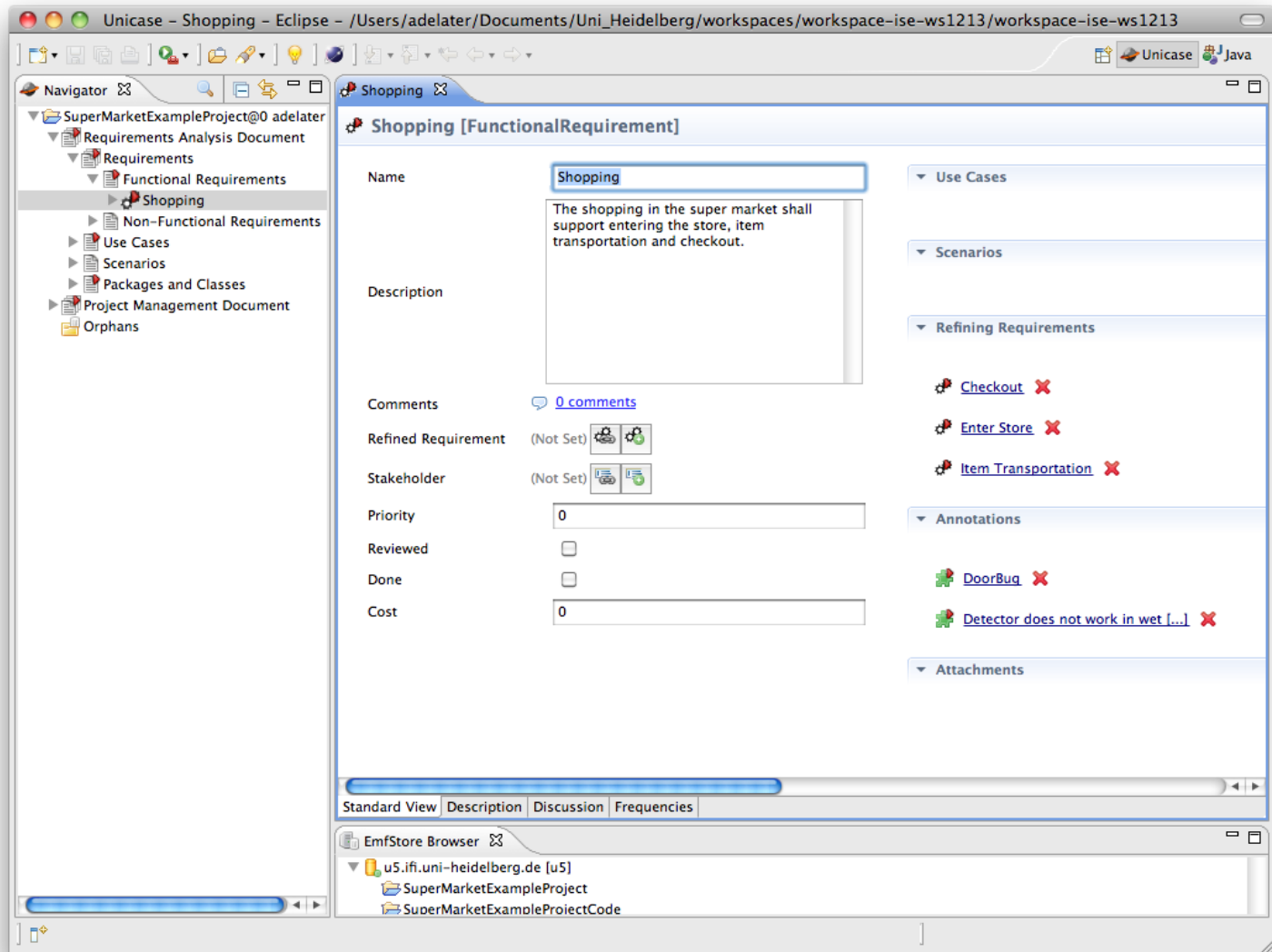


# Checkout eines Projekts

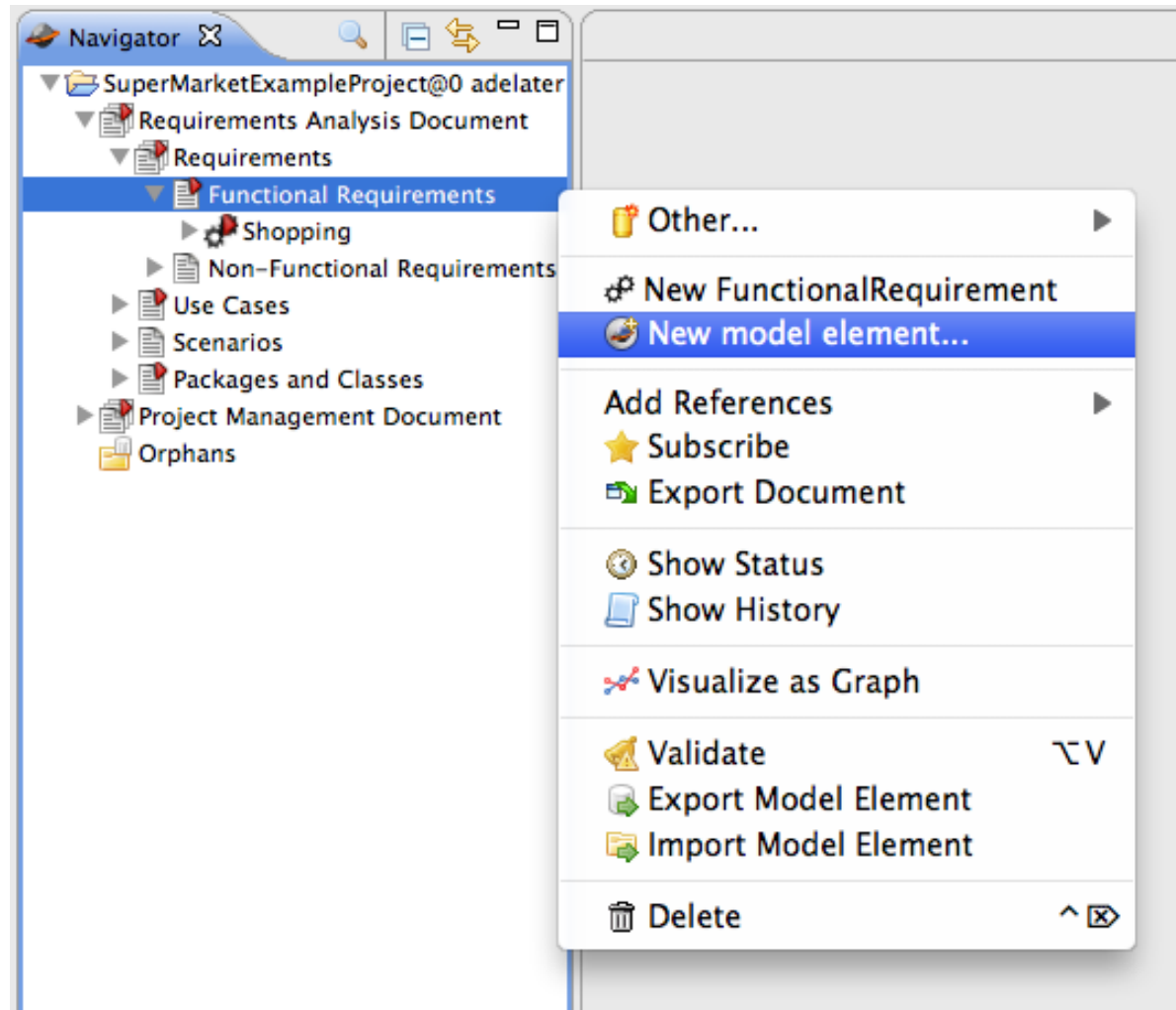


# Optionen für ein Projekt

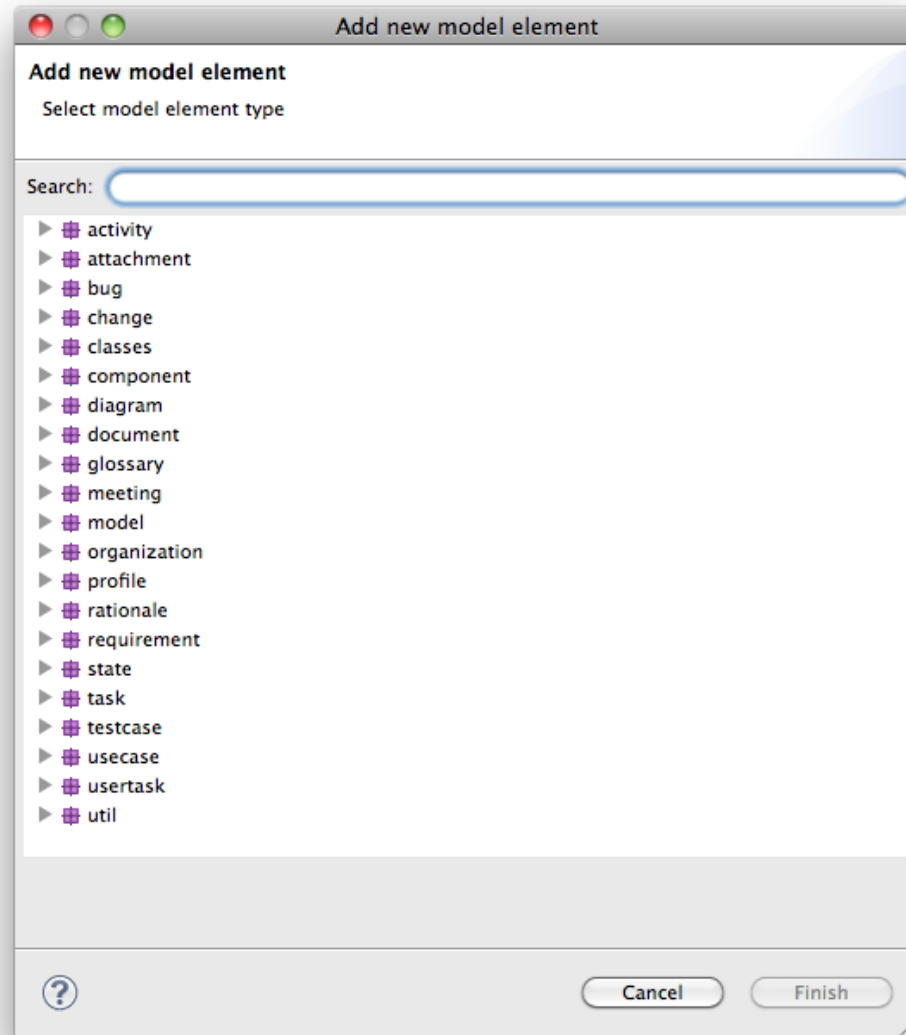




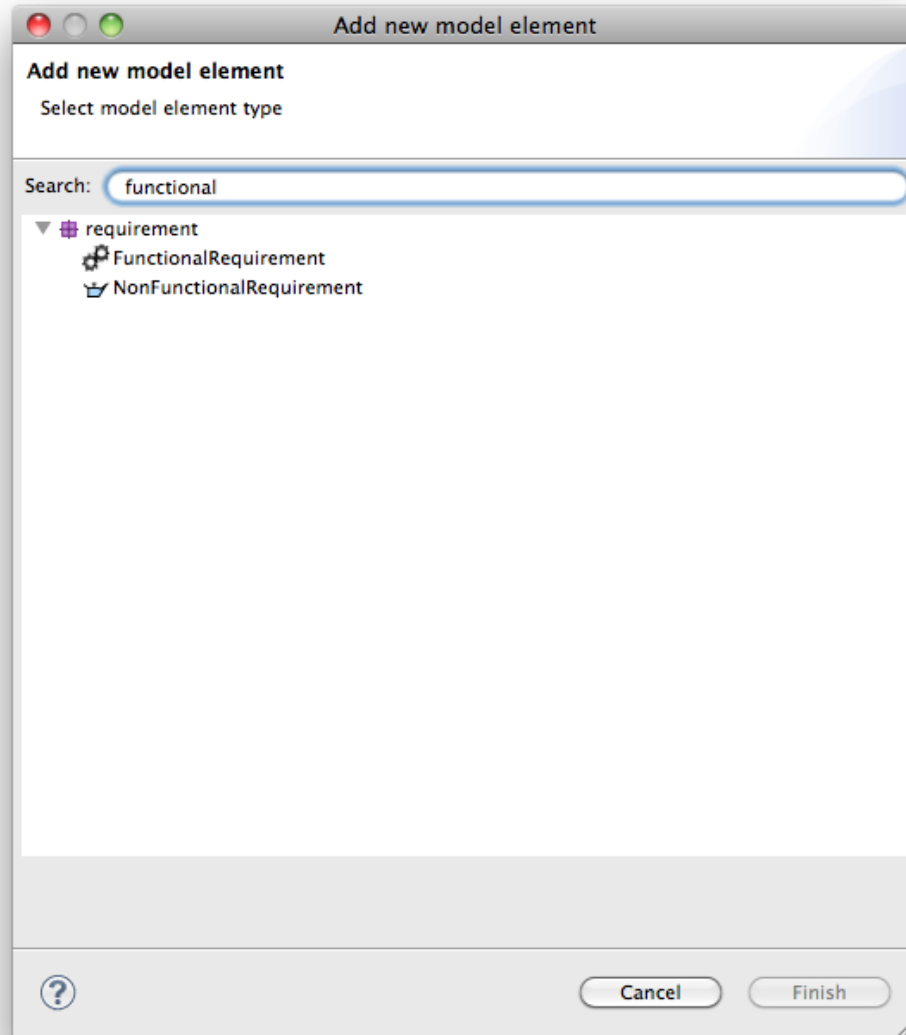
# Neues Modellelement anlegen

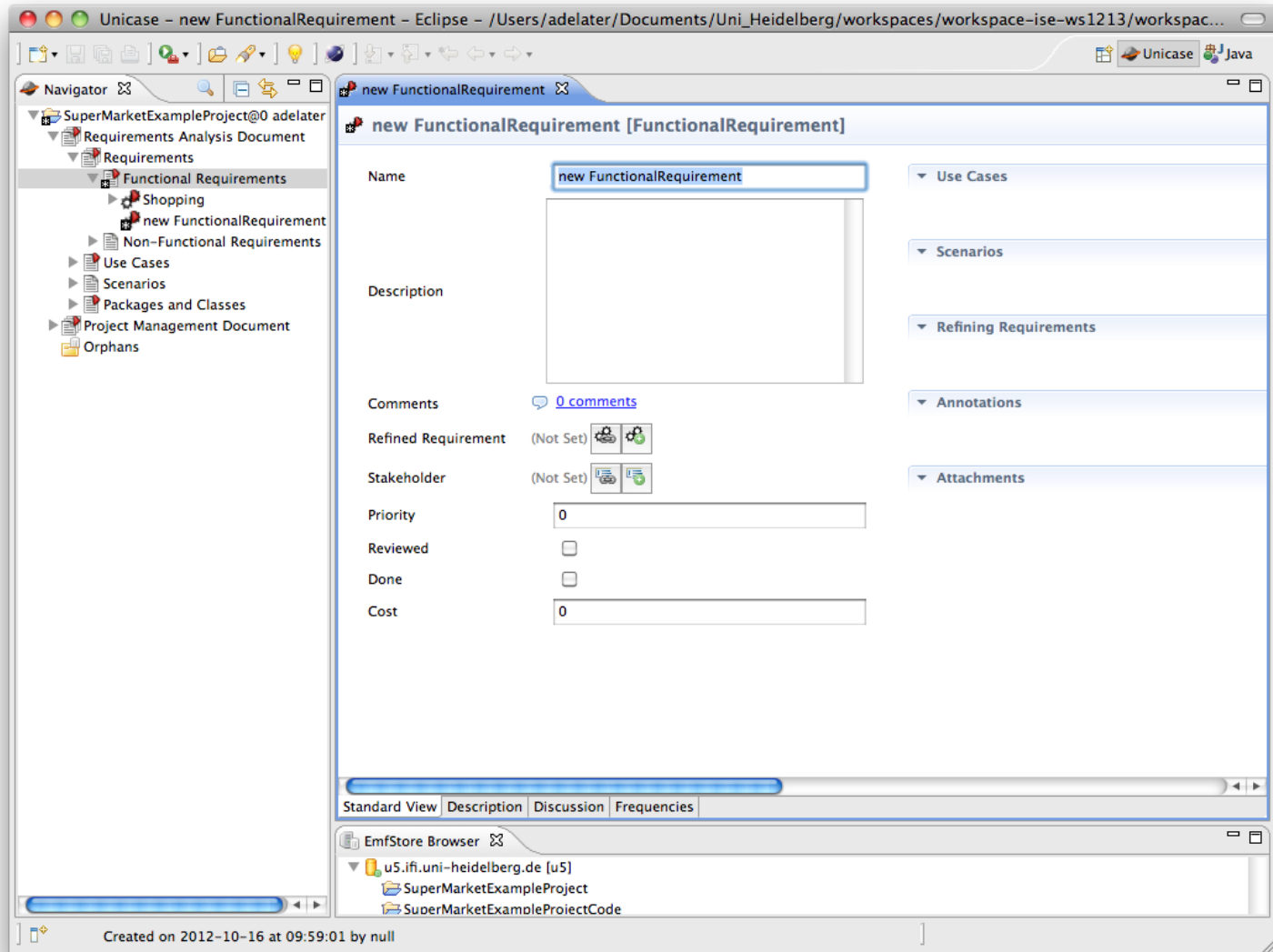


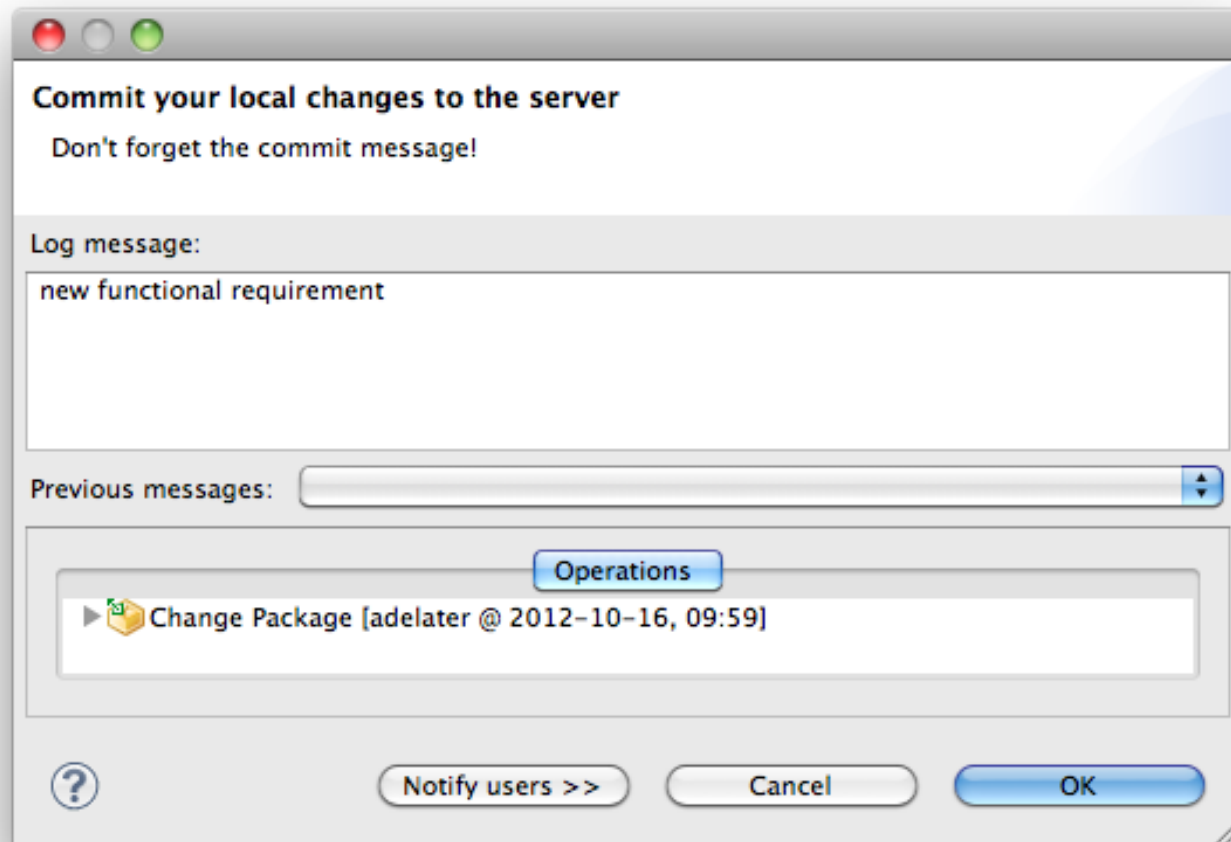
# Neues Modellelement: Typ auswählen



# Neues Modellelement: Typ auswählen









# Teil 2: Benutzung von speziellen Elementen:

ActionItem, BugReport, Issue, FileAttachment,  
TestCase, TestProtocol

Clarify "Get shopping cart" usecase

Clarify "Get shopping cart" usecase [ActionItem]

Name: Clarify "Get shopping cart" usecase

Description: Exceptional case "Shopper uses a token not a real 1 euro coin" is not handled or described.

Comments: 0 comments

Activity: <please select>

Containing Workpackage: Sprint 1

Assignee: hodaie

Reviewer: (Not Set)

Due Date: 22.10.2012 14:02

Priority: 0

Resolved: ☒

Done: ☐

Estimate: 0

Effort: 0

including Releases

Participants

Predecessors

Successors

Annotated Model Elements

Get a shopping card

Item Transportation

Annotations

Attachments

Standard View | Description | Discussion

- Action Items beschreiben Aktivitäten, die von einem Projektmitglied durchgeführt werden müssen.
- Action Items können zu anderen Elementen verlinkt werden, z.B. Use Cases

Detector does not work in wet [...] [BugReport]

Name: Detector does not work in wet environment

Description: The scanner does produce wrong results if the surface on the floor is wet.

Comments: 0 comments

Severity: MAJOR

Containing Workpackage: (Not Set)

Assignee: (Not Set)

Reviewer: (Not Set)

Due Date: 22.10.2012 13:58

Priority: 0

Resolved: ☒

Resolution: (1) Kurze Beschreibung in Resolution

Resolution Type: FIXED

Estimate: 0

Effort: 0

Including Releases: ☐

Done: ☐

Standard View | Description | Discussion

Annotations:

- Fix Detector for wet environment

Attachments:

- Bug Reports beschreiben gefundene Fehler im System. Diese Fehler können z.B. im Code entdeckt worden sein oder bei der Benutzung des Systems aufgetreten sein.

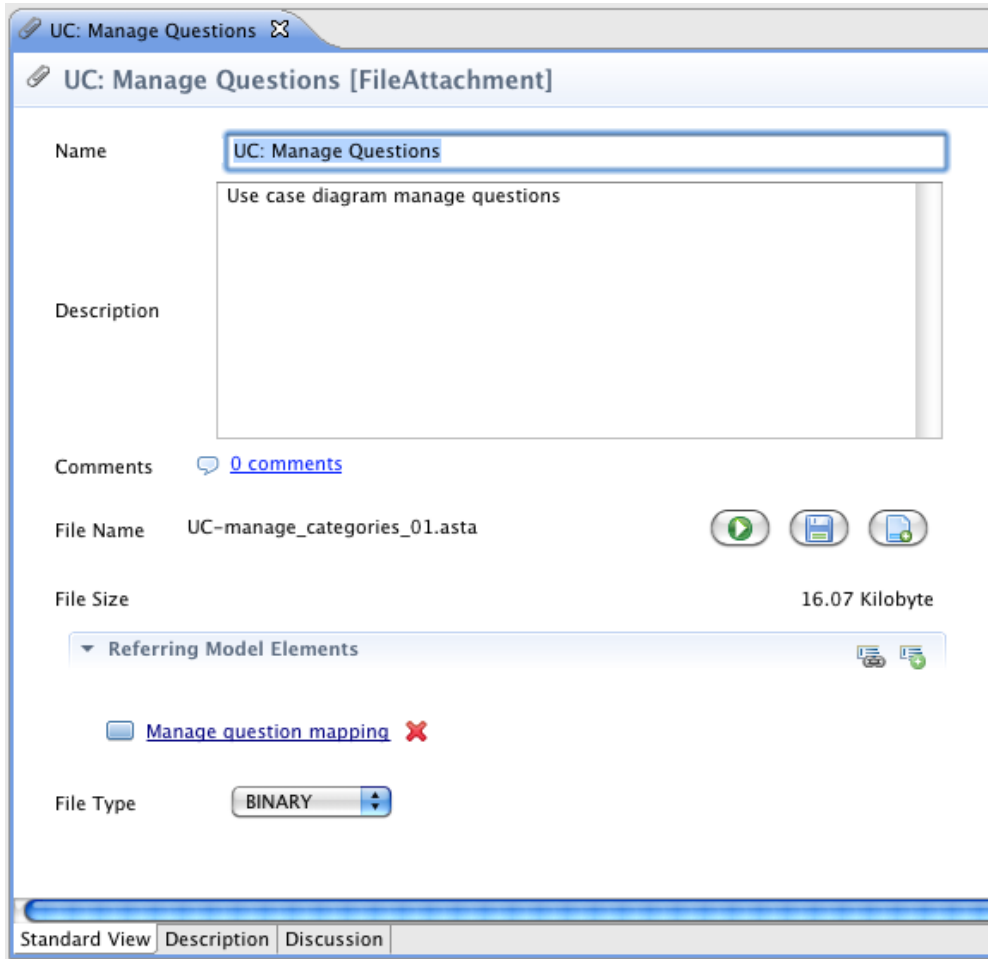
- Die Lösung eines BugReports kann (1) entweder kurz unter "Resolution" beschrieben werden oder (2) ausführlich in einem Issue dokumentiert werden (siehe Issue nächste Folie)

The screenshot shows a web-based interface for managing software issues. The main window is titled 'Fix Detector for wet environment [Issue]'. It contains several sections:

- Name:** 'Fix Detector for wet environment'
- Description:** 'We need to fix the bug where the detector does not work in wet environment.'
- Comments:** '0 comments' with a dropdown menu showing '<please select>'. Below this is a section for 'Activity' with a dropdown menu.
- Containing Workpackage:** '(Not Set)' with a dropdown menu.
- Assignee:** '(Not Set)' with a dropdown menu.
- Reviewer:** '(Not Set)' with a dropdown menu.
- Due Date:** '22.10.2012' and '13:59' with a dropdown menu.
- Priority:** '0' with a dropdown menu.
- Resolved:** A checkbox.
- Estimate:** '0' with a dropdown menu.
- Effort:** '0' with a dropdown menu.
- Solution:** 'Solution Use Waterproof Detector' with a dropdown menu and a 'Solution' button.
- Proposals:** A section with two proposals: 'Use Waterproof Detector' and 'Use Water Protection Cover', each with a trash icon.
- Criteria:** A section with two criteria: 'Cost' and 'Reliability', each with a red 'X' icon.

On the right side, there are several expandable sections: 'Participants', 'Predecessors', 'Successors', 'Annotated Model Elements' (containing 'Detector does not work in wet [...]'), 'Annotations', and 'Attachments'.

- In Issues werden Entscheidungen dokumentiert, die im Projekt getroffen wurden.
- Ein Issue sollte immer zu dem Element verlinkt werden, welches die Entscheidung betrifft.
- Issues haben Proposals, Criteria und eine Solution.



The screenshot shows a web form titled "UC: Manage Questions [FileAttachment]". It contains the following fields and elements:

- Name:** A text box containing "UC: Manage Questions".
- Description:** A text area containing "Use case diagram manage questions".
- Comments:** A section with a speech bubble icon and the text "0 comments".
- File Name:** A text box containing "UC-manage\_categories\_01.asta". To its right are three icons: a play button, a folder icon, and a document icon.
- File Size:** A text box containing "16.07 Kilobyte".
- Referring Model Elements:** A section with a dropdown arrow and the text "Referring Model Elements". Below it is a link "Manage question mapping" with a red 'X' icon.
- File Type:** A dropdown menu showing "BINARY".

At the bottom, there is a navigation bar with tabs: "Standard View", "Description", and "Discussion".

- Ein File Attachment kann eine Datei aufnehmen, die von anderen Projektmitgliedern benutzt werden kann.

testOverallRatingWithMovieAndF[...] 23

testOverallRatingWithMovieAndF[...] [TestCase]

Name: testOverallRatingWithMovieAndFullListOfPerformers

Description: This test case checks if the method overallRating of MovieUtil performs as expected for a given rating of a Movie and given List of ratings of Performers.

Comments: 0 comments

Use Case: (Not Set)

Type: unit

Precondition: single rating of movie = 3  
list of ratings of Performers= 0, 2, 3

Postcondition: The overall rating is 6

Infrastructure: - 1 Movie with a rating  
- 1 List with 3 Performers with a rating

Standard View | Description | Discussion | **Test Steps**

Test Steps von Test Case

- Ein Test Case beschreibt einen logischen Testfall und hat einen Typ (unit, sytem, integration), Vorbedingung (Precondition), Nachbedingung (Postcondition) und benötigte Infrastruktur (Infrastructure).
- Jeder Test Case wird in einem oder mehreren Schritten (Test Steps) beschrieben (siehe nächste Folie)

# Test Steps von Test Case





testOverallRatingWithMovieAndF[...]




testOverallRatingWithMovieAndF[...]: Test Steps

Steps

Step 1

This step tests the method "overallRating" with a given rating of a Movie and a list of ratings of Performers.

Input   Expected Output   Mark Step for Deletion

Name	Type	Range	Name	Type	Range
 _ratingMovie	Integer	between 0 and 5	 maximum	Integer	between 0 and 10
 _ratingPerformers	ArrayList<Integer>	each element of the li...			

Exception

Standard View Description Discussion Test Steps

- Für jede Eingabe und erwartetes Ergebnis wird ein **Name**, **Typ** und **Wertebereich** angegeben(= logischer Testfall)

**Test State (passed/failed)**

**Konkrete Werte für Wertebereiche**

**Actual Output für jeden Test Step**

Test Protokolle können auf 2 Weisen verwendet werden:

- Festlegung konkreter Werte für die Wertebereiche in den Test Steps (= konkreter Testfall)
- Protokoll des Durchlaufs des konkreten Testfall
  - Test State (passed/failed)
  - Actual Output für jeden Test Step

**Step 1**

This step tests the method "overallRating" with a given rating of a Movie and a list of ratings of Performers.

Input				Expected Output			
Name	Type	Range	Value	Name	Type	Range	Value
ratingMovie	Integer	between 0 and 5	3	maximum	Integer	between 0 and 10	6
ratingPerformers	ArrayList<Integer>	each element of the list between 0 and 5	0,2,3				

Actual Output



- UNICASE Handbuch

<https://elearning2.uni-heidelberg.de/mod/resource/view.php?id=279632>

- UNICASE User Tasks in Moodle

<https://elearning2.uni-heidelberg.de/mod/resource/view.php?id=279634>

- SourceCode auf GitHub

<https://github.com/unicase-ls1/unicase>

- Download UNICASE für ISW

<http://svn.ifi.uni-heidelberg.de/unicase/0.5.2/isw/download.html>

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