

# Hands-on exercises

# Hands-on exercise

## Using AnATLyzer

- Modify the **cd2gui** transformation
  - You can find a fixed transformation to begin in `models17.tutorial.cd2gui/fixed/cd2gui_fixed.atl`
  - Some tips:
    - You can play with the configuration options regarding the behavior of the model finder until you find one that fits you.
      - Window -> Preferences -> AnATLyzer -> Default batch conf.
    - It may be the case that the GUI meta-model has errors. Use AnATLyzer to fix them.

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## Using AnATLyzer

- Proposed tasks:
  1. Add code to handle UML enumerations
    - A property whose type is Enumeration must be mapped to a ComboBox.
    - There is no need to create a Label because the ComboBox already includes "text" which is the label show as part of the combo.
    - Tip: Be careful with the pre-conditions!
  2. Change the name of the GridInfo class to GridData in the meta-model and the info reference to layoutData

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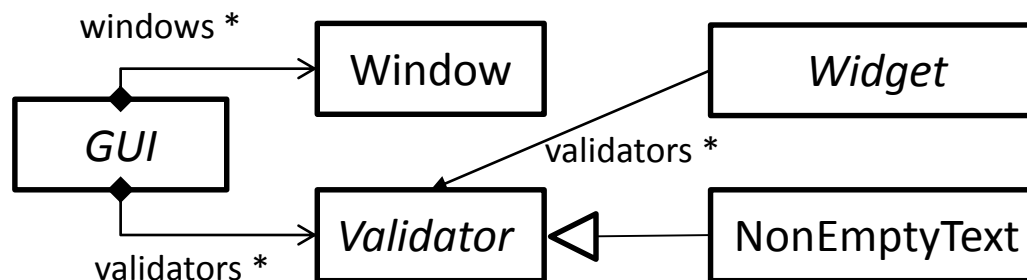
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## Using AnATLyzer

- Proposed tasks:
  - The GUI has Validator objects that perform validations over widgets.
    - Create one NonEmptyText validator per DataType considered as String (see isText helper)
    - Reference GUI.validators holds all validators in the model
    - Assign to each Text widget the NonEmptyText validator



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## Creating an analysis extension

- Create a new analysis for UML, specific to ActivityDiagrams
  - **Initial nodes** (UML 2.5, page 385, 376)
    1. An InitialNode cannot have incoming edges (page 385)
    2. An Activity does not require an Initial node if the are ExecutableNodes without incoming edges (page 376)
      - To facilitate the analysis, we can assume that an Activity requires at least one InitialNode
- Proposed tasks
  - Write an an analysis that check conditions #1 and #2

# Hands-on exercise

## Creating quick fixes

- Proposed tasks
  1. Create a new quickfix for error “Assignment to readonly feature”.
    - The quick fix removes the problematic binding
    - Tip: Use method “remove” of QuickfixApplication

# Hands-on exercise

## Creating quick fixes

- Proposed tasks

2. Finish the quick fix to consider multi-valued bindings

- Tip: generate an expression like:

```
generalization <- [binding-value]->collect(v |  
  thisModule.createGeneralization([InputElementVar], v))
```

- Tip: Create an example transformation with the desired fix and use the following menu to generate an .xmi file with the ATL model.
  - Right-click on the editor -> AnATLyzer -> Serialize abstract syntax