The Model Discovery (MoDisco) component

The GMT component for model-driven reverse engineering (MDRE)

GMT MoDisco component's website and newsgroup:
http://www.eclipse.org/gmt/modisco
news://news.eclipse.org/eclipse.modeling.gmt.modisco

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Overview

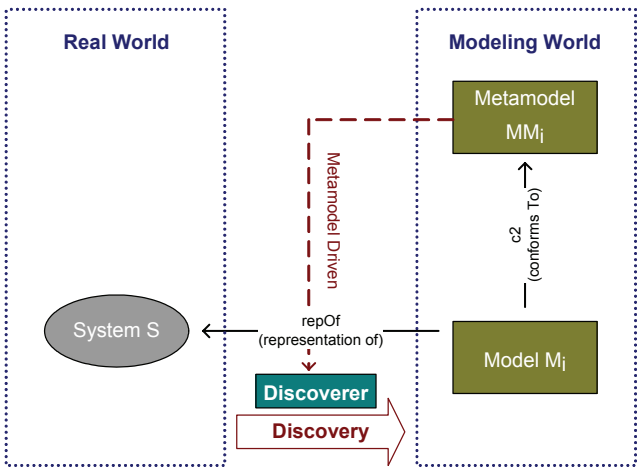
Legacy is usually available in a high variety of **heterogeneous** formats.

Building tools for performing various operations on these legacy systems is a tedious and time consuming task.

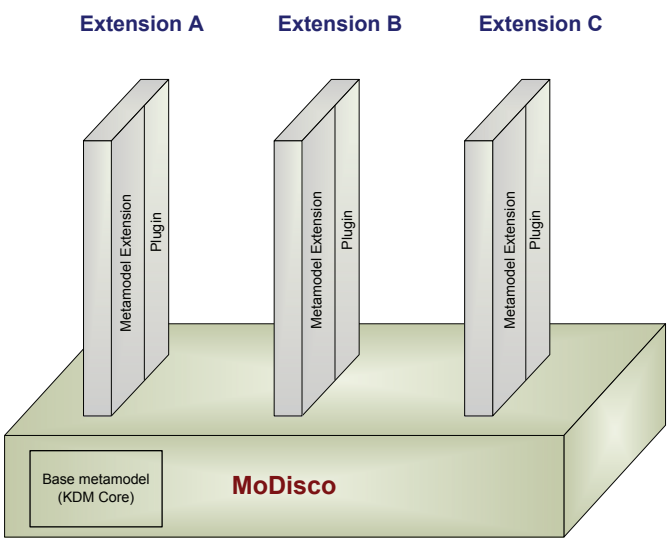
The **MoDisco Eclipse initiative** aims at providing generic tools which allow **extracting models from legacy systems**.

When this is done, a lot of common operations on these models may then be applied. The most common operation will be model transformation.

Model Discovery Principles



Overall Vision



A base generic and extensible framework
- A core metamodel (based on the OMG™ KDM)
- A metamodel extension's mechanism
- Facilities for manipulating models
- A methodology for designing extensions of this framework

Benefits of the approach

- A **unified model-based approach** and a **metamodel-driven methodology**:
  - Work in the homogeneous world of the models
  - Match different requirements (data integration, tools interoperability, systems migration, etc)
  - Use models properties and facilities (transformations, weavings, extractions, etc)
- A possible **wide user community**

Roadmap

1. Creation and initialization of the project (general description, web site, newsgroup, etc).

2. Elaboration of several use cases provided by different partners. A use case is usually composed of a specification and an implementation.

3. Consolidification of the common toolbox and of the initial framework for building model discoverers. Improvement of the guidelines, methodological support and basic documentation.

4. Improvement of the framework as additional use cases are built and contributed.

Component initiated by the ATLAS Group
INRIA & LINA (University of Nantes)

Creation supported by the Modelplex
IST-34081 European Integrated Project

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All the available MoDisco use cases: http://www.eclipse.org/gmt/modisco/useCases/

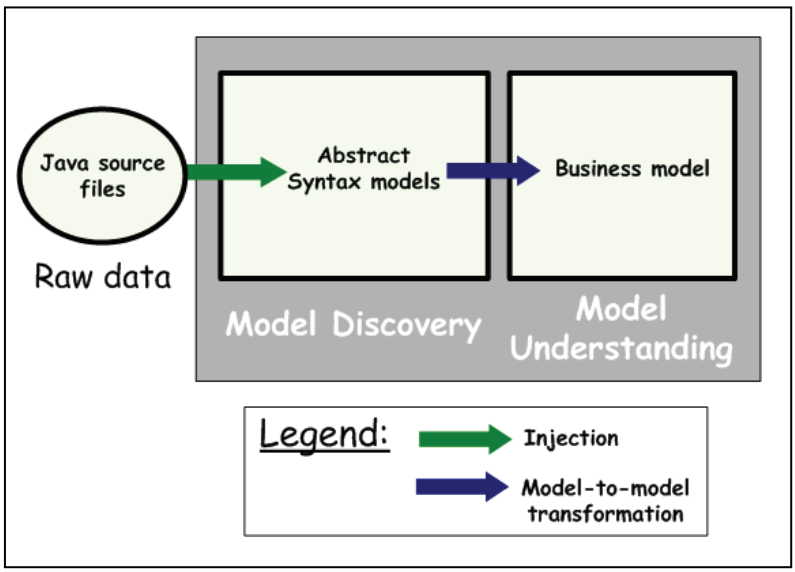
A Use Case Example: Java Legacy Reverse-Engineering

Description

This complete use case, which covers both the **Model Discovery** and **Model Understanding** phases, is about reverse engineering a Java application.

It uses the Java Abstract Syntax discovery tool (from the *MoDisco tool box*) to discoverer the **abstract syntax tree (AST)** of each **Java** compilation unit (i.e. each source file). The generated models are then analyzed by model transformations in order to produce a SharenGo **business model**.

Overview

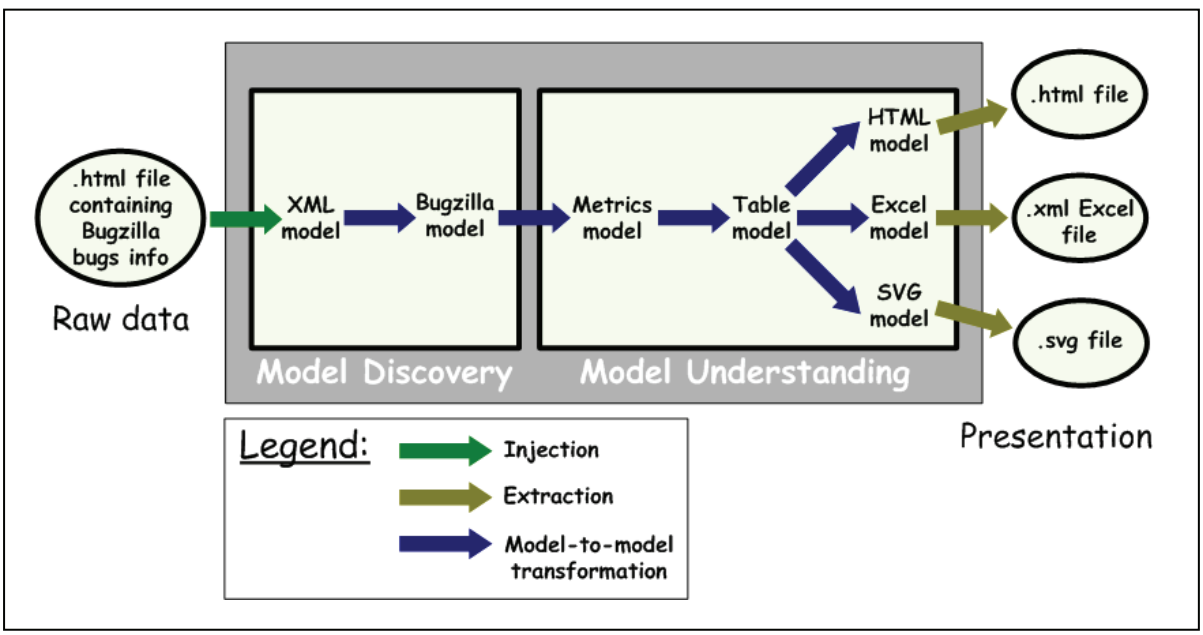


Another Use Case Example: Bugzilla Metrics

Description

This complete use case covers both the **Model Discovery** and **Model Understanding** phases. It is about discovering bugs information expressed in HTML format and building a **Bugzilla model** from these data (*Model Discovery*). Then, this generated model is computed in order to produce a **Metrics model** and to finally build **different visualizations** from these calculated metrics (*Model Understanding*).

Overview



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