UWE⁴JSF

A Model-Driven Generation Approach for Web Applications

UML-BASED WEB ENGINEERING

Automatic Generation of Web Applications from UWE-Models

UWE – UML-based Web Engineering

- based on standards (e.g. UML, MDA)
- separation of concerns (content, navigation, presentation, …)
- model-driven development process
- model consistency check

UWE⁴JSF

- set of plug-ins for the Eclipse IDE
- based purely on technologies from the Eclipse Modeling Project (EMF, ATL, JET)
- seamless combination with other tools (e.g. Eclipse Web Tools Platform)
- uses the scripting Object-Graph Navigation Language (OGNL)
- generates complete JSF 1.2 web frontend
- easy integration of J2EE backend
- support for JSF component libraries (e.g. Apache MyFaces Tomahawk)
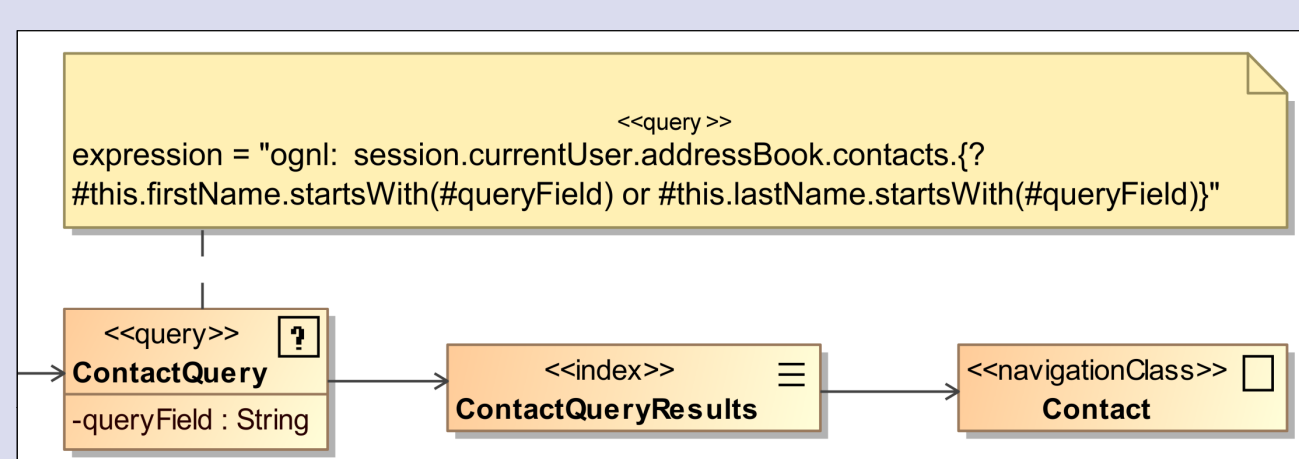
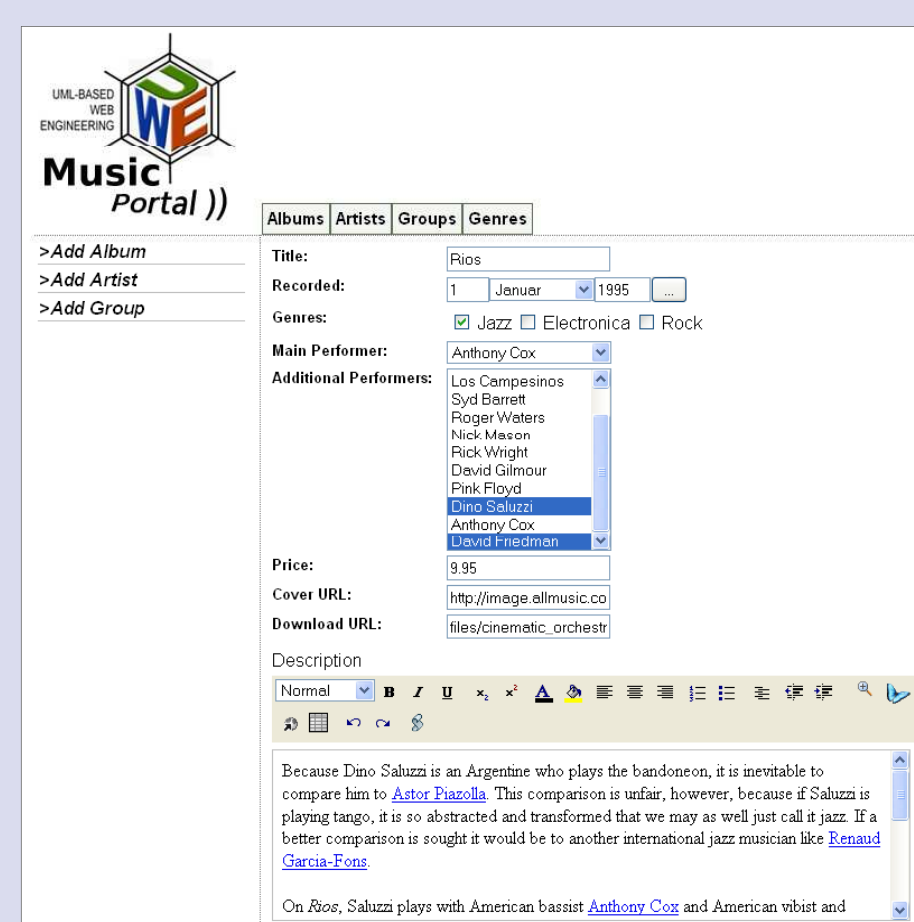*Complex data selection in navigation model with OGNL*
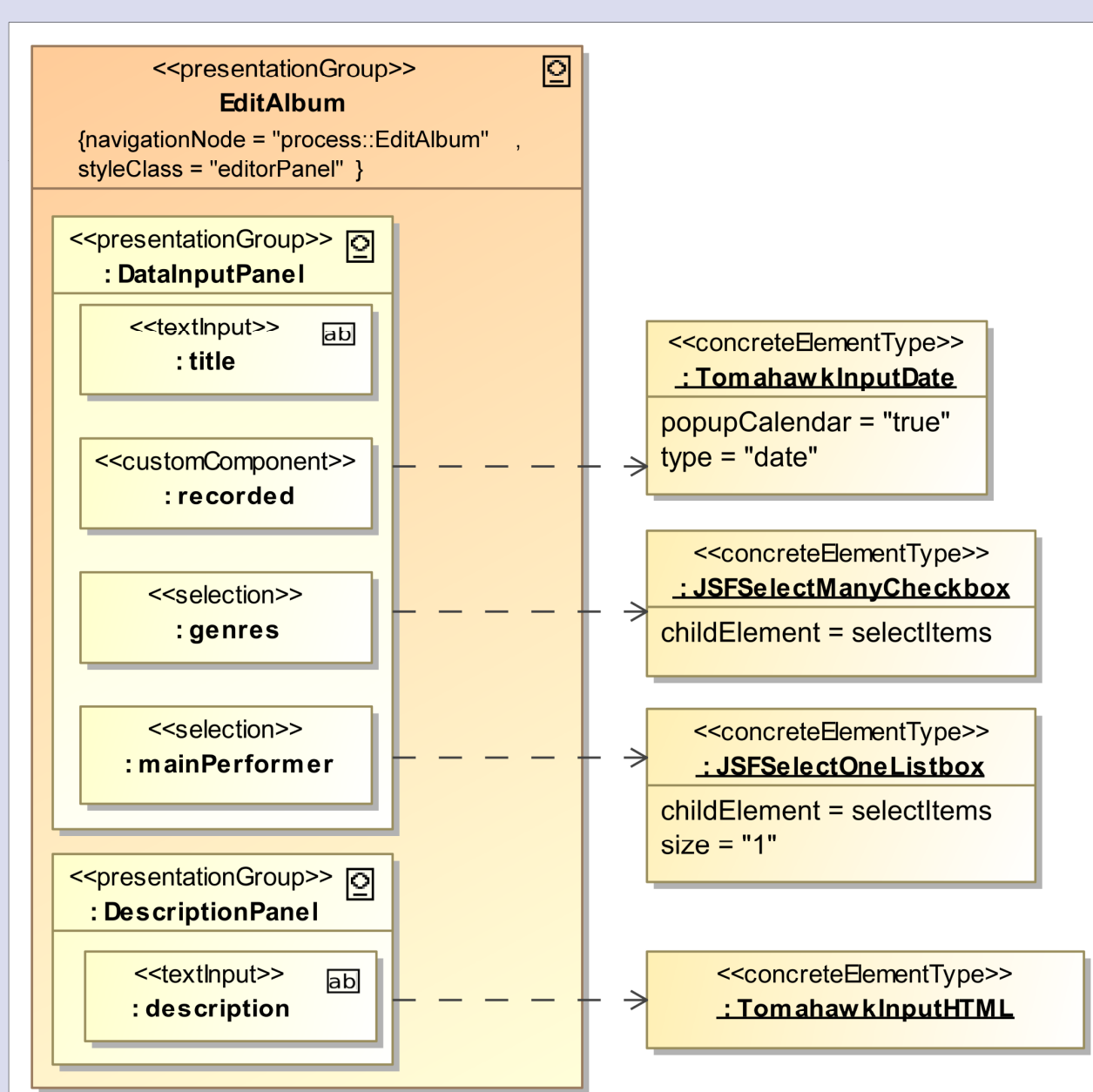
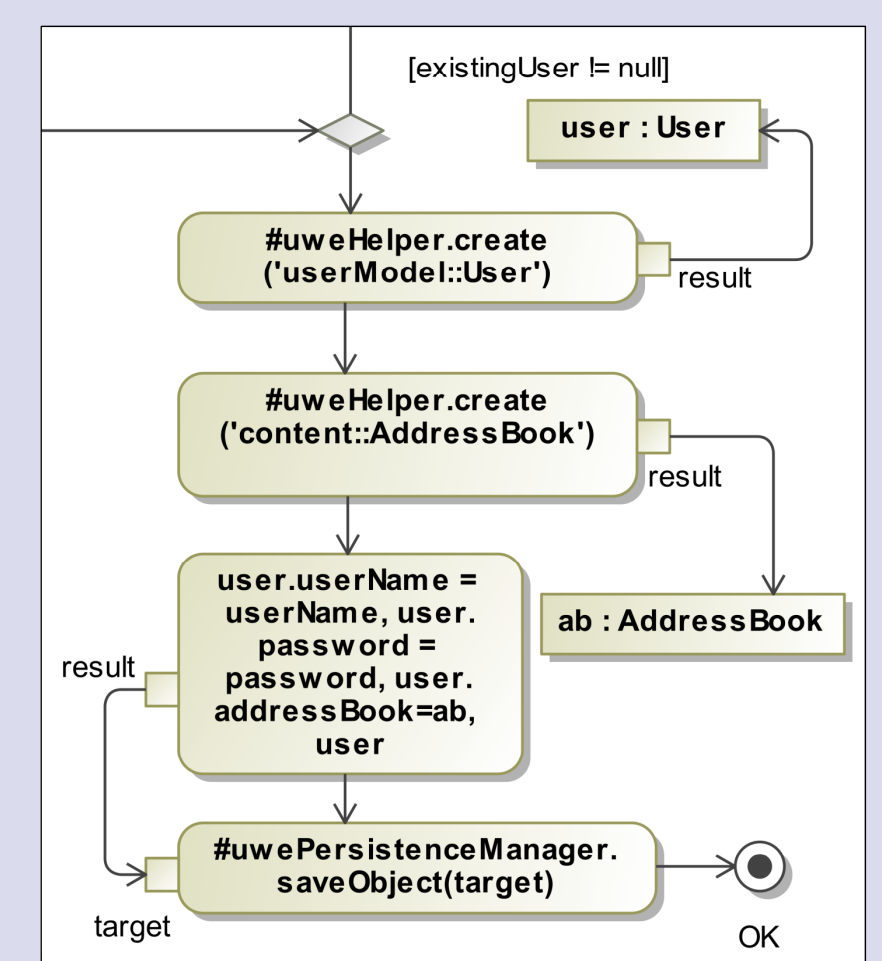*Fine-grained mapping of abstract to concrete UI components (core-grained by rules)*
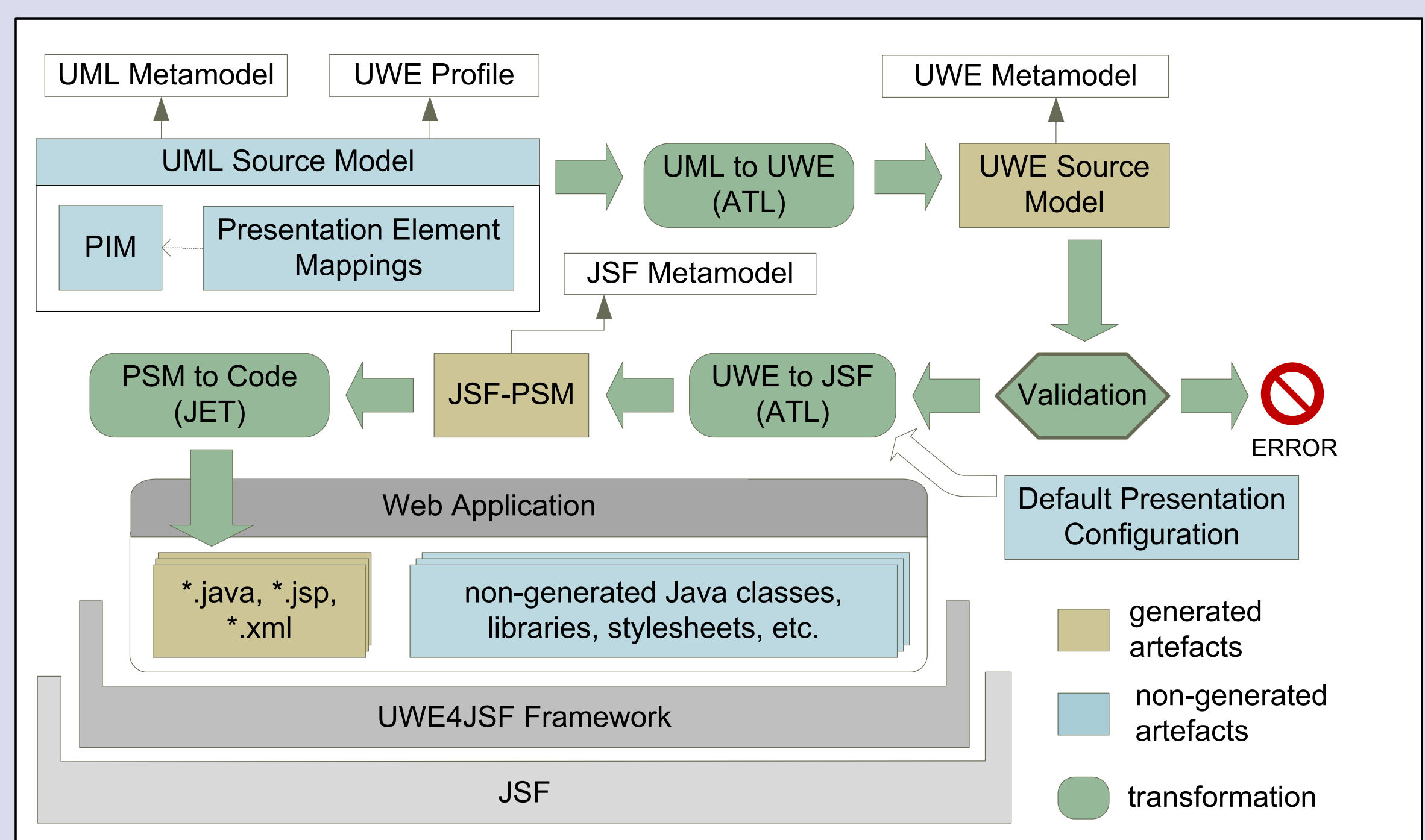
UWE4JSF Generation Process

Automatic Code Generation

- input: UML models designed with UWE profile
  - designed in any CASE tool that supports EMF UML2 2.x (e.g. MagicDraw)
  - platform independent model (PIM) marked with presentation element mappings
- configurable MDA-compliant transformation chain PIM → PSM → Code
  - custom handlers for actions, persistence, etc.
  - flexible integration of legacy code
- result: fully JSF 1.2 conformant web application

Generated Example Application

Flexible data manipulation in processes with OGNL

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ICWE 2009 – San Sebastian, Spain – tool demostration

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