Rational Rose:
Creating Use-Case and Class Diagrams
Version 1.0

by

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Introduction:

Rational Rose is a program that allows the user to create software diagrams using UML (Unified Modeling Language). Using Rose, the designer has the power to create, update and edit the diagrams of their software system. These include class diagrams, sequence diagrams, and more. For more information about Rational Rose, visit the Rational website at...

http://www.rational.com/products/rose/index.jsp

Useful Terms:

Component – a component is referred to as any single element that makes up a Diagram (i.e. an actor) a class, a relationship line, etc.

Toolbar – the toolbar is located directly to the left of the working area. It contains buttons that enable the user to add components to the diagram.

View Area – the view area is located to the left of the toolbar. It displays the folders that correspond to the various diagrams of the software model.

Working Area – the working area is located in the lower right corner of the rose Window and takes up the largest portion of the window. This area displays the various diagrams for viewing and editing.

Using This Document:

Tips, hints, and other need-to-know information are printed in italics and preceded by the label “Note:”. An example is given below.

Note: This is a tip.

Any information that must be typed in by the user or that the user should see on the screen is printed in boldface. See the example below.

To start the program type **begin**.

Or

You should see the heading **Press F1 for Help** to the left.

Getting Started:

Note: This document assumes that Rational Rose is installed and will run “successfully”. If Rose is installed but will not display when the command is typed in the Unix window, go to this page...

http://www.cs.rit.edu/usr/local/pub/jeh/courses/rosestart.txt
In the Unix window, type `rose` on the command line. This will bring up the default window for Rational Rose. In the working area there should be an empty class diagram window (see figure 1).

![Image of the default window for rose.](image)

**Figure 1.** The Default window for rose. *Note: The labels will not appear on the screen.*

### Making A Use-Case Diagram:

*Note: See Figure 2 for an example Use-Case diagram.*

**Getting The Use-Case Window**

1. In the view area, expand the **Use Case View** folder by clicking on the plus sign to the left of the folder icon.

2. Now double click on the icon next to the **Main** subheading, which appears just below the folder name. This will bring up a window in the working area labeled **Use Case Diagram: Use Case View / Main.**

**Adding A Use-Case**

1. In order to add a use-case to the diagram, first click the small oval icon on the toolbar. This is the use-case icon.  
   *Note: When positioning the mouse over a button, a description of what that button does will appear in the lower left of the rose window.*

2. Next position the mouse over the use-case window, wherever you want the use-case to appear. Then click again. You should see an oval with the words **new use case** highlighted below it. Now simply type in the name of your use case and click in another area of the window to set it.
Adding An Actor

1. Adding an actor to your diagram is similar to adding a use-case. First, click the actor button. It’s the one on the toolbar that resembles a stick figure.

2. Now position the mouse over the diagram where you want the actor to appear, and click again.

3. Type the name of the actor and click elsewhere to label it.
   Note: If the actor is not selected, double click on it. This will bring up a window where you can set a label and adjust many other specifications if necessary.

Creating A Relationship

1. Click the appropriate button on the toolbar for the relationship that you want, whether it is a unidirectional association, a dependency/instantiates relationship, or a generalization, each is done using the same method.

2. Then click and hold the left mouse button over the first component of the relationship.

3. Now drag the line to the second component and release. This creates a relationship line between the two components.

Figure 2. An example use-case diagram.
Making A Class Diagram:

The class diagram is already open for you when you start rose. If for some reason it does not appear or was closed earlier, expand the Logical View folder in the same manner that you expanded the Use Case View folder. Then follow the procedure for opening the main window as done earlier. See Figure 3 for an example class diagram.

Figure 3 An example class diagram.

Adding A Class

1. Add a class to the diagram by clicking on the class button, placing it in the window and clicking again.

2. Now label the class by choosing one of the names from the popup list or simply by typing it in.

   Note: The names in the popup list are generated from other diagrams that are in the model. If you have not done any other diagrams the popup list will not appear.
Adding Attributes and Operations

*Note: This section groups the adding of attributes and operations together, since the process for each is nearly the same. Differences will be pointed out as they arise.*

1. First, right click on the class component.

2. Then choose new attribute or new operation from the popup menu. This will cause a default name to appear within your class. *Note: The attribute or operation can be labeled in the same way that the actor and use-cases were labeled earlier.*

Adjusting The Specifications Of Attributes Or Operations

1. Double click on the class. This will bring up the specification for this class. At the top there will be various tabs to choose from, each dealing with a particular aspect of the class. Notice that the **General** tab is selected. This menu lets you change the basic aspects, such as, the name, type, and whether or not this class is public, private, or protected. *Note: As with all menus in rose, you must click **OK** or **APPLY** for any changes to take effect.*

2. Now click on the attributes tab. This brings up a menu with a list of all the class’s attributes (see figure 4).

![Figure 4. The attributes menu for a class.](image)
3. Double click on an attribute to bring up its specification menu. This menu lets the user change the name, set the type, adjust the export control, and more (see figure 5). Once the changes are applied, the attribute specification menu, discussed previously, will display the type and the initial value, if one is set.

![Figure 5. The specification menu for a particular attribute.](image)

4. Follow steps 2-3 for adjusting the operation specifications. The menus are manipulated in the same way; the only difference being that the aspects are those of operations, not attributes.

*Note: When all of the changes have been made, only the variable types of the attributes will be displayed in the class component.*

Creating Class Relationships

See Creating A Relationship, in the Making A Use-Case Diagram section.