UML Tool Actions - Diagram Actions 1.0 Requirements Specification

1. Scope

1.1 Overview

The Diagram Actions component provides the Actions related to the Diagrams declared in Diagram Interchange component. The actions are strategy implementations of the action interfaces in the Action Manager component. The provided actions are for creating a diagram, removing a diagram, changing the diagram title, adjusting the zoom level and changing the diagram viewport.

1.2 Logic Requirements

1.2.1 Create Diagram action

This action will support creating a class diagram, a use case diagram, a sequence diagram and an activity diagram.

The action will be configured with:

- the diagram type to be created (the typeInfo property of the Diagram)
- the element for which the diagram is created (the owner property of the Diagram, or the activity graph context, for an activity diagram) - if missing, the root Model will be used, or a default created model element
- the diagram name (the name attribute of the Diagram) - this is also the diagram title.

The created diagrams will have the viewport, size and position (0.0,0.0). the zoom attribute will be “1.0”.

The new Diagram will also be passed to the ProjectConfigurationManager, to apply any initial formatting.

This action is an UndoableAction, so the undo and redo functionality should be provided.

1.2.1.1 Create a Class Diagram

The action will create a Diagram as described above. There will be no contained elements.

1.2.1.2 Create a Use Case Diagram

The action will create a Diagram as described above. There will be no contained elements.

1.2.1.3 Create a Sequence Diagram

The action will create a Diagram as described above. There will be no contained elements.

1.2.1.4 Create an Activity Diagram

The action will create a Diagram as described above. There will be no contained elements.

For the activity diagram, the method will create an ActivityGraph node that will have the context property set to the model element received as the owner, or will set the context to a new use case element added directly to the Model. An empty CompositeState will be created for the “top” attribute of the ActivityGraph.

The Diagram’s owner will be the new ActivityGraph.

1.2.2 Remove Diagram action

This action will support removing a class diagram, a use case diagram, a sequence diagram and an activity diagram.

The action will be configured with:

- the diagram to be removed

This action is an UndoableAction, so the undo and redo functionality should be provided.

1.2.2.1 Remove a Class Diagram

The action will simply remove the Diagram.

1.2.2.2 Remove a Use Case Diagram

The action will simply remove the Diagram.

1.2.2.3 Remove a Sequence Diagram

The action will simply remove the Diagram.

1.2.2.4 Remove an Activity Diagram

The action will simply remove the Diagram.

For the activity diagram, the method will also remove the ActivityGraph node that is the owner of the diagram.

1.2.3 Change Diagram Title action

This action will change the title of a diagram.

The action will be configured with:

- the diagram
- the new name

This action is an UndoableAction, so the undo and redo functionality should be provided.

1.2.4 Adjust Diagram Zoom Level action

This action will change the zoom attribute of a diagram.

The action will be configured with:

- the diagram
- the new zoom level

This action is a TransientAction, so only the execute method should be provided.

1.2.5 Scroll Diagram View action

This action will change the viewport property of a diagram.

The action will be configured with:

- the diagram
- the new viewport

This action is a TransientAction, so only the execute method should be provided.

1.3 Required Algorithms

None.

1.4 Example of the Software Usage

The component will be used in the TopCoder UML Tool to perform diagram related actions.

1.5 Future Component Direction

None.

2. Interface Requirements

2.1.1 Graphical User Interface Requirements

None.

2.1.2 External Interfaces

The design must follow the interface found in the class diagram with the component interfaces. The designer is encouraged to add to the existing interface, but not to remove anything.

2.1.3 Environment Requirements

- Development language: Java 1.5
- Compile target: Java 1.5

2.1.4 Package Structure

com.topcoder.uml.actions.diagram

3. Software Requirements

3.1 Administration Requirements

3.1.1 What elements of the application need to be configurable?

None.

3.2 Technical Constraints

3.2.1 Are there particular frameworks or standards that are required?

None

3.2.2 TopCoder Software Component Dependencies:

- Action Manager 1.0
- Diagram Interchange 1.0
- UML Model - Core 1.0
- UML Model - Activity Graphs 1.0
- UML Model Manager 1.0
- Configuration Manager 2.1.5 - recommended

**Please review the TopCoder Software component catalog for existing components that can be used in the design.

3.2.3 Third Party Component, Library, or Product Dependencies:

None

3.2.4 QA Environment:

- Solaris 7
- RedHat Linux 7.1
- Windows 2000
- Windows 2003

3.3 Design Constraints

The component design and development solutions must adhere to the guidelines as outlined in the TopCoder Software Component Guidelines. Modifications to these guidelines for this component should be detailed below.

3.4 Required Documentation

3.4.1 Design Documentation

- Use-Case Diagram
- Class Diagram
- Sequence Diagram
- Component Specification

3.4.2 Help / User Documentation

- Design documents must clearly define intended component usage in the ‘Documentation’ tab of Poseidon.