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Description

During the last decade several approaches have been proposed for easing the burden of writing model transformation rules by hand. Among them are Model Transformation By-Example (MTBE) approaches aiming at generalizing example models to gain model transformation rules. Current MTBE approaches work fine for one-to-one transformation rules, however, for complex transformation rules they seem to be too limited. A promising technique for developing complex transformation rules by-example is recording the operations performed on the example models, which is called Model Transformation By-Demonstration (MTBD). However, until now MTBD approaches are only available for in-place transformations, but not for model-to-model transformations.

With the M2M Operation Recorder, we extend our MTBD approach, which has been primarily defined for in-place transformations, for model-to-model transformations. By this, we allow a semi-automatic generation of transformation rules which goes beyond existing MTBE approaches for model-to-model transformations. In particular, we show how open issues of alignment-based MTBE approaches are now solved by switching to a demonstration-based approach. For showing the applicability of the approach, we developed an Eclipse-based prototype which supports the generation of ATL code out of EMF-based example models.

Core Features:

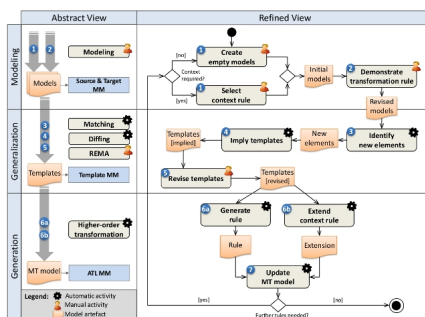
- language independence
- editor independence

- powerful generalization techniques

M2M Transformation Demonstration Process

The demonstration process is divided in three phases:

1. Modeling the examples
2. Generalization of the specific examples to general transformation rules
3. Generation of [ATL](#) code



Realization

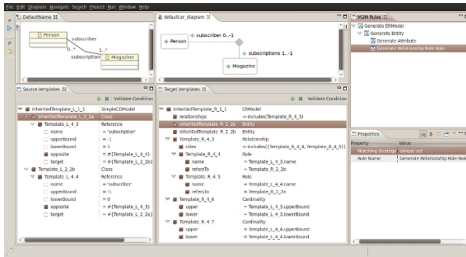
- Eclipse Plug-In
- For any EMF Ecore-based models
- Based on the template inference mechanisms of the [Operation Recorder](#)
- State-based change detection using [EMF Compare](#)
- JFace/SWT graphical user interface
- Generation of [ATL](#) code using higher-order transformations

Graphical User Interface

M2M Operation Recorder

Written by Administrator

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Evaluation

Case Study 1: UML Class Diagram to Entity Relationship Diagram

Metamodels

- [UML Class Diagram Metamodel](#)
- [Entity Relationship Metamodel](#)

Transformation Models

- [CompleteTemplate Model](#) after demonstration
- [Generated ATL code](#)
- Screenshot: GenerateEntity Rule of Template Model

