

GradeTwo Tool

Contents

Getting started	2
GradeTwo installation.....	2
Opening GradeTwo.....	2
Creating a project	2
GradeTwo Tool Overview	4
Main menu	4
Menu point “Project”	4
Menu point “Show”	4
Menu point “Diagram”	4
Toolbar	7
PopUp Menu.....	7
Symbol style.....	8
Reroute selected line.....	8
Tree.....	8
Open diagram	8
Print diagram	8
Export diagram as picture	9
Export model to HTML	9
Export model to HTML/SVG	9
UML Tool Overview	9
The Project Diagram	9
General information	9
The project diagram palette.....	9
Diagram export and import.....	10
Profiles.....	10
Creating a profile	10
Exporting a profile	10
Importing a profile.....	11

Getting started

GradeTwo installation

To install the GradeTwo Tool, simply download the archive and unzip it anywhere on your computer. The package contains one folder “GradeTwo” and three subfolders “Bin”, “Projects” and “Tools”.

Opening GradeTwo

When installed, you can open the GradeTwo Tool by executing file “GradeTwo.exe”. You may be asked for special permissions to register the visual .ocx component. You must agree to install the component if asked (see Figure 1, the visual appearance of windows can be different in different operating systems and according to the fact whether the user has administrator rights or not).



Figure 1. Registering OCX component.

Creating a project

To create a new project, select “Project / New project...” from the main menu. In “Create Project” window you must specify the name of the new project and its workspace – a folder in which it will be created. The default workspace for projects is the folder “Projects” located in the main folder “GradeTwo” (see Figure 2).

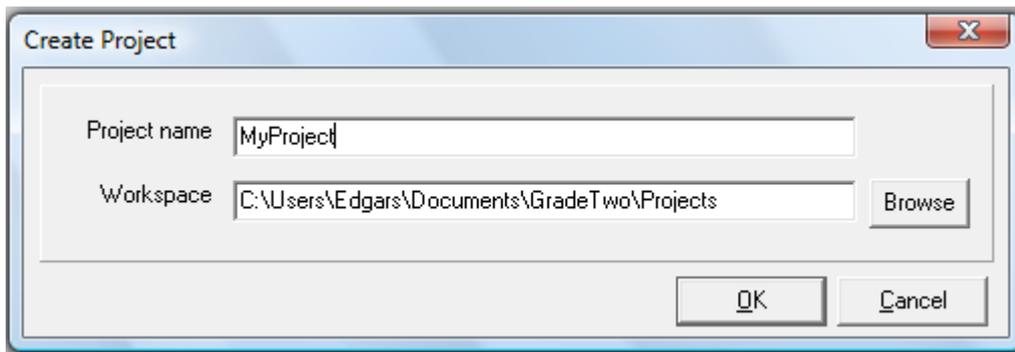


Figure 2. Creating a new project.

From the UML point of view, project is a top-level package, so an empty package will be opened when a new project is created (see Figure 3). Here, other packages and diagrams may have been created. In the left part of the window, a project tree is to be found. If it is not seen, you can use a mouse to drag the left border of the project window to the right.

When a project is created, a new folder for that project is generated in the specified workspace. All the information relevant for the project is put into that folder (let us call it *the project folder*). After saving the project within the GradeTwo Tool, the project folder contains all the necessary information for the project. Therefore, you can copy the project folder to another computer and open the project using the GradeTwo Tool there.

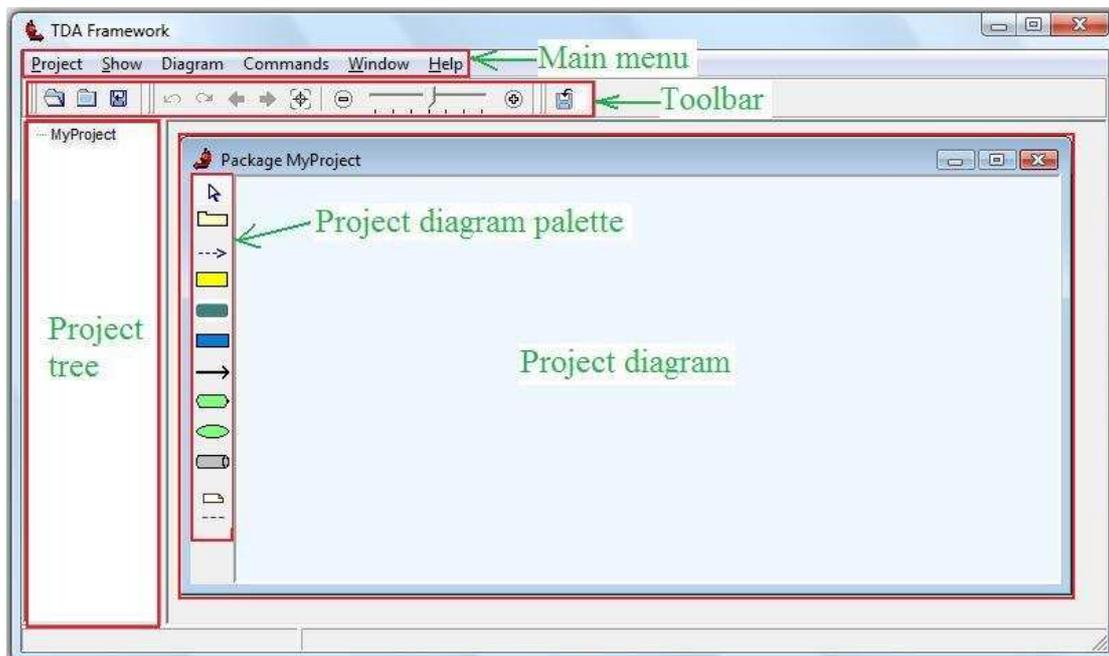


Figure 3. A newly created project.

GradeTwo Tool Overview

Main menu

Menu point “Project”

New project...

Creates a new project.

Open project...

Opens a project. To open a project, you must specify the project folder.

Reopen project

Opens a project that has recently been opened. You can choose the project from the list.

Save project

Saves the project to the secondary memory (to the project folder). While working with the project, it is situated in the random access memory. If some error occurs during this phase, such that the GradeTwo Tool is terminated violently, all the unsaved information is lost. It is therefore recommended to save the project in use occasionally.

Close project

Closes the project. Before closing, it is asked whether to save the project or not.

Exit

Closes the GradeTwo Tool. If a project is opened, it is asked whether to save the project or not.

Menu point “Show”

Metamodel

Shows a metamodel of the GradeTwo Tool together with its instance in use.

Project diagram

Shows the top-level package in front of other opened diagrams.

Menu point “Diagram”

Diagram Background

Allows either to set a different color to the background of the current diagram or to restore the default background to it.

Set Default Style

Removes the style of the selected elements set by user, thus restoring the default style of those elements.

Alignment Mode

Allows to switch among three different diagram alignment modes – Automatic, Semi-Automatic and Manual. It is recommended to start creating diagrams in Automatic or Semi-Automatic mode in order to get the most benefits out of the diagram layouting algorithms. Afterwards, the manual alignment mode can be used to adjust the positions of nodes, edges and compartments as needed.

Automatic Alignment

Allows to choose one of the predefined automatic alignment modes for diagrams – Flow, Universal, Symmetrical, Tree, Matrix or Lanes.

Save As Picture

Allows to save the whole current diagram or its selected part as a picture in different formats.

View Page Boundaries

Displays the printing boundaries of a page so you can see which part of the diagram will be printed out (see Figure 4). You can modify the printing boundaries by using a mouse and dragging the boundaries as needed.

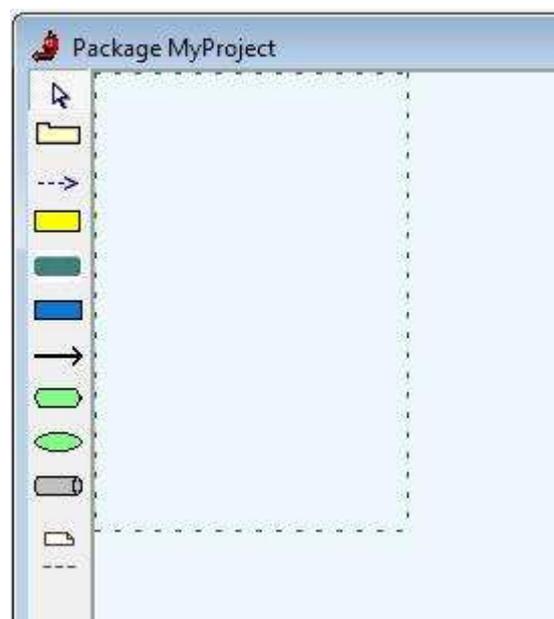


Figure 4. Viewing page boundaries.

Print Diagram

Prints out the current diagram. Several options can be specified in the “Page Information” window that opens when selecting the “Print Diagram” submenu. Most of them are self evident. You can chose from four different printing modes including “Zoomed to one page” and “Zoomed to two pages”. If the diagram is very large and must be zoomed to more than two pages (but less than the default size of the diagram), it must be specified by setting the page boundaries accordingly. Read more about the page boundaries in subsection “GradeTwo Tool Overview / Main Menu / Menu point “Diagram” / View Page Boundaries”.

Some other printing preferences can be set using the button “Printer” and/or further – “Proterties...”. Here, page orientation and other things can be specified (see Figure 5).

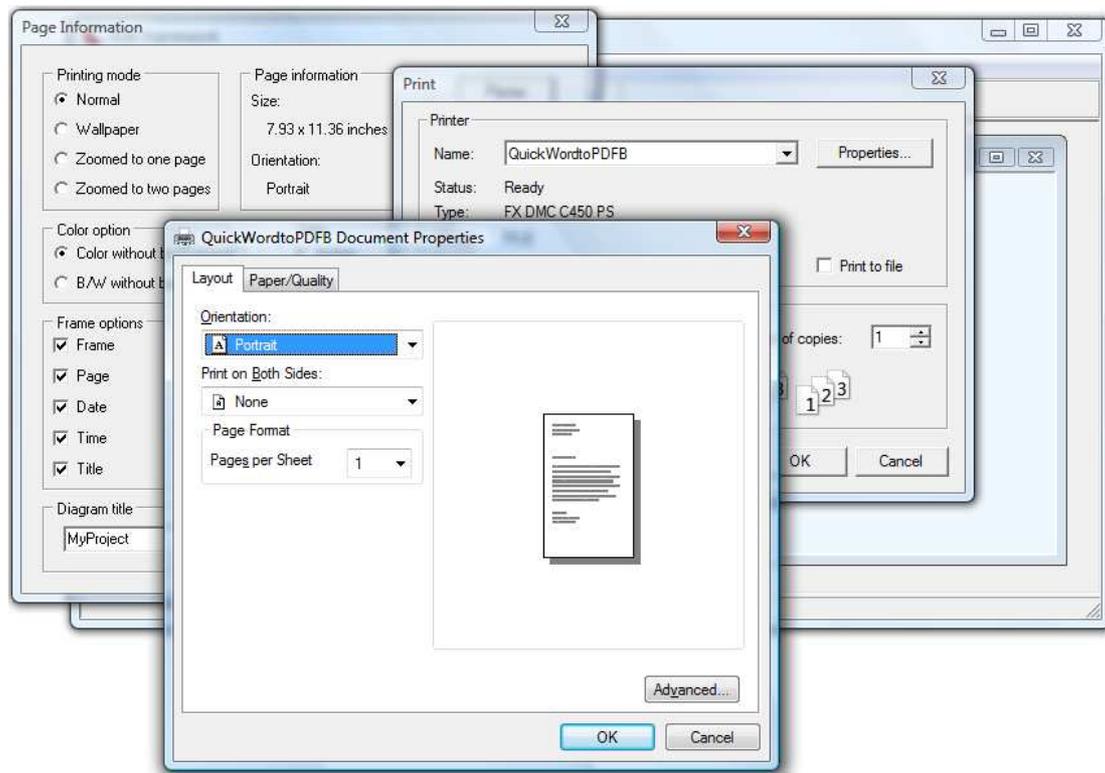


Figure 5. Printing preferences

Diagram Overview

Shows the whole diagram in a small overview window (see Figure 6). This is a very useful feature for large diagrams allowing to see the whole diagram at once. It is also possible to *drive* through the diagram using a mouse and dragging the window-representing rectangle through the overview window.

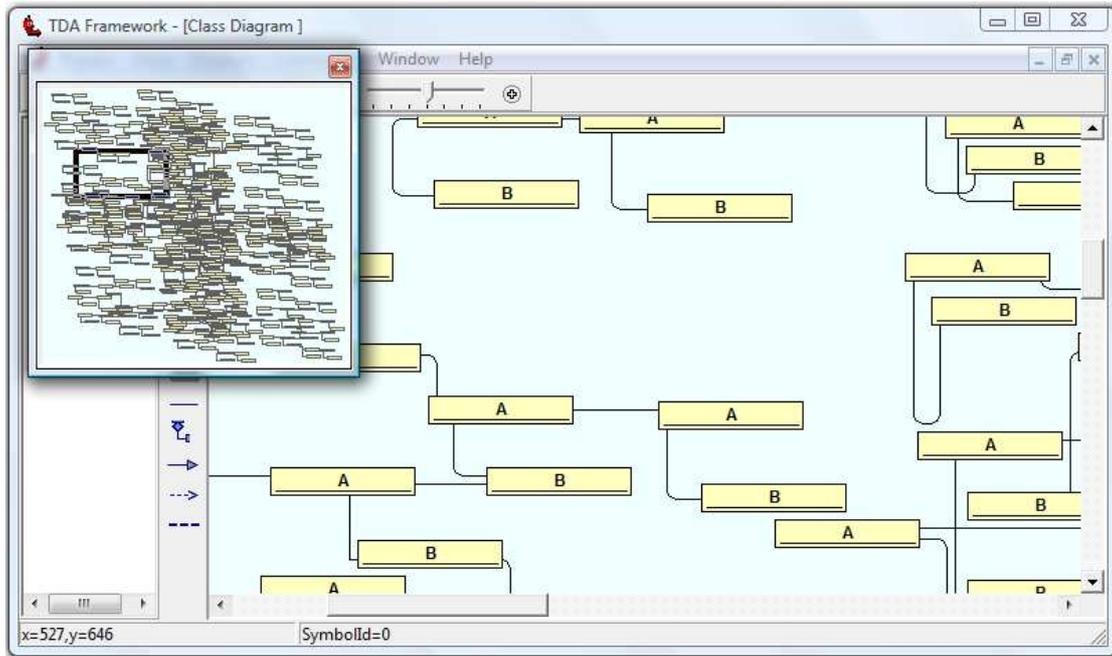


Figure 6. The diagram overview window

Zoom

Allows zooming the diagram

Toolbar

Action	Toolbar icon	Description
Open project		Opens an existing project
Create project		Creates a new project
Save project		Saves the actual project
Undo		Cancels the last action
Redo		Restores the last action
Previous diagram		Brings the previous opened diagram on top
Next diagram		Brings the next opened diagram on top
Diagram overview		Shows the diagram overview window
Zoom out		Zooms the diagram out by 10 %
Zoom		Allows zooming the diagram by desired percentage (10 – 190 %)
Zoom in		Zooms the diagram in by 10 %

PopUp Menu

There is a pop-up menu attached to every element in a diagram. Although the content of those menus are different for different elements depending on the type of the element, there are a couple of pop-up items common for all the elements defined in the GradeTwo Tool.

Symbol style

This pop-up item is present in pop-up menus for all the nodes and edges. It opens a diagram allowing to change the style of the element. The style window contains two tabs – “Shape” for changing the style of the element, and “Compartments” for changing the style of its compartments (see Figure 7).

After the style has been changed, it is possible to get back the default style for the element by selecting the menu item “Set default style” from the main menu point “Diagram”.

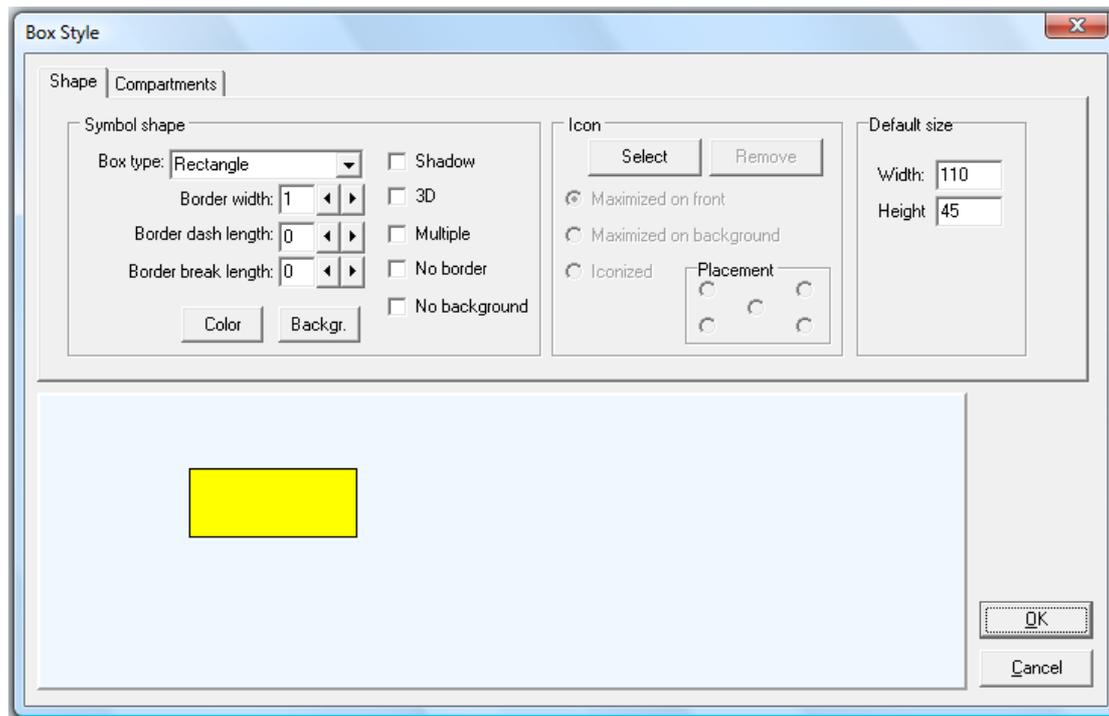


Figure 7. Modifying symbol style.

Reroute selected line

This pop-up item is present in pop-up menus for all the edges. It forces the graph layouting algorithm to calculate the optimal route for the selected line.

Tree

Tree component can be found at the left side of the main window showing the navigational and hierarchical structure of diagrams in the current project. Several actions are possible to choose from when left-clicking a node (representing some diagram) in the tree.

Open diagram

Opens the diagram associated with the chosen node.

Print diagram

Opens the print diagram dialog window for the diagram associated with the chosen node. You can read more about printing the diagram in subsection ‘Main Menu / Menu point “Diagram” / Print Diagram’.

Export diagram as picture

Allows saving the diagram associated with the chosen node as a picture. The same can be done through the main menu using the menu point “Diagram / Save As Picture / Diagram...”.

Export model to HTML

Saves the current project as a set of HTML pages preserving the navigation and hierarchy of diagrams. The whole project is saved in the specified folder regardless of the node from which the action is chosen.

Export model to HTML/SVG

Saves the current project as a set of HTML pages depicting the graphics in SVG format and preserving the navigation and hierarchy of diagrams. The whole project is saved in the specified folder regardless of the node from which the action is chosen.

UML Tool Overview

The Project Diagram

General information

The main diagram showing up when a new project is created is called the project diagram. It is the top-level package from the UML point of view. In this diagram, all the other packages and diagrams can be created using the palette elements of the diagram. Those diagrams will then be seen in the project diagram as elements (so called “seeds of diagrams”), double-clicking on which a new diagram will open. Project diagram can be brought in from other opened diagrams at any time by selecting the menu item “Project diagram” from the main menu point “Show”.

The project diagram palette

Palette element	Icon	Description
Package		Creates a new package
Package import		Used to show which packages imports other packages
Class diagram		Creates a new class diagram
Activity diagram		Creates a new activity diagram
Performers		Creates a new performers table
Navigation		Used to show which activity diagrams contain navigation to other activity diagrams
UseCase		Creates a new use-case diagram
StateChart		Creates a new statechart diagram
StereotypeDefDgr		Creates a new profile
Note		Creates a new note
Connector		Used to attach a note to any kind of diagrams

Diagram export and import

To copy a diagram within one project, standard copy/cut/paste commands are available from the pop-up menu for the diagram seed. To copy a diagram to another project, the diagram must be exported to a specific file and then imported into another project.

To export a diagram, you must select the item “Export Diagram” from the pop-up menu for the diagram seed. For very large diagrams, export can take up to several seconds to complete. When the export is done, a message box will appear saying “Export done!”. Now, a diagram is exported to a file “DiagramExportResult.txt” and placed in the project folder.

To import a diagram in some project, you must copy the exported diagram file “DiagramExportResult.txt” into the actual project folder, in which the diagram will be imported. Afterwards, in the target project, you must select the item “Import” from the project diagram’s pop-up menu (calling the pop-up menu from an empty space in that diagram). When the import is done, a message box will appear saying “Import done!”. A new diagram seed will appear in the project diagram. Import can be called also from another package’s pop-up menu. However, the new diagram will appear in the top-level package (the project diagram). Now, you can copy/cut the diagram to another package if needed.

Profiles

Creating a profile

To create a profile, you must create a “StereotypeDefDgr” seed in a package. Double-clicking the seed will then open a diagram in which a profile can be specified.

In a profile specification diagram, three types of stereotypes can be created – on a node, on an edge and on a compartment. These can be made using the three palette elements. When creating a stereotype on an edge, an edge between two boxes will be generated and showed in the diagram. The edge between those boxes must be double-clicked in order to open a dialog window for the stereotype.

When all the necessary information is provided in a dialog window for the stereotype, you can also specify a different style for it. It can be done by selecting the item “Set style” from the stereotype’s pop-up menu. Do not select a different item “Symbol style” accidentally, for it only changes the visual appearance of the stereotype definition, but leaves no impact on how the elements having this stereotype will look like!

Exporting a profile

When a profile is created, it can be instantly used in the same project. In order to use it in a different project, it must be exported from the current project and imported in the target project.

To export a profile, you must select the button “Export profile” from the profile’s toolbar. When the export is done, a message box will appear saying “Export done!”. Now, a diagram is exported to a file “ProfileExportResult.txt” and placed in the project folder.

Importing a profile

To import a diagram in some project, you must copy the exported diagram file "ProfileExportResult.txt" into the actual project folder, in which the diagram will be imported. Afterwards, in the target project, you must select the button "Profiles" from the project diagram's toolbar. A window will open in which all the available stereotypes in the actual project can be seen when clicking on different element types. To import the newly copied profile, you must select the button "Import From File". After the profile is imported, a message box will appear saying "Import done!". Now, the imported stereotypes can be used. It must be noticed that only the stereotypes themselves are imported in the project, not also the profile definition diagram. The good fashion is to make profiles in one place and to use them in different projects as needed.