



RaQuest features guide

by Sparx Systems Japan

Requirements Management Tool RaQuest 5.1 Features Guide



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1. Introduction

Welcome to Sparx Systems Japan RaQuest Features Guide. This guide is intended to describe various features of RaQuest. It introduces some useful features of RaQuest using a sample project.

To use RaQuest 5.1, Enterprise Architect 13.0 or later version is required. To use a Floating version, the license manager version 1.3 or later is needed.

For users who do not have the modeling tool Enterprise Architect, it is possible to evaluate the features of RaQuest with the latest English trial versions of Enterprise Architect and RaQuest.

2. What can RaQuest do?



RaQuest is a requirements management tool. You can input a summary and detailed attributes of a requirement. Also, RaQuest enables you to list up requirements and print them out or export them as HTML or RTF documents that can be opened in Word. Moreover, you can create relationships between requirements. RaQuest can show relationship diagrams and matrices from the created relationships, and those are useful for the impact and coverage analyses. You can manage requirements more efficiently with these features.

RaQuest is integrated with UML modeling tool Enterprise Architect. Therefore, RaQuest can generate UML Use Cases from created requirements and import Use Cases as requirements. Also, it can relate requirements with UML items. The features give you close and effective integration between requirements management and UML diagrams like Use Case diagram, or design elements. In this way, RaQuest has functions to transform requirements into UML smoothly. At the same time, it is also possible to create requirements while making relationships in business flow diagrams, and thereafter you can manage them as a list in RaQuest.

In the field of requirements management, requirements are often managed by a specific member or part of a team. In our opinion, one of the reasons for this situation is that requirements management tools are too costly to distribute to all members of the team. Both the UML modeling tool Enterprise Architect that integrates RaQuest and RaQuest are low-cost enough to be distributed to all members related to development. What we aim for is a new development style that every member related to the development can check the requirements anytime and work together to develop the system to fulfill the requirements specification.

RaQuest is a coined word from “Requirements Adjustment Quest.” “RaQ” means easy or happy in Japanese pronunciation. As the Japanese word “RaQ” means, we hope that RaQuest helps users manage requirements more easily.

3. Main Window

Run RaQuest, and open a project file. The following window appears (fig. 1). This is the main window of RaQuest. The following image (fig. 1) shows the screen when the sample project is opened. The actual window and the contents displayed onto your computer would be different from this, depending on the build or the configurations of RaQuest.

If you have project files of UML modeling tool Enterprise Architect, you can also open them by RaQuest.

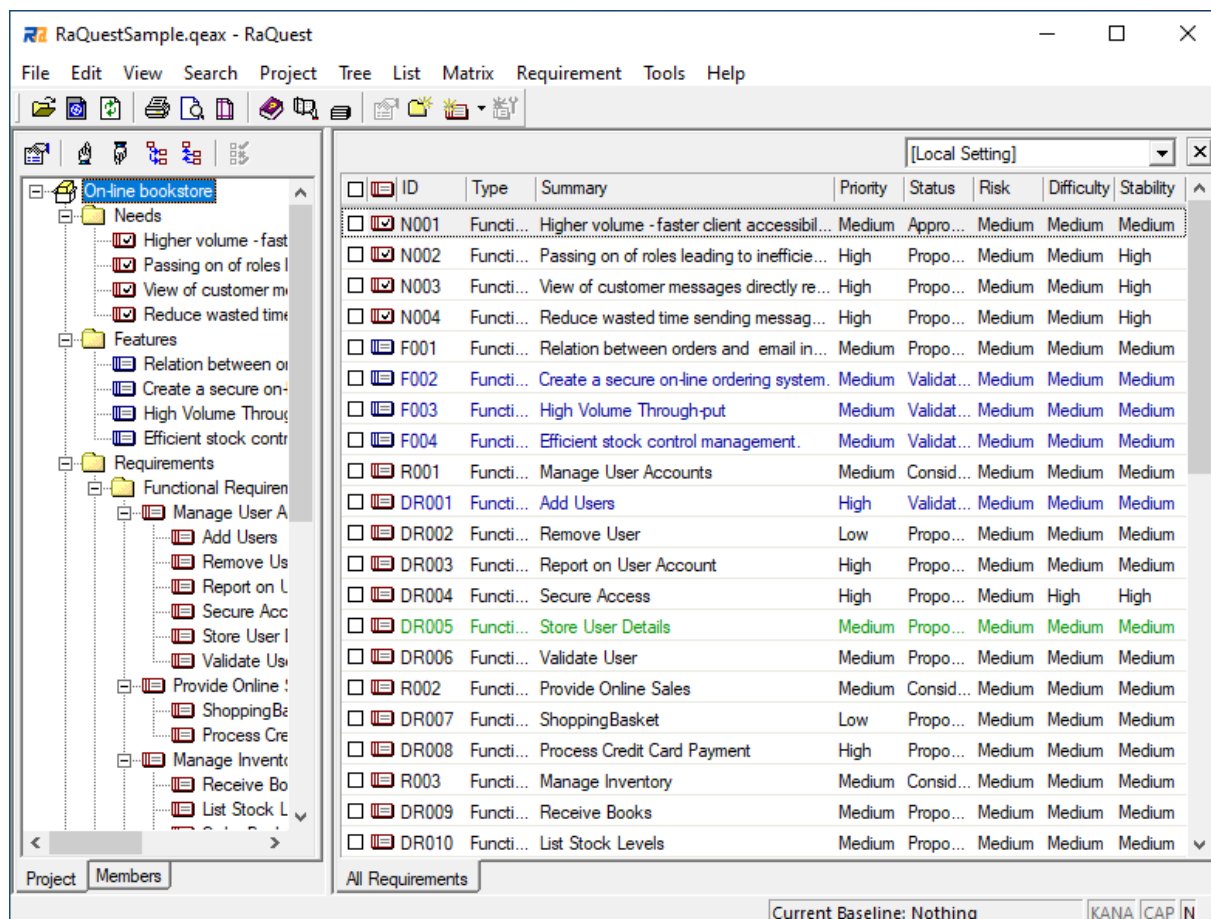


fig. 1

In the left pane of the main window, requirements and packages are organized as the Project Tree. In the right pane, the Requirement List is displayed.

When you check the **Always Display Requirement** option, the main window is displayed, as shown in

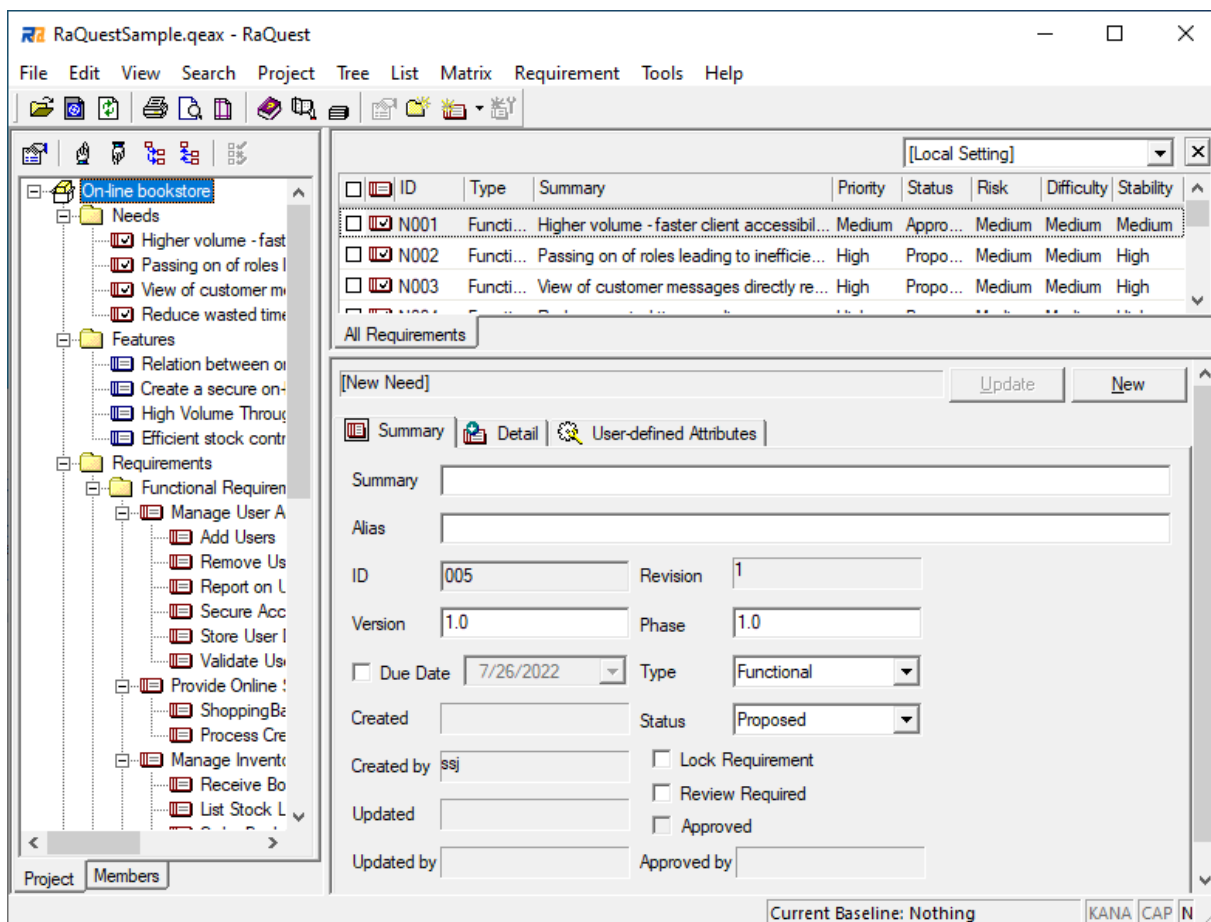


fig. 2. The requirement selected in the tree or list is always displayed in the lower part of the right pane of the main window.

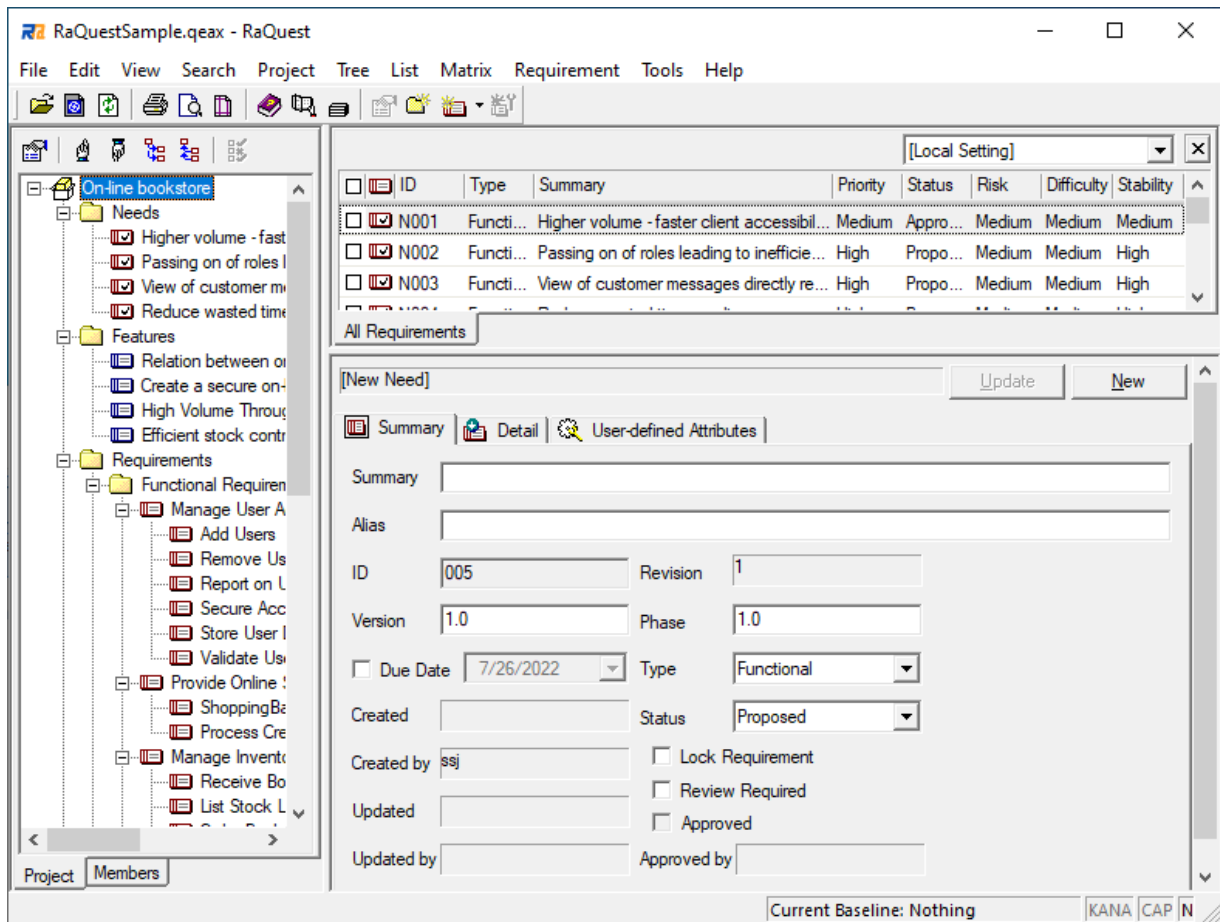


fig. 2

4. Creating New Requirements

To create a new requirement, select the **Requirement | New Requirement** (fig. 3), or right-click a package or a requirement where you would like to create the new requirement, and select the **New Requirement** (fig. 4). Also, double-clicking a blank field of the **Requirement List** can create a new requirement.

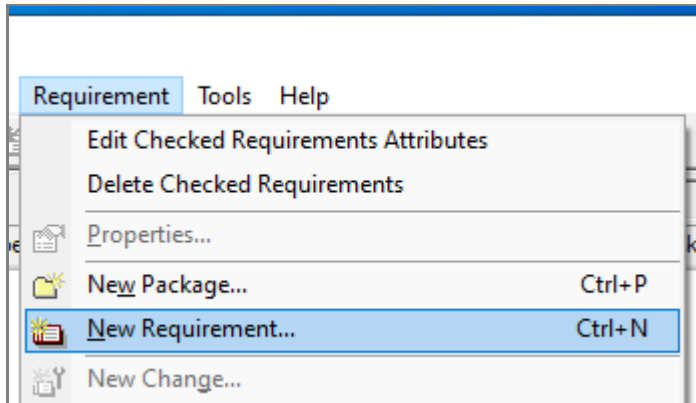


fig. 3

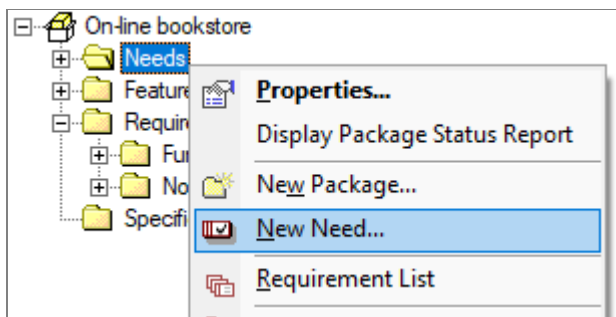


fig. 4

Like in the sample file, if more than one “Requirement Category” is defined, you need to specify Requirement Category (fig. 5). (See Section 5 for Requirement Category)

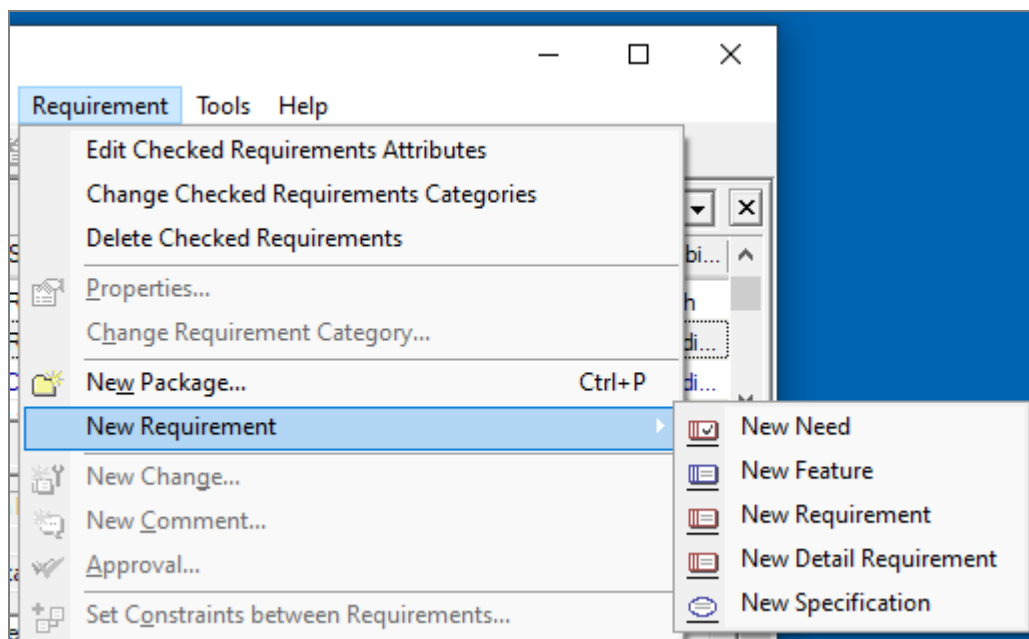


fig. 5

The following **New Requirement** Properties dialog (fig. 6, fig. 7) allows you to set its Summary, Detail, Type, Status, Due Date, Difficulty, and Priority.

If the User-defined Attributes are already defined, you can set them on the **User-defined Attributes** tab (fig. 8).

If you check the **Display Attributes by List Form** option or the **Display Attribute by list form on this Project** option, you can display and set the same information on the **Description** tab (fig. 9) and the Attributes tab (fig. 10) instead of fig. 6, fig. 7, and fig. 8.

 A screenshot of the 'New Requirement' dialog box. The 'Summary' tab is selected. The dialog contains the following fields and controls:

- Summary: A large text input field.
- Alias: A text input field.
- ID: A text input field containing '022'.
- Revision: A text input field containing '1'.
- Version: A text input field containing '1.0'.
- Phase: A text input field containing '1.0'.
- Due Date: A checkbox (unchecked) followed by a date dropdown menu showing '7/26/2022'.
- Type: A dropdown menu showing 'Functional'.
- Created: A text input field.
- Status: A dropdown menu showing 'Proposed'.
- Created by: A text input field containing 'ssj'.
- Lock Requirement: A checkbox (unchecked).
- Updated: A text input field.
- Review Required: A checkbox (unchecked).
- Approved: A checkbox (unchecked).
- Updated by: A text input field.
- Approved by: A text input field.

 At the bottom, there are buttons for 'Original Requirement', 'Up', 'Down', 'OK', 'Cancel', and 'Create & Next'.

fig. 6

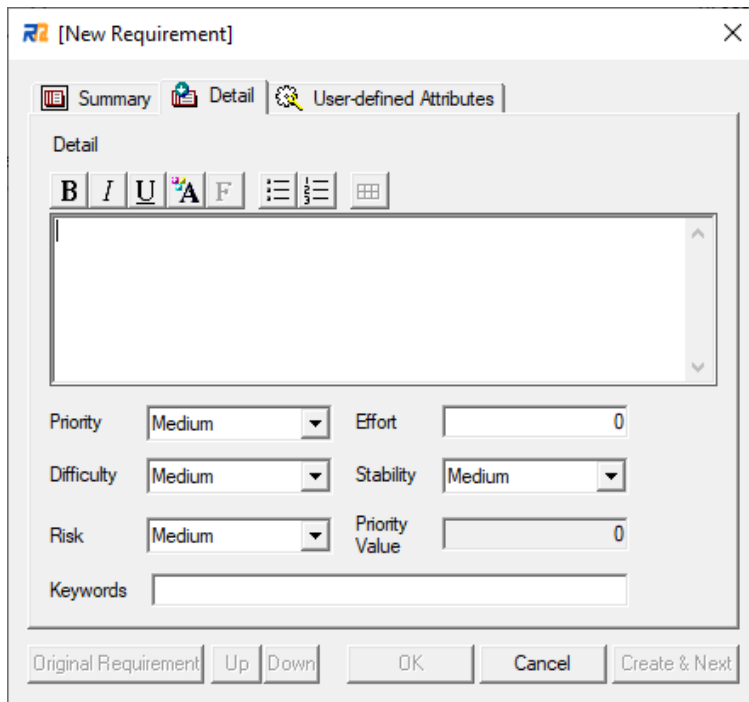


fig. 7

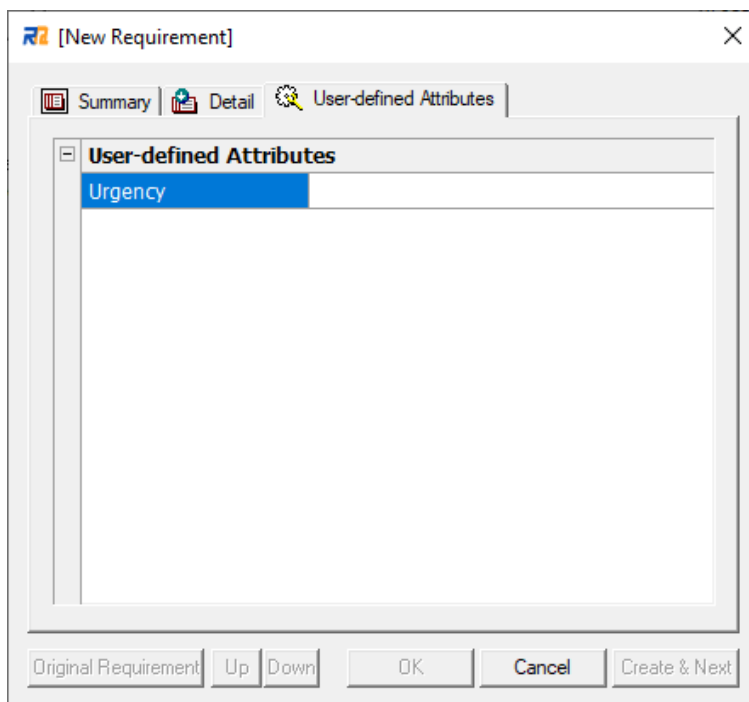


fig. 8

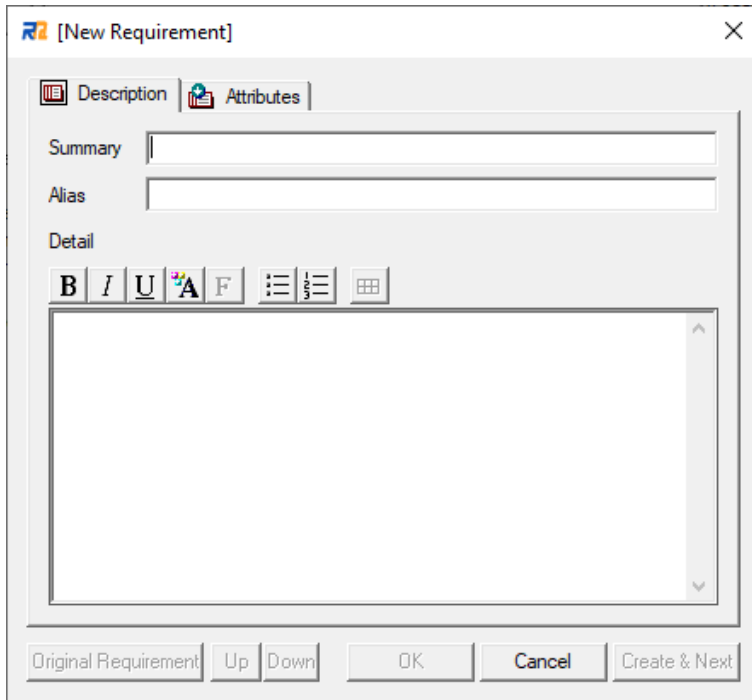


fig. 9

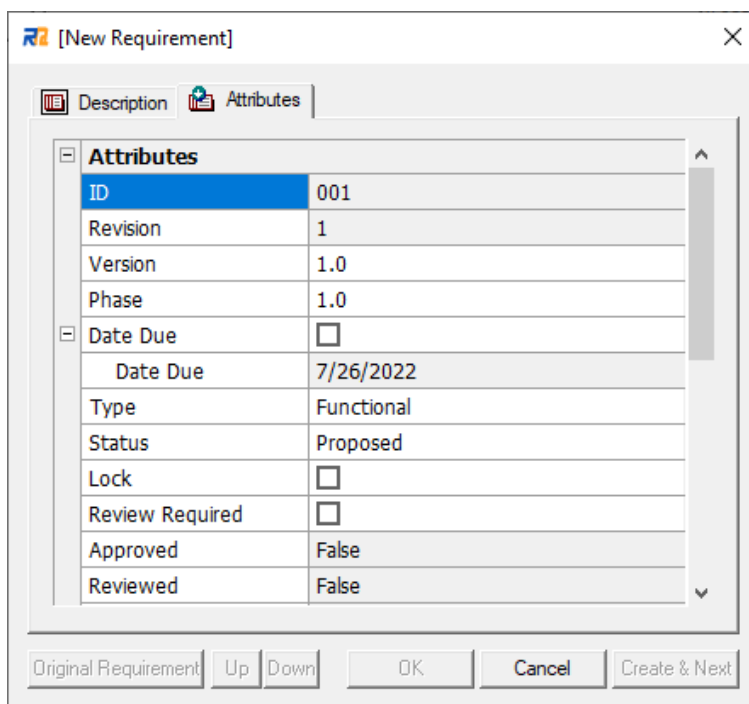


fig. 10

After creating a new requirement, you can set the details (fig. 11). The **Requirement Properties** dialog has **UML Items**, **Files**, **Members**, **Test Items**, **Comments**, **Review Requirements**, and **Update Log** tabs. You

can refer to them and set the details of each requirement in this dialog. Note that these tabs are not displayed when a requirement is just created. You can see these tabs when the **Properties** dialog is opened after creating the requirement.

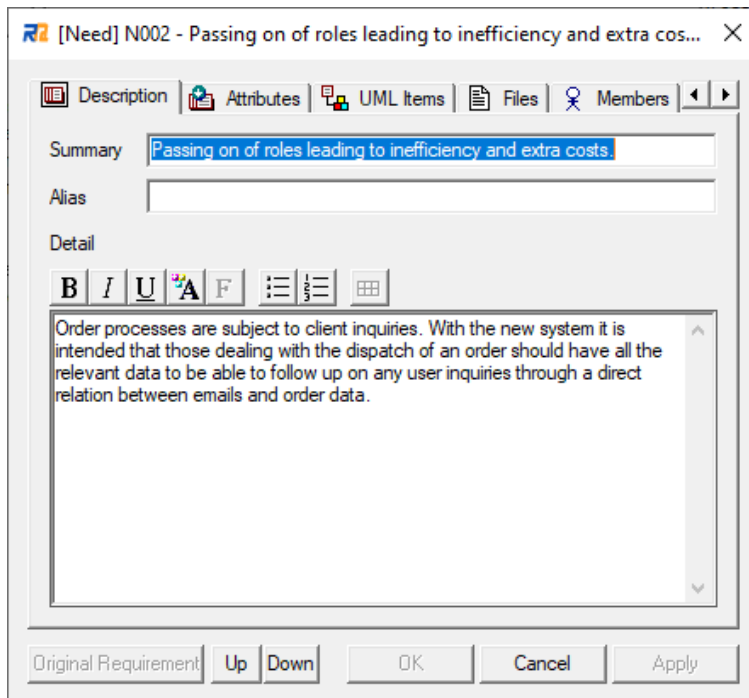


fig. 11

On the **UML Items** tab, as shown in fig. 12, you can register or refer to relationships between the requirement and UML items.

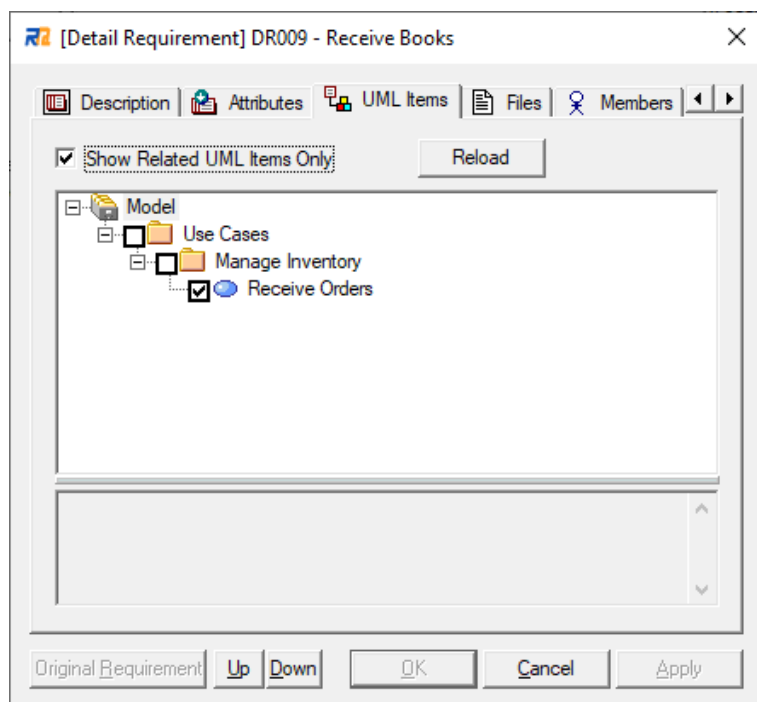


fig. 12

In the tree, you can register relationships by checking the checkboxes of UML items. At the same time, you can also enter comments showing why they are related and so on.

Relating a requirement with UML items here, you can show the relationships in matrices and lists in RaQuest, and diagrams in Enterprise Architect. Seeing the relationships, you can analyze the impact and check the deliverables of the requirement.

On the **Files** tab, as shown in fig. 13, you can register the related files and URLs of the requirement. RaQuest stores only the links in the project file, not the actual files.

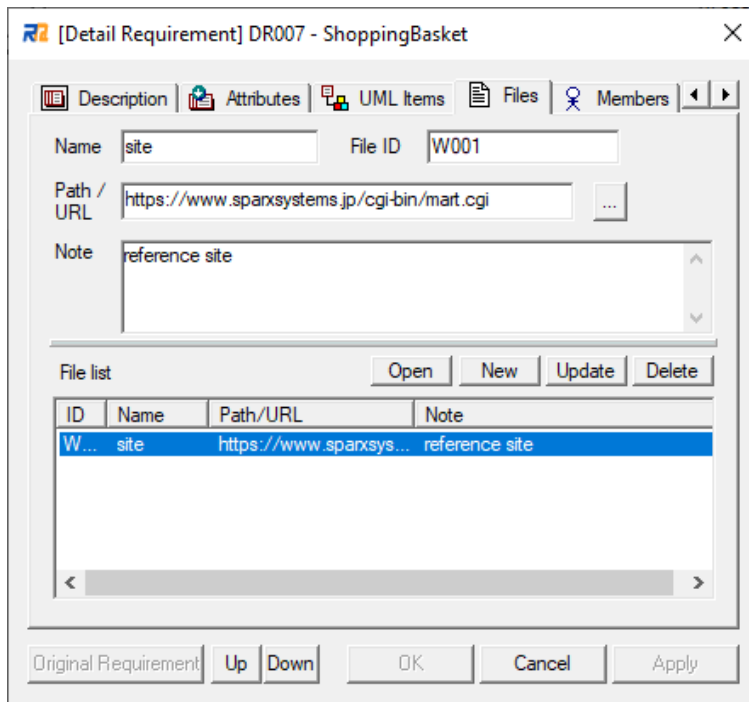


fig. 13

Selecting an item on the **File list**, you can edit the information such as Name and Path. You can also display the item by pressing the **View** button. When a URL is selected, your default web browser starts automatically. When a file is selected, the application associated with the extension of the file starts automatically.

You can copy the files, which are registered here, to the specified directory by using the **Collect Related Files** feature. This feature is also useful to take out the data. You can carry the data by collecting the related files by this feature and combining them with the documented HTML files of the requirement items. (RaQuest generates Windows URL shortcut files if URLs are registered.)

On the **Members** tab, you can check and edit (add, modify, or delete) members assigned to the requirement (fig. 14).

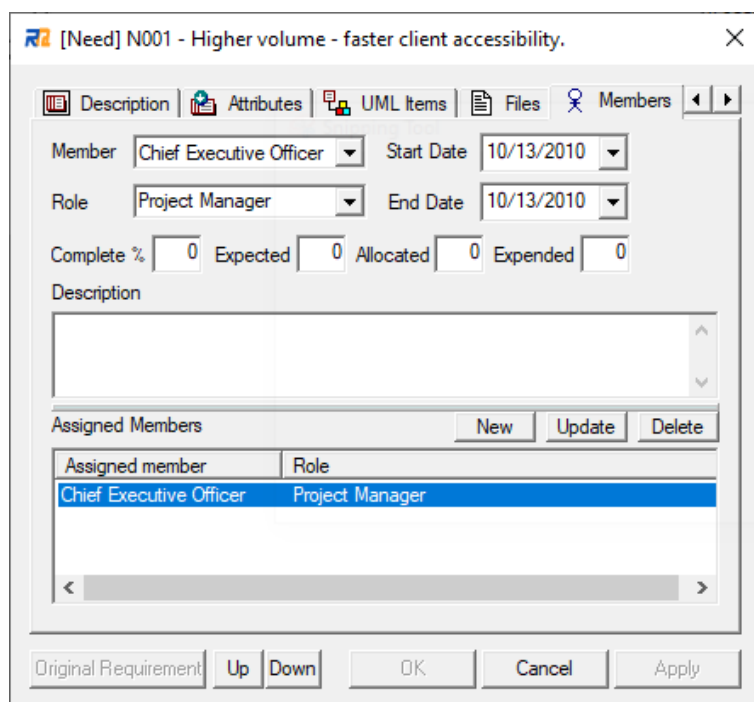


fig. 14

Members tree is also available to assign members to the requirement (fig. 15).

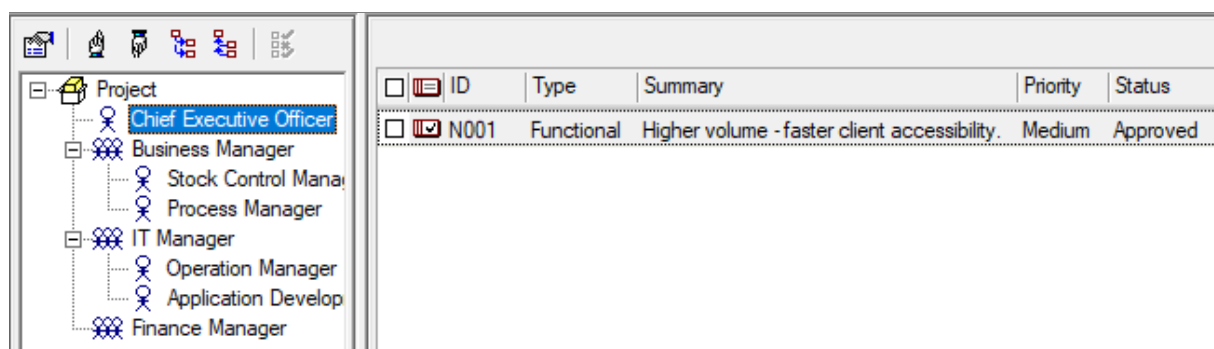


fig. 15

The easiest way to assign a member to a requirement is to select the member on the **Members** tree and drag and drop it to the requirement. The drag-and-drop from a requirement on the list to a member works as well. While dragging a requirement, the shape of the icon changes. The result of your operation is displayed on the

status bar.

You can also assign divisions to requirements in the same way by using the **Use Divisions as Member** option.

On the **Comments** tab, you can enter comments about the requirement (fig. 16).

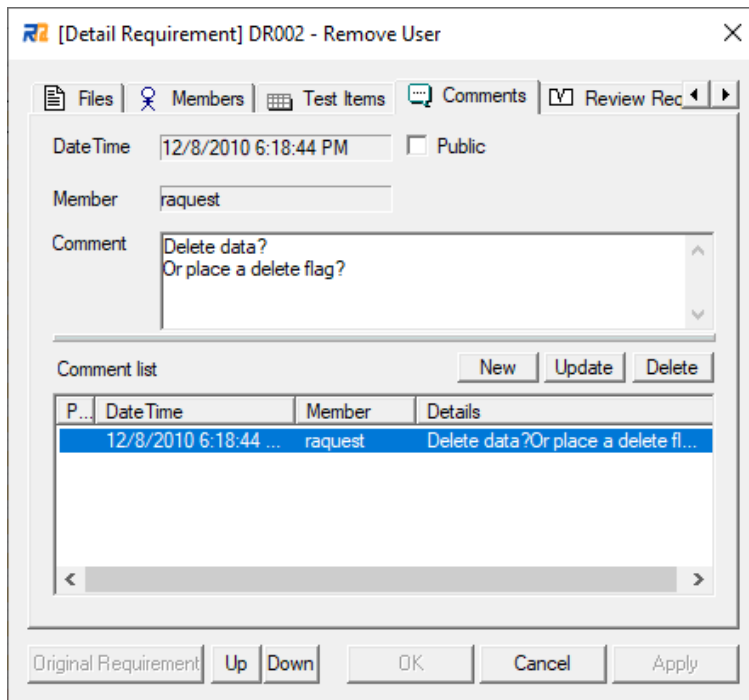


fig. 16

The **Public** checkbox controls the publication of comments. When checked, the comments are described in the exported documents. When unchecked, the comments are not output to the exported documents. This feature is useful for consideration within a team and so on.

When the **Review Required** checkbox is checked on the **Summary** tab, you can view the source requirements list in the **Source Requirement List for Review** on the **Review Requirements** tab (fig. 17).

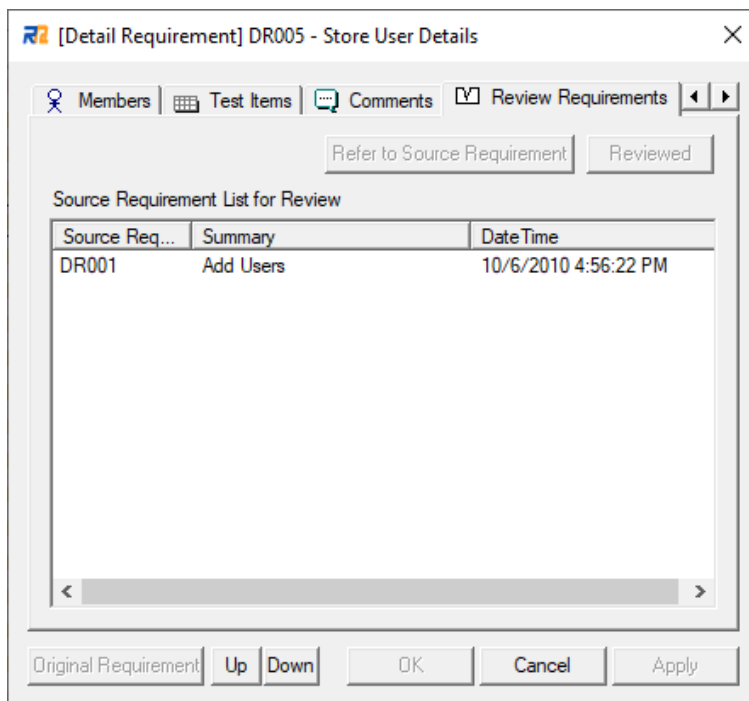


fig. 17

To view the properties of a source requirement, select the requirement on the list and click the **Refer to Source Requirement** button. After reviewing the requirement or when the requirement does not need to be reviewed, click on the **Reviewed** button to change its status to Reviewed. When all the requirements are gone from the list, the **Review Required** checkbox in the **Summary** tab will be unchecked.

On the **Update Log** tab, you can see the update log of the requirement (fig. 18).

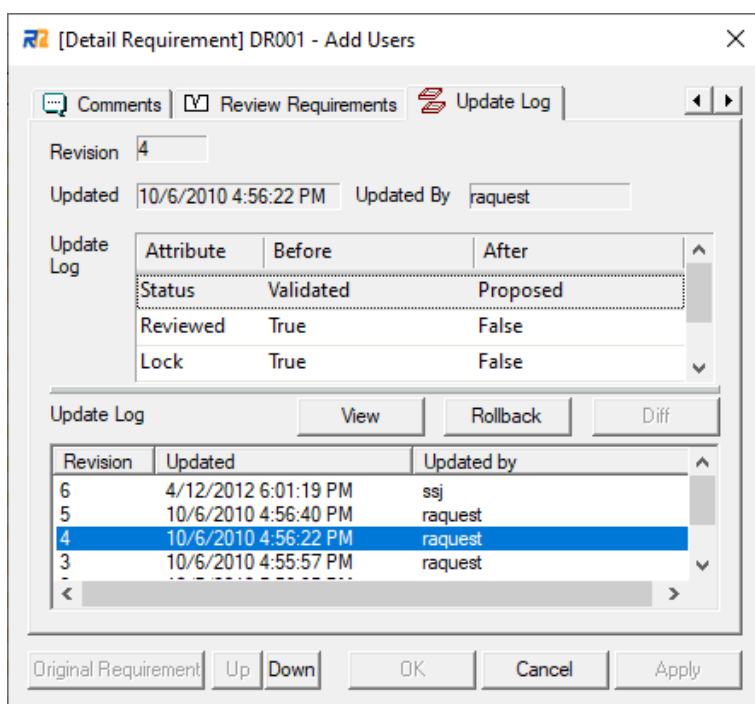


fig. 18

The Update Log is saved for each revision. Selecting a revision that you want to see from the list, the update details are displayed in the upper display area. The **View** button displays the requirement dialog of the selected revision. The **Rollback** button restores the requirement to the condition of the selected revision.

5. Requirements Classification

It is frequently that requirements are classified by either “type (characteristics)” or “abstraction level.” The “type (characteristics)” classification is broadly divided into “functional requirements” and “non-functional requirements.” And then, it is common to classify the “non-functional requirements” in further detail. There are many other classification approaches. The typical examples include FURPS+ and ISO/IEC9126. As standard, RaQuest defines “Type” attribute with values of FURPS+ (fig. 19).

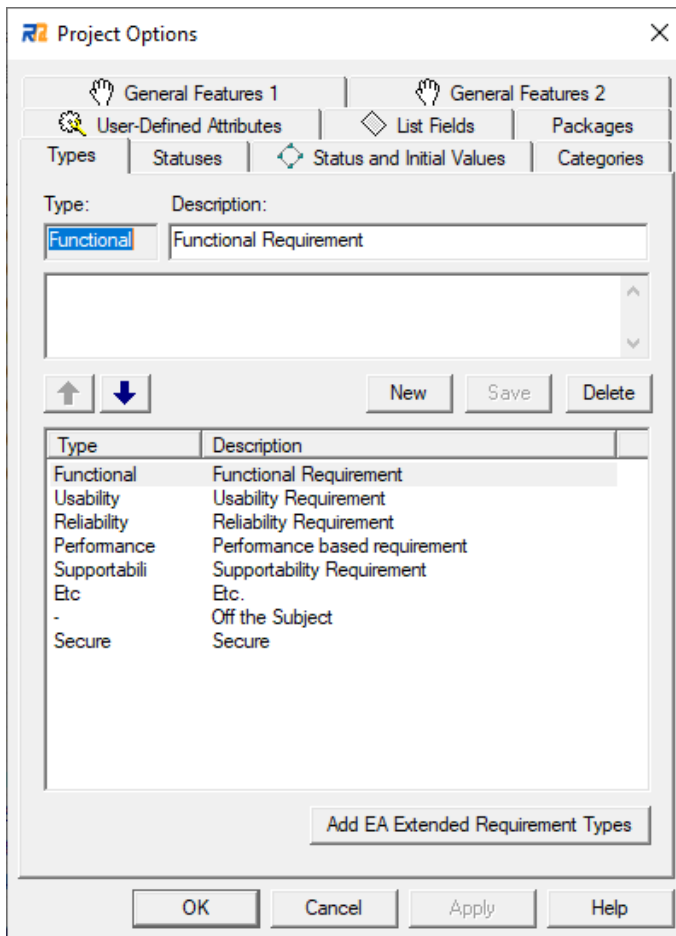


fig. 19

The other classification, classification by “abstraction level,” is done by “Needs/Features/Specifications” or “Needs/System requirements/Software requirements.” BABOK(R) uses the terms “Business requirements/Stakeholder requirements/Solution requirements/Transition Requirements.”

Other than BABOK(R), this classification does not have any typical examples, so a lot of definitions and terms are used by each company and organization.

RaQuest defines the "Requirement Category" feature to clarify the classification by "abstraction level" and manage it (fig. 20).

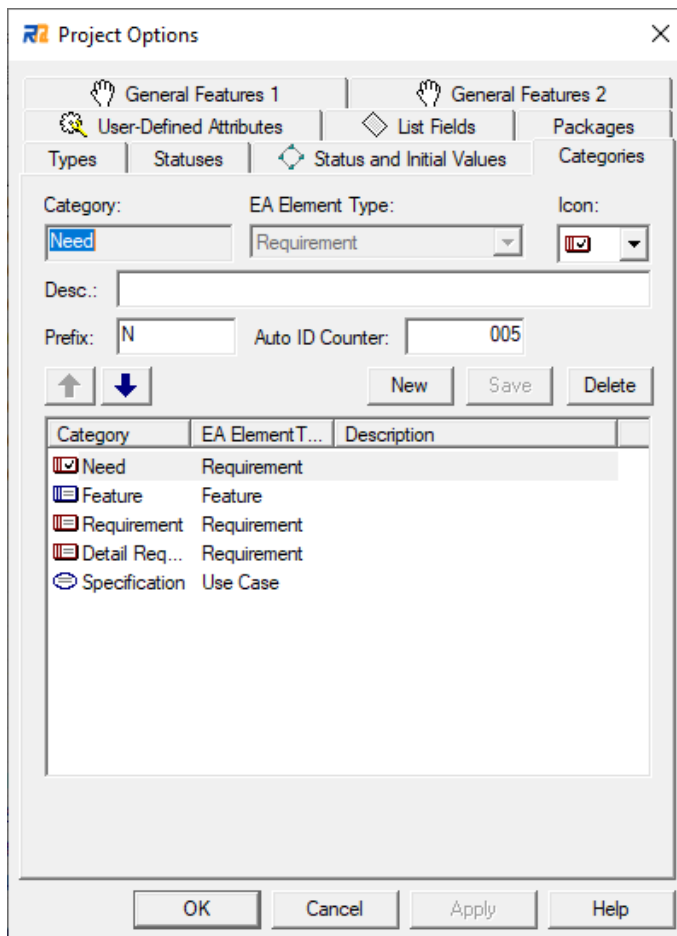


fig. 20

In addition to the classification by “Type” of attributes or “Requirement Category,” you can also classify requirements in any hierarchical structure within the Project Tree as described in the later section.

6. Requirements Status Flow in RaQuest

RaQuest intends the following status flow in the process of requirements management (fig. 21).

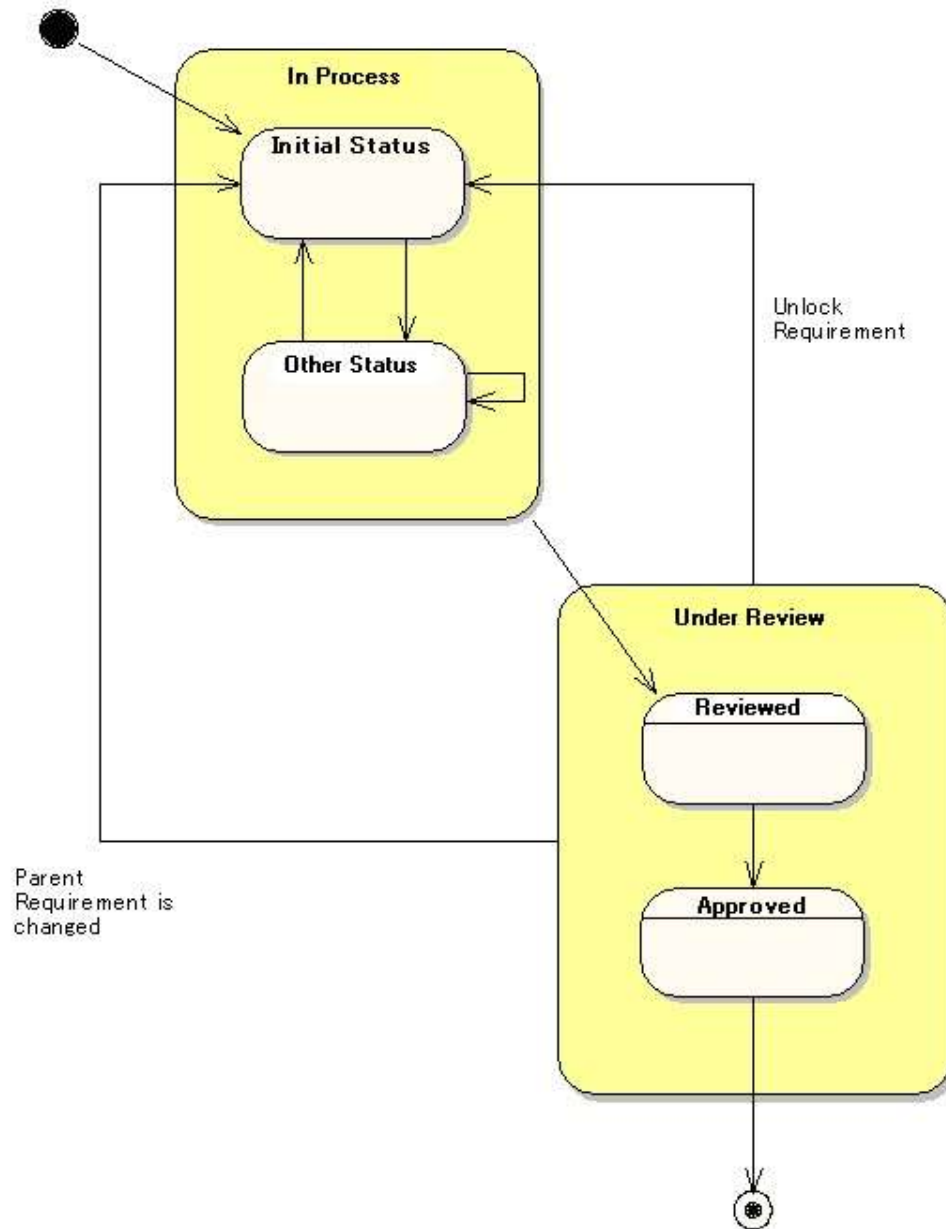


fig. 21

In the above status flow, there are three special statuses for RaQuest.

- Initial status
The status for a requirement newly created. The requirement needs to be considered.
- Reviewed status
The status for a requirement already considered. The content has been fixed.
- Approved status
The status for a requirement finalized by the approval of a person in charge.

Each of these special statuses has its own status, which can be modified in the **Project Options**. It is possible to add/modify statuses in the **Project Options** as well.

The following fig. 22 shows the flow of the statuses in the default setting.

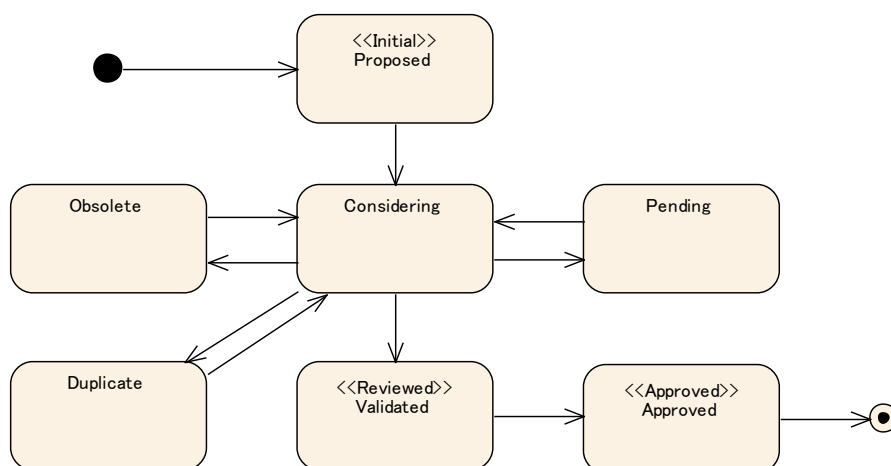


fig. 22

The default setting of RaQuest assumes the status flow of requirement to proceed from Initial (Proposed), Considering, Reviewed (Validated), and Approved (Approved), consecutively. Other than these, RaQuest has the statuses such as "Obsolete" for cases that requirements are excluded from consideration, and "Pending" for cases that consideration of requirements is pending.

The status corresponding to "Reviewed" or "Approved" means that the content of the requirement has been fixed, so the requirement has been automatically locked to protect it from modifications. If the lock is released (unlocked to make changes for some reason), the status will go back to the "Initial status" automatically. The statuses of related requirements will also be changed to "Review Required" at the same time.

This enables you to have an accurate view of the requirements impacted by the change and prevents missing reviews.

7. Requirement ID Auto Numbering

RaQuest has the following five numbering types for Requirement ID:

- Auto ID numbering within a whole project
- Auto ID numbering for each requirement category (default)
- Auto ID numbering for each package
- Auto ID numbering in a hierarchical structure
- Free format without auto numbering

The settings can be done in the Project Options | Status and Initial Values tab (fig. 23).

RaQuest also has a function to re-number the ID of existing requirements when changing the ID Numbering option. However, to avoid any confusion, we recommend deciding on the numbering type when creating a project.

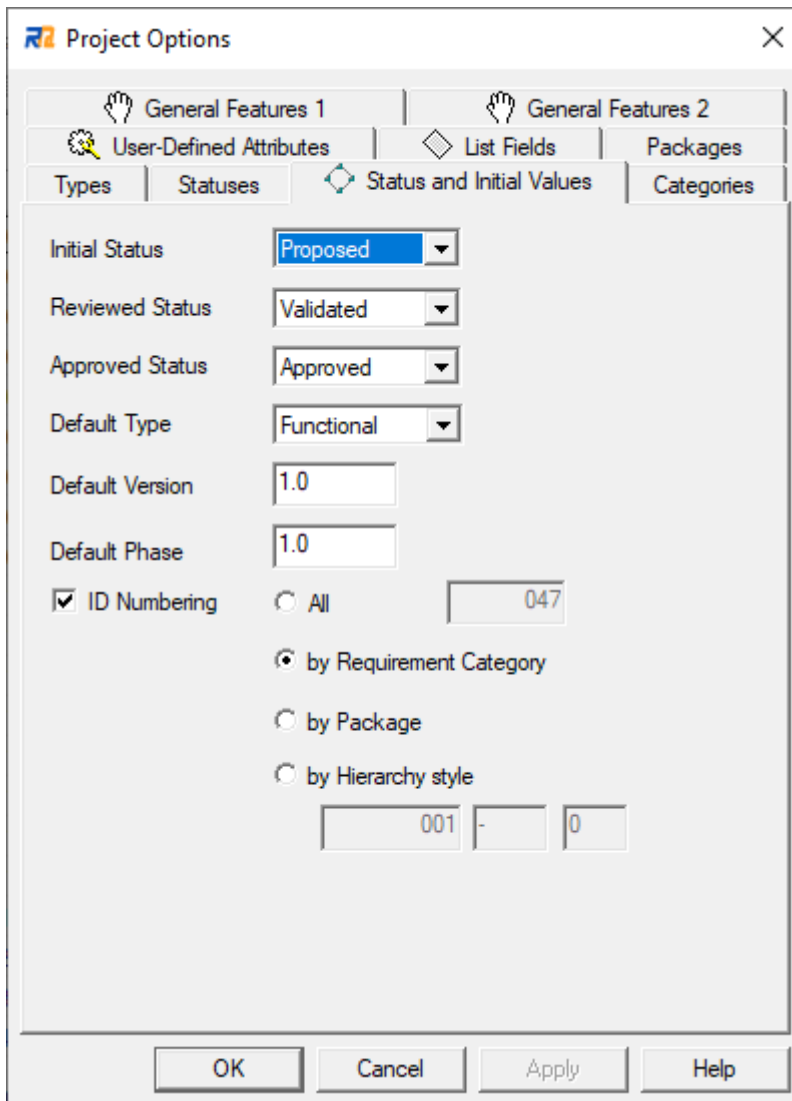


fig. 23

8. Calculation (Requirement Priority Value/Calculation type User-defined Attribute)

Priority Value is one of the requirement attributes, and it is calculated from the values/calculation formulas to determine the priority level of requirements. By using the Priority Value, it is also possible to list requirements in the priority order. Calculation type User-defined Attribute is available to define calculation formula and display the calculation result. Any calculation formula can be defined, so it can be used for simple estimation and so on.

Variables, numerics, operators(+,-,*,/), and parentheses() are available for calculation formulas. Priority/Difficulty/Risk/Stability/Effort/User-Defined Attributes are available as variables (fig. 24, fig. 25). Priority/Difficulty/Risk/Stability are defined in three levels: High=3, Medium=2, and Low=1. For User-Defined Attributes, types of Numeric/Enum/Calculation are available.

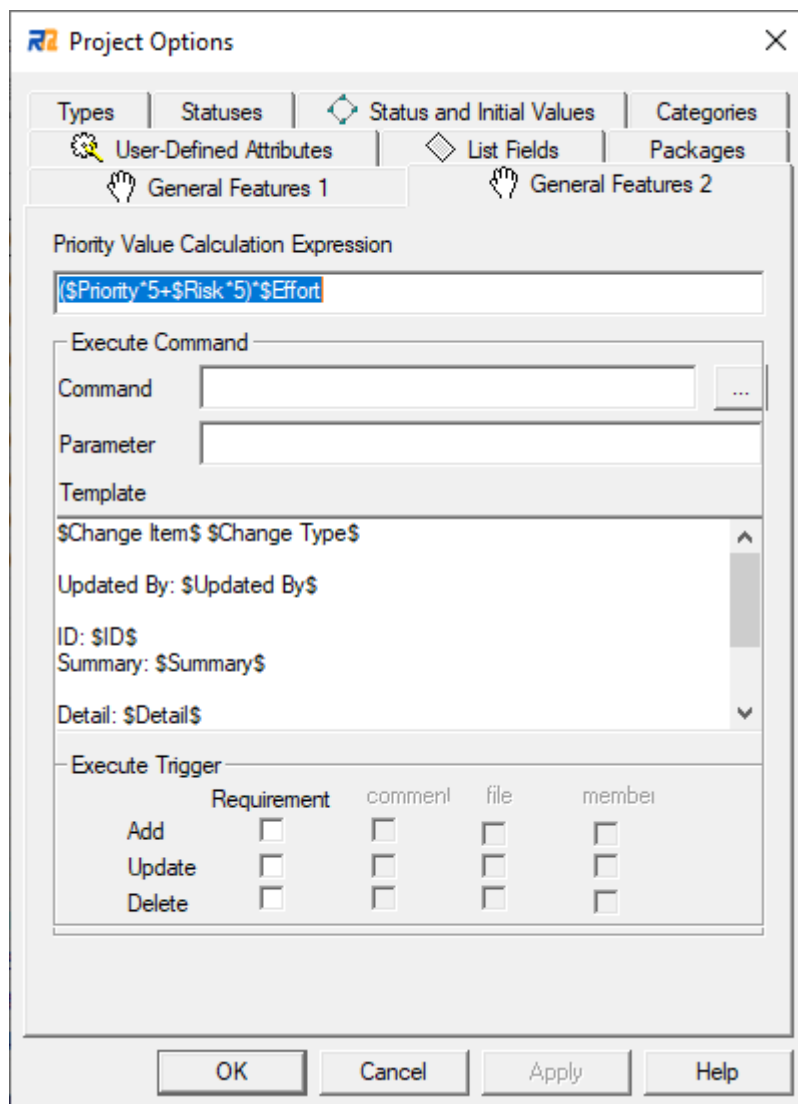


fig. 24

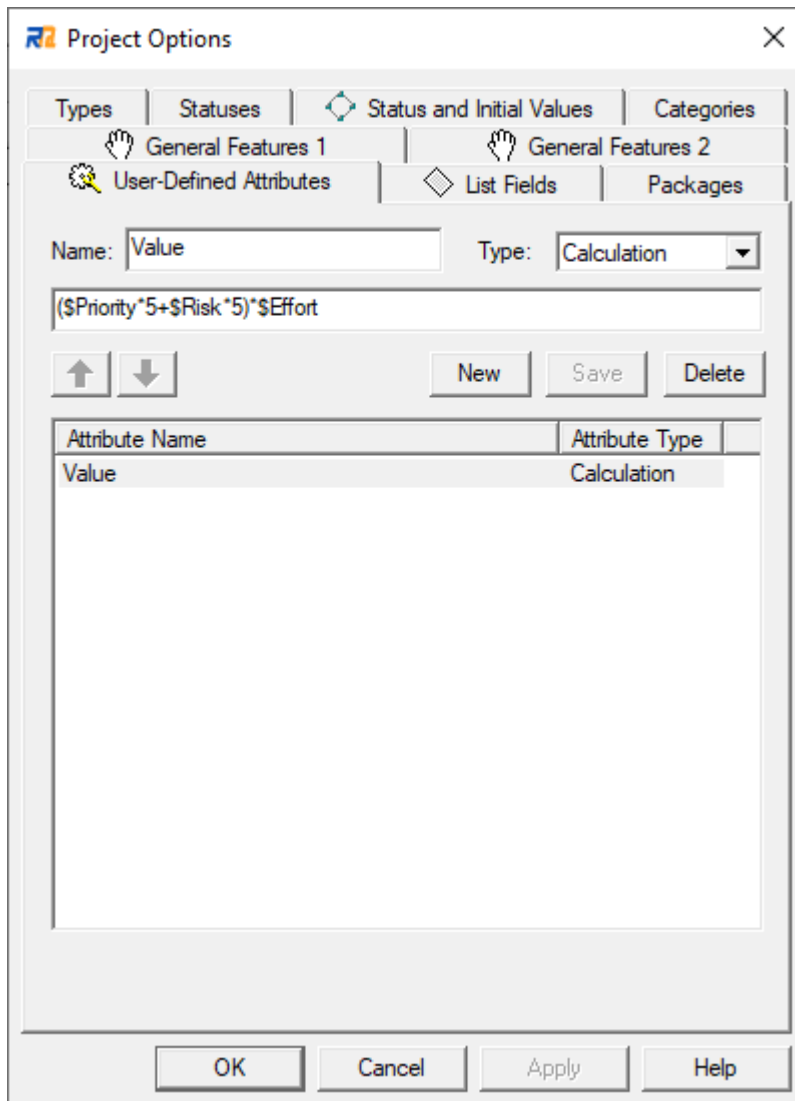


fig. 25

9. Trees

Trees are useful for categorizing and managing a lot of requirements efficiently. You can arrange packages in Trees. Packages are designed to store requirements for easy classification and management (fig. 26).

You can move packages and requirements as you need by drag and drop. So, it is also possible to move them according to the situation while creating requirements items.

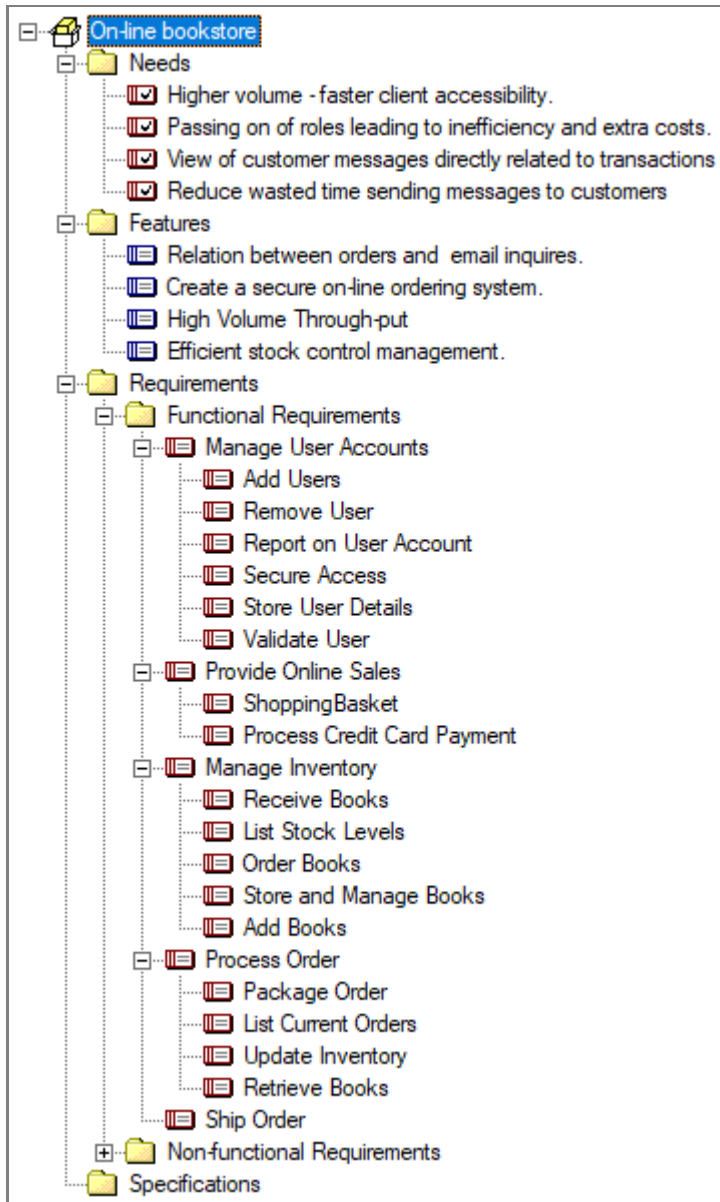


fig. 26

You can define child requirements for a requirement so that you can describe the details, subdivide the content, and view the related requirements (fig. 27).

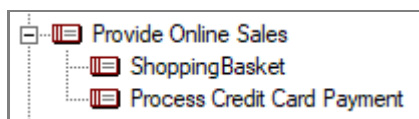


fig. 27

A requirement can also have packages (fig. 28). The packages placed under the requirement work as the index of the child requirements, which means that they play different roles from usual packages.

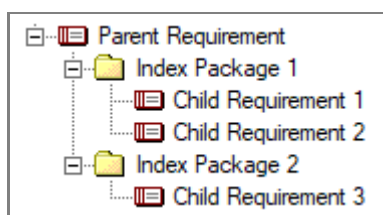


fig. 28

In this way, it is important to classify a lot of requirements clearly.

The tree part in the left pane is displayed in a tab style. The **Project** Tree and the **Members** Tree are opened at the start-up of RaQuest. The **Project** Tree, as described so far, shows the whole packages and requirements of the project. The **Members** Tree shows the divisions and members, as shown in fig. 29. You can define divisions and members in this tree.



fig. 29

The useful usage of members is described in the next section.

You can use the other trees like **by Type**, **by Status**, **By Category**, and **Custom** tree. You can specify the tree conditions for the **Custom** tree (fig. 30).

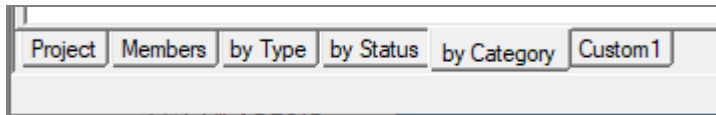


fig. 30

Up to 10 custom trees can be registered in the Tree menu (fig. 31).

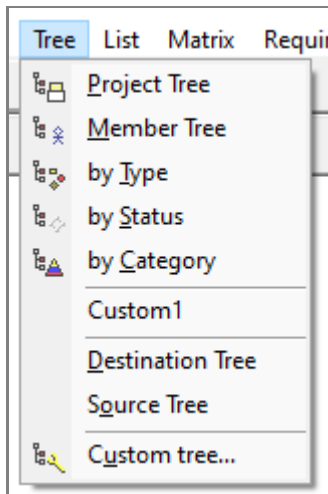


fig. 31

10. Lists

The **Requirement** List is one of the most effective tools to understand the outline of requirements. Requirements in the list are colored differently based on their statuses (fig. 32).

<input type="checkbox"/>	<input checked="" type="checkbox"/>	ID	Type	Summary	Priority	Status	Risk	Difficulty	Stability
<input type="checkbox"/>	<input checked="" type="checkbox"/>	N001	Functi...	Higher volume - faster client accessibility.	Medium	Approv...	Medium	Medium	Medium
<input type="checkbox"/>	<input checked="" type="checkbox"/>	N002	Functi...	Passing on of roles leading to inefficienc...	High	Propos...	Medium	Medium	High
<input type="checkbox"/>	<input checked="" type="checkbox"/>	N003	Functi...	View of customer messages directly relat...	High	Propos...	Medium	Medium	High
<input type="checkbox"/>	<input checked="" type="checkbox"/>	N004	Functi...	Reduce wasted time sending messages ...	High	Propos...	Medium	Medium	High
<input type="checkbox"/>	<input checked="" type="checkbox"/>	F001	Functi...	Relation between orders and email inqui...	Medium	Propos...	Medium	Medium	Medium
<input type="checkbox"/>	<input checked="" type="checkbox"/>	F002	Functi...	Create a secure on-line ordering system.	Medium	Validat...	Medium	Medium	Medium
<input type="checkbox"/>	<input checked="" type="checkbox"/>	F003	Functi...	High Volume Through-put	Medium	Validat...	Medium	Medium	Medium
<input type="checkbox"/>	<input checked="" type="checkbox"/>	F004	Functi...	Efficient stock control management.	Medium	Validat...	Medium	Medium	Medium
<input type="checkbox"/>	<input checked="" type="checkbox"/>	R001	Functi...	Manage User Accounts	Medium	Consid...	Medium	Medium	Medium
<input type="checkbox"/>	<input checked="" type="checkbox"/>	DR001	Functi...	Add Users	High	Validat...	Medium	Medium	Medium
<input type="checkbox"/>	<input checked="" type="checkbox"/>	DR002	Functi...	Remove User	Low	Propos...	Medium	Medium	Medium
<input type="checkbox"/>	<input checked="" type="checkbox"/>	DR003	Functi...	Report on User Account	High	Propos...	Medium	Medium	Medium
<input type="checkbox"/>	<input checked="" type="checkbox"/>	DR004	Functi...	Secure Access	High	Propos...	Medium	High	High
<input type="checkbox"/>	<input checked="" type="checkbox"/>	DR005	Functi...	Store User Details	Medium	Propos...	Medium	Medium	Medium
<input type="checkbox"/>	<input checked="" type="checkbox"/>	DR006	Functi...	Validate User	Medium	Propos...	Medium	Medium	Medium
<input type="checkbox"/>	<input checked="" type="checkbox"/>	R002	Functi...	Provide Online Sales	Medium	Consid...	Medium	Medium	Medium
<input type="checkbox"/>	<input checked="" type="checkbox"/>	DR007	Functi...	ShoppingBasket	Low	Propos...	Medium	Medium	Medium
<input type="checkbox"/>	<input checked="" type="checkbox"/>	DR008	Functi...	Process Credit Card Payment	High	Propos...	Medium	Medium	Medium
<input type="checkbox"/>	<input checked="" type="checkbox"/>	R003	Functi...	Manage Inventory	Medium	Consid...	Medium	Medium	Medium
<input type="checkbox"/>	<input checked="" type="checkbox"/>	DR009	Functi...	Receive Books	Medium	Propos...	Medium	Medium	Medium
<input type="checkbox"/>	<input checked="" type="checkbox"/>	DR010	Functi...	List Stock Levels	Medium	Propos...	Medium	Medium	Medium

fig. 32

You can sort requirements in the list by clicking the list headers (**ID**, **Type**, **Summary**, **Priority**, **Status**, and so on). For example, when clicking on the **Status** header, the list will be like fig. 33.

<input type="checkbox"/>	<input checked="" type="checkbox"/>	ID	Type	Summary	Priority	St...	Risk	Difficulty	Stability
<input type="checkbox"/>	<input checked="" type="checkbox"/>	N002	Func...	Passing on of roles leading to inefficienc...	High	Propos...	Medium	Medium	High
<input type="checkbox"/>	<input checked="" type="checkbox"/>	N003	Func...	View of customer messages directly relat...	High	Propos...	Medium	Medium	High
<input type="checkbox"/>	<input checked="" type="checkbox"/>	N004	Func...	Reduce wasted time sending messages ...	High	Propos...	Medium	Medium	High
<input type="checkbox"/>	<input checked="" type="checkbox"/>	F001	Func...	Relation between orders and email inqui...	Medium	Propos...	Medium	Medium	Medium
<input type="checkbox"/>	<input checked="" type="checkbox"/>	DR002	Func...	Remove User	Low	Propos...	Medium	Medium	Medium
<input type="checkbox"/>	<input checked="" type="checkbox"/>	DR003	Func...	Report on User Account	High	Propos...	Medium	Medium	Medium
<input type="checkbox"/>	<input checked="" type="checkbox"/>	DR004	Func...	Secure Access	High	Propos...	Medium	High	High
<input type="checkbox"/>	<input checked="" type="checkbox"/>	DR005	Func...	Store User Details	Medium	Propos...	Medium	Medium	Medium
<input type="checkbox"/>	<input checked="" type="checkbox"/>	DR006	Func...	Validate User	Medium	Propos...	Medium	Medium	Medium
<input type="checkbox"/>	<input checked="" type="checkbox"/>	DR007	Func...	ShoppingBasket	Low	Propos...	Medium	Medium	Medium
<input type="checkbox"/>	<input checked="" type="checkbox"/>	DR008	Func...	Process Credit Card Payment	High	Propos...	Medium	Medium	Medium
<input type="checkbox"/>	<input checked="" type="checkbox"/>	DR009	Func...	Receive Books	Medium	Propos...	Medium	Medium	Medium
<input type="checkbox"/>	<input checked="" type="checkbox"/>	DR010	Func...	List Stock Levels	Medium	Propos...	Medium	Medium	Medium
<input type="checkbox"/>	<input checked="" type="checkbox"/>	DR011	Func...	Order Books	Medium	Propos...	Medium	Medium	Medium
<input type="checkbox"/>	<input checked="" type="checkbox"/>	DR012	Func...	Store and Manage Books	Medium	Propos...	Medium	Medium	Medium
<input type="checkbox"/>	<input checked="" type="checkbox"/>	DR013	Func...	Add Books	Medium	Propos...	Medium	Medium	Medium
<input type="checkbox"/>	<input checked="" type="checkbox"/>	DR014	Func...	Package Order	Medium	Propos...	Medium	Medium	Medium
<input type="checkbox"/>	<input checked="" type="checkbox"/>	DR015	Func...	List Current Orders	Medium	Propos...	Medium	Medium	Medium
<input type="checkbox"/>	<input checked="" type="checkbox"/>	DR016	Func...	Update Inventory	Medium	Propos...	Medium	Medium	Medium
<input type="checkbox"/>	<input checked="" type="checkbox"/>	DR017	Func...	Retrieve Books	Medium	Propos...	Medium	Medium	Medium
<input type="checkbox"/>	<input checked="" type="checkbox"/>	R006	Suppor...	System must be easily extendible	Medium	Propos...	Medium	Medium	Medium

fig. 33

You can see that the requirements are sorted by **Status**. Also, you can narrow down the list by the filtering feature. For example, to display the requirements which have a keyword of “User” in their Summary, set as follows in the **Filter List** dialog (fig. 34).

The screenshot shows the 'Filter List' dialog box with the following configuration:

- ID
- and Summary: User
- and Detail
- and Category
- and Type
- and Status
- and Updated By
- and Created By
- and KeyWords
- and Version
- and Phase
- and Priority
- and Difficulty
- and User Attr.: Urgency
- and Lock: Locked
- and Date:
 - Created
 - Updated
 - Due
 - before: 7/26/2022
 - after: 7/26/2022
- and Risk
- and Stability
- and Effort
- and Review Req.: True
- and CheckBox: Checked

Additional options and actions:

- Exclude
- Exact Match
- and/or: and or
- Buttons: Run, Run (New Tab), Add Check, Cancel
- Options:
 - Ignore Case
 - Match whole word only
 - Search Subpackages

fig. 34

After clicking on the **Run** button on the **Filter List** dialog, matched requirements are displayed, as shown in fig. 35.








<input type="checkbox"/>	 ID	Type	Summary	Priority	St... /	Risk	Difficulty	Stability
<input type="checkbox"/>	 DR002	Funcio...	Remove User	Low	Proposed	Medium	Medium	Medium
<input type="checkbox"/>	 DR003	Funcio...	Report on User Account	High	Proposed	Medium	Medium	Medium
<input type="checkbox"/>	 DR005	Funcio...	Store User Details	Medium	Proposed	Medium	Medium	Medium
<input type="checkbox"/>	 DR006	Funcio...	Validate User	Medium	Proposed	Medium	Medium	Medium
<input type="checkbox"/>	 R001	Funcio...	Manage User Accounts	Medium	Consid...	Medium	Medium	Medium
<input type="checkbox"/>	 DR001	Funcio...	Add Users	High	Validated	Medium	Medium	Medium

fig. 35

By the methods above, such as sort, filter, and search, it is possible to check many defined requirements in a list format.

Besides, the detail search feature that searches for requirements by specifying detailed conditions as needed is also available (fig. 36).

The 'Find' dialog box is a window for searching requirements. It features a list of attributes on the left, each with a checkbox and a dropdown menu. The 'Summary' attribute is selected and set to 'User'. Other attributes include ID, Detail, Category, Type, Status, Updated By, Created By, KeyWords, Version, Phase, Priority, Difficulty, User Attr. (set to 'Urgency'), Lock (set to 'Locked'), Risk, Stability, Effort, Review Req. (set to 'True'), and CheckBox (set to 'Checked'). To the right of the attribute list are several options: 'Exclude' and 'Exact Match' checkboxes, an 'and/or' section with radio buttons for 'and' (selected) and 'or', a 'Direction' section with radio buttons for 'Up' and 'Down' (selected), and an 'Options' section with checkboxes for 'Ignore Case', 'Match whole word only', and 'Search Subpackages' (checked). At the top right are 'Run' and 'Cancel' buttons.

fig. 36

By putting checks in the checkboxes in a list, you can make changes to the attributes of multiple requirements or create relationships with other requirements at a time.

Also, the list can be printed out. The order of requirements to be printed out is the same as that of the **Requirements** list on the screen. So, we recommend using the features to sort and filter the requirements before printing.

When a project file is opened, all requirements are listed. If you need to display only the requirements

contained in a certain package, specify the package on the **Tree** and select the **List | Requirement List** (fig. 37) so that you can narrow down the requirements (fig. 38).

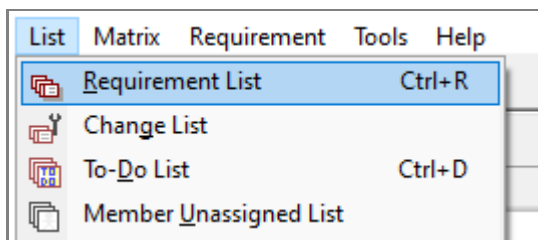


fig. 37

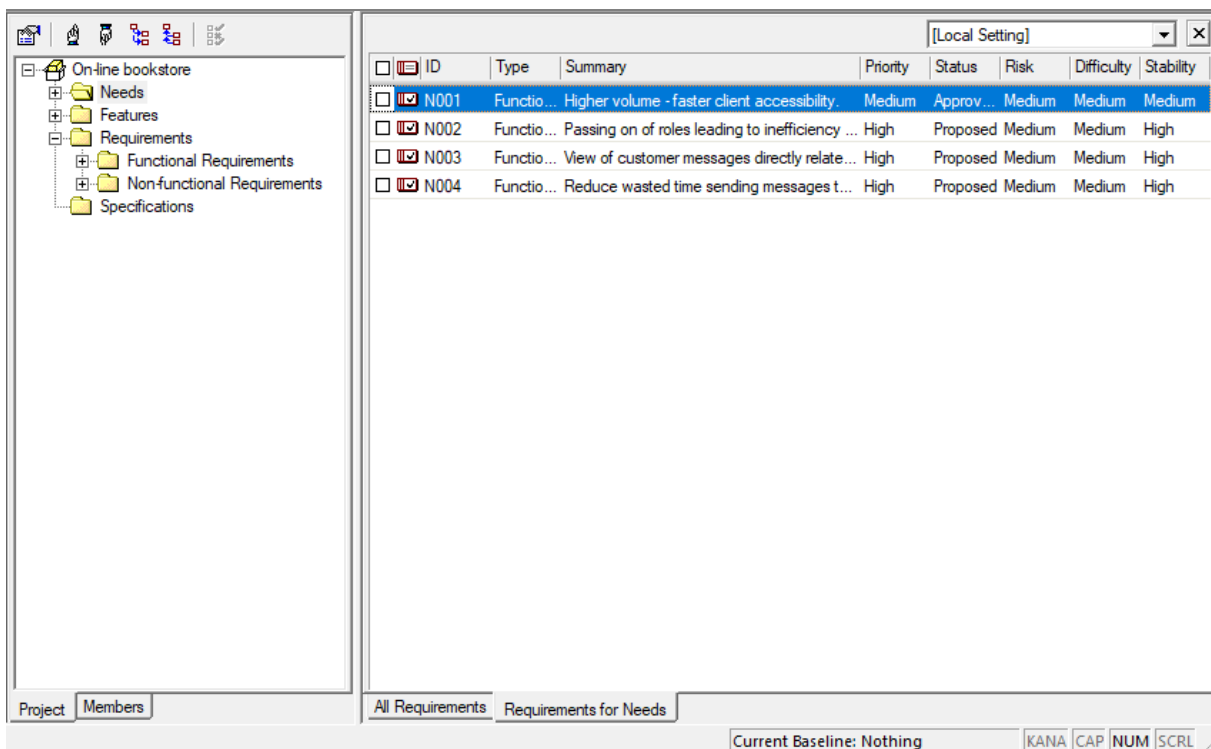


fig. 38

Once a list is displayed, its tab is added to the bottom of the list area (fig. 39). You can switch Lists displayed as needed by clicking tabs.

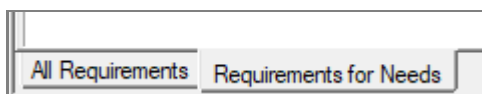


fig. 39

Not only requirements but also comments, files, and so on can be displayed in a list format as well. For example, to list all the comments of the requirements contained in a package, specify the package on the **Project Tree** and select the **List | Comments List** menu item. Besides, to list requirements to which a member is assigned, specify the member on the **Members Tree** and select the **List | Member Requirements** menu item. As introduced so far, RaQuest has a lot of features for listing up requirements; you can manage requirements efficiently.

You can customize the fields displayed on the Requirements list by **Local Options** dialog (fig. 40) or **Project Options** dialog (fig. 41).

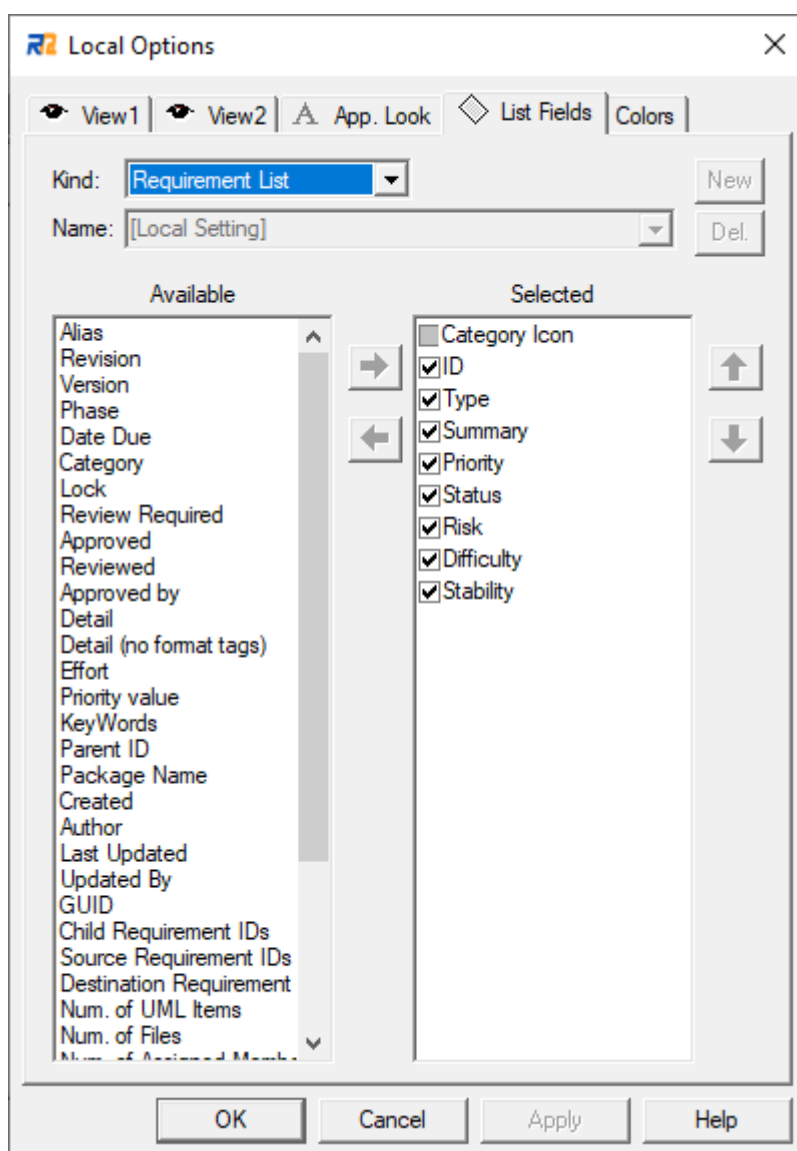


fig. 40

When customizing the fields to be displayed using the Project Options dialog, you can name the set of list

fields. After that, you can switch them in the combo box at the top right of the main window (fig. 42).

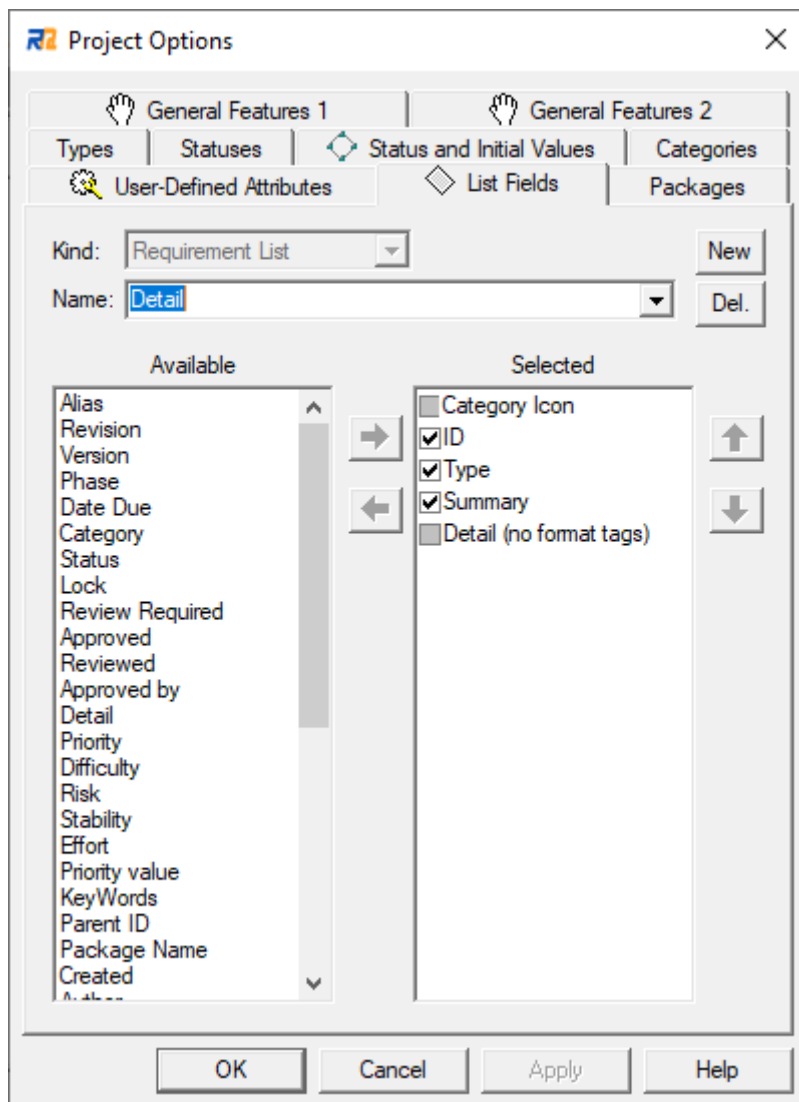


fig. 41

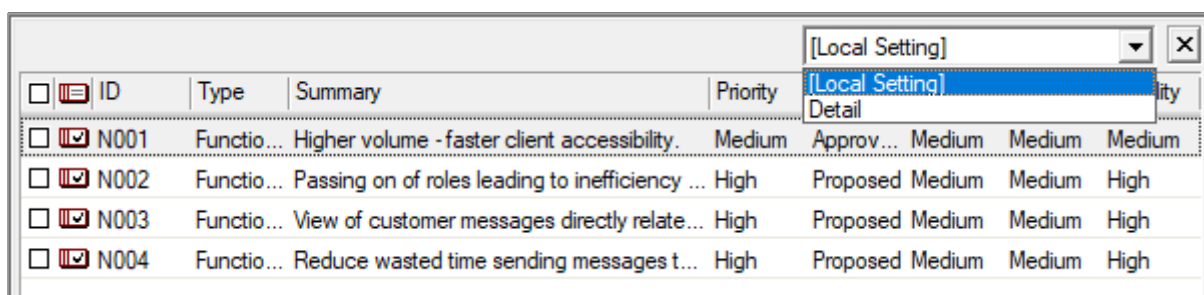


fig. 42

You can also change the colors of listed requirements by status on the **Colors** tab of **Local Options** (fig. 43).

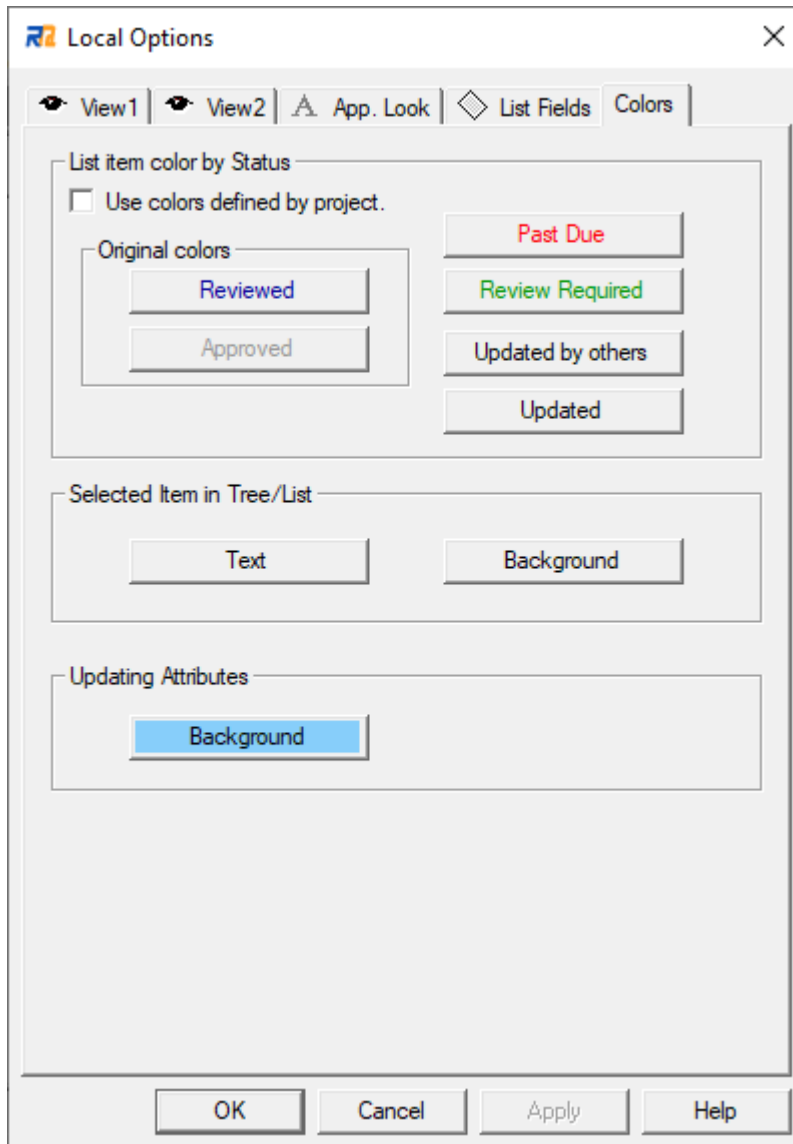


fig. 43

Displaying only necessary fields on the list and coloring requirements by status help you manage requirements more efficiently.

11. Relationships between Requirements

As described so far, using features such as the trees and the lists enables you to manage many requirements efficiently. However, grasping and managing relationships between requirements that are difficult to understand with Trees and Lists is also essential in requirements management.

In actual requirements management, when a certain requirement is modified, the modification can affect other requirements. That means a modification of a requirement may result in changes in others or require reconsideration of others. This section provides you with the features about managing such relationships among requirements.

To define a relationship between requirements, drag and drop the destination requirement to the source requirement. The operation is available between the **Project Tree** and the **Requirements List** (bidirectional) or within the **Project Tree** or the **Requirement List**.

In the following case, as shown in fig. 44, for example, the requirement "ID:F003" is affected by the requirement "ID:N001." It means that the change in the requirement "ID:N001" may affect, and may need to reconsider, the requirement "ID:F003," and if it is the case, the requirement "ID:F003" needs to be drag-and-dropped to the requirement "ID:N001" to define the relationship between them.

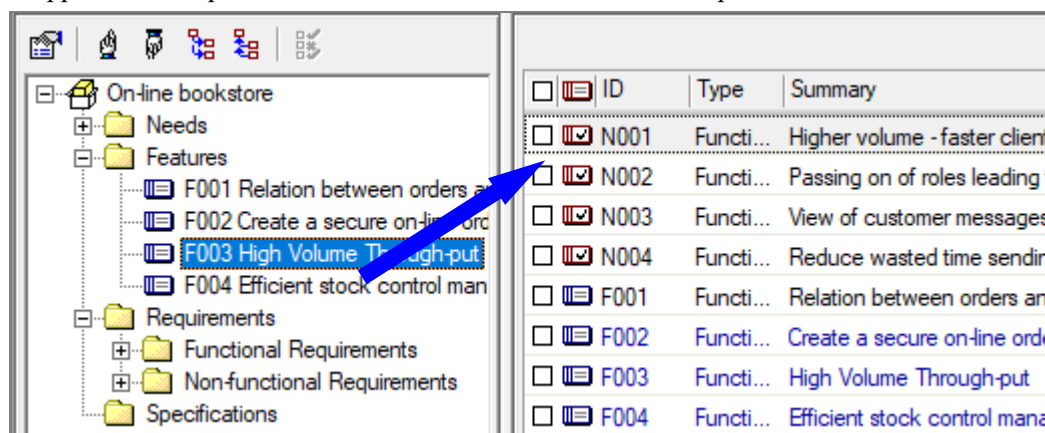


fig. 44

Depending on the settings under a group of the option "Create a relationship when generating a child requirement" on the **General Feature1** tab of **Project Option**, the relationships are automatically defined or deleted when creating or moving child requirements.

RaQuest has a feature to illustrate relationship maps among requirements and you can easily check relationships with this diagram feature. Right-click a requirement and select the **Show Relationship Map** (fig. 45) to display a relationship map that visually shows the relationships between the selected requirement and the other requirements. The selected requirement is shown in red with a thick frame on the diagram. You

can easily check the related requirements (fig. 46). The map shows not only directly related requirements but also indirectly related ones.

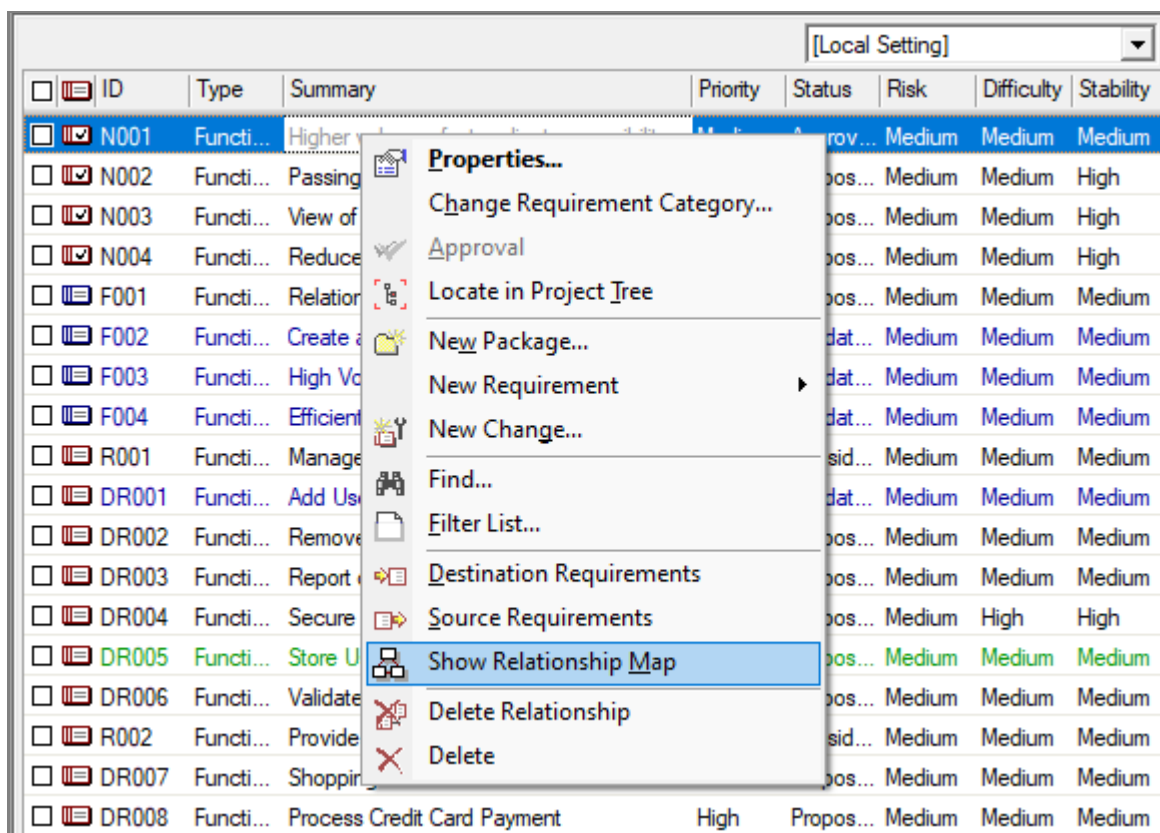


fig. 45

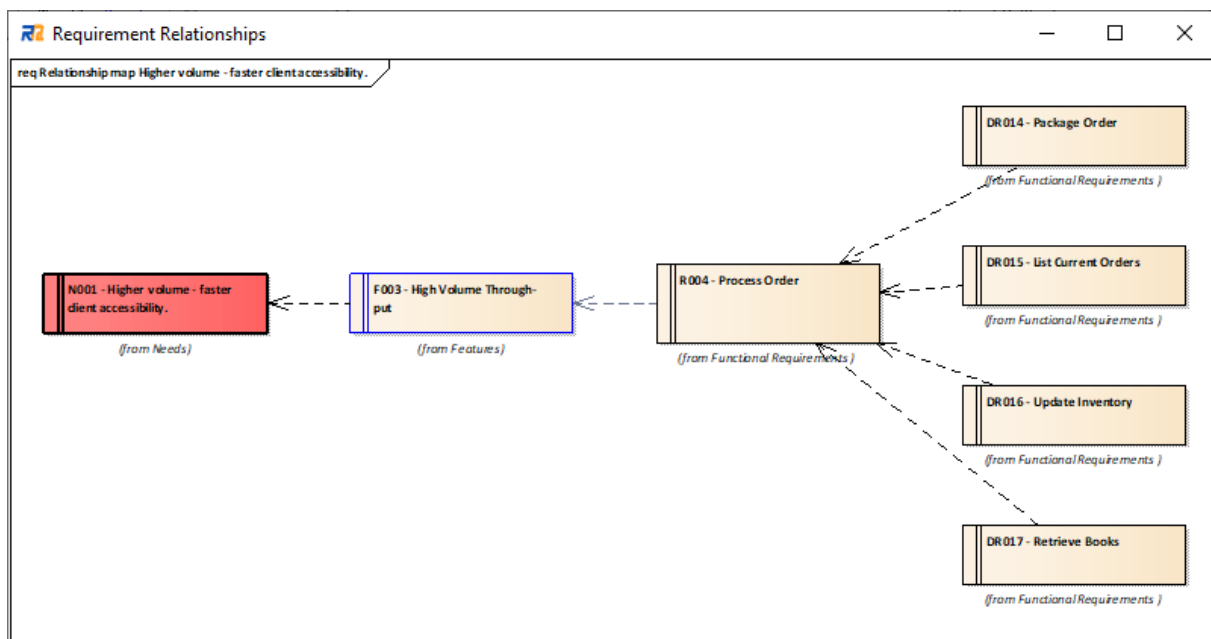


fig. 46

There can be requirements that already have Review Required status in the requirements related to the target requirement. These requirements with Review Required status are shown in green on the diagram when the option "Colored Reconsiders" in the context menu of Relationship Map is checked (fig. 47). The color of requirements that have already been reconsidered will not change.

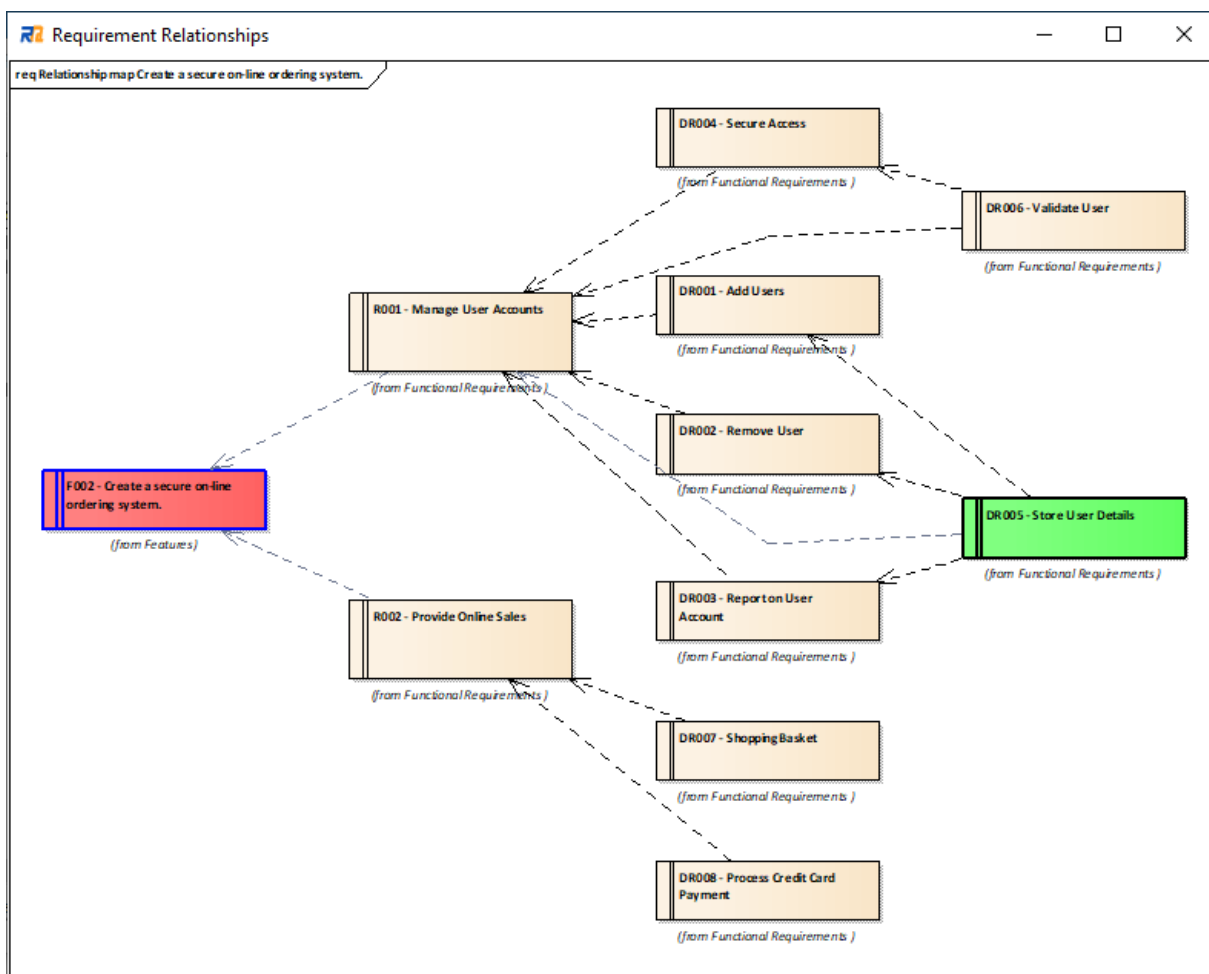


fig. 47

Above is illustrated with **Show Impact Map** feature. A requirement in red is the source requirement, and the requirements in green are the destination requirements which should be reviewed. When the review is already over, the color of requirements is not changed.

When a requirement with **Review Required** flag depends on more than one requirement, it is not easy to find which change of requirements caused the flag change to **Review Required**. In such cases, you can check the requirements that led to the flag change on the **Review Requirements** tab of the **Requirement Properties** dialog (fig. 48).

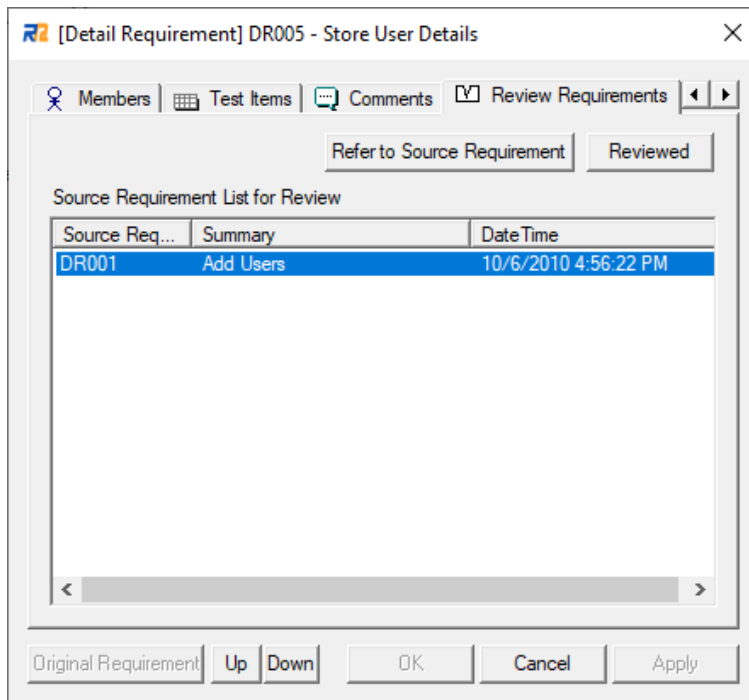


fig. 48

12. Matrix

As described in Section 11, RaQuest can show relationships between requirements as diagrams. In addition to that, RaQuest can show the relationships between requirements in matrix form and help understand the relationship between the requirements sets (fig. 49).

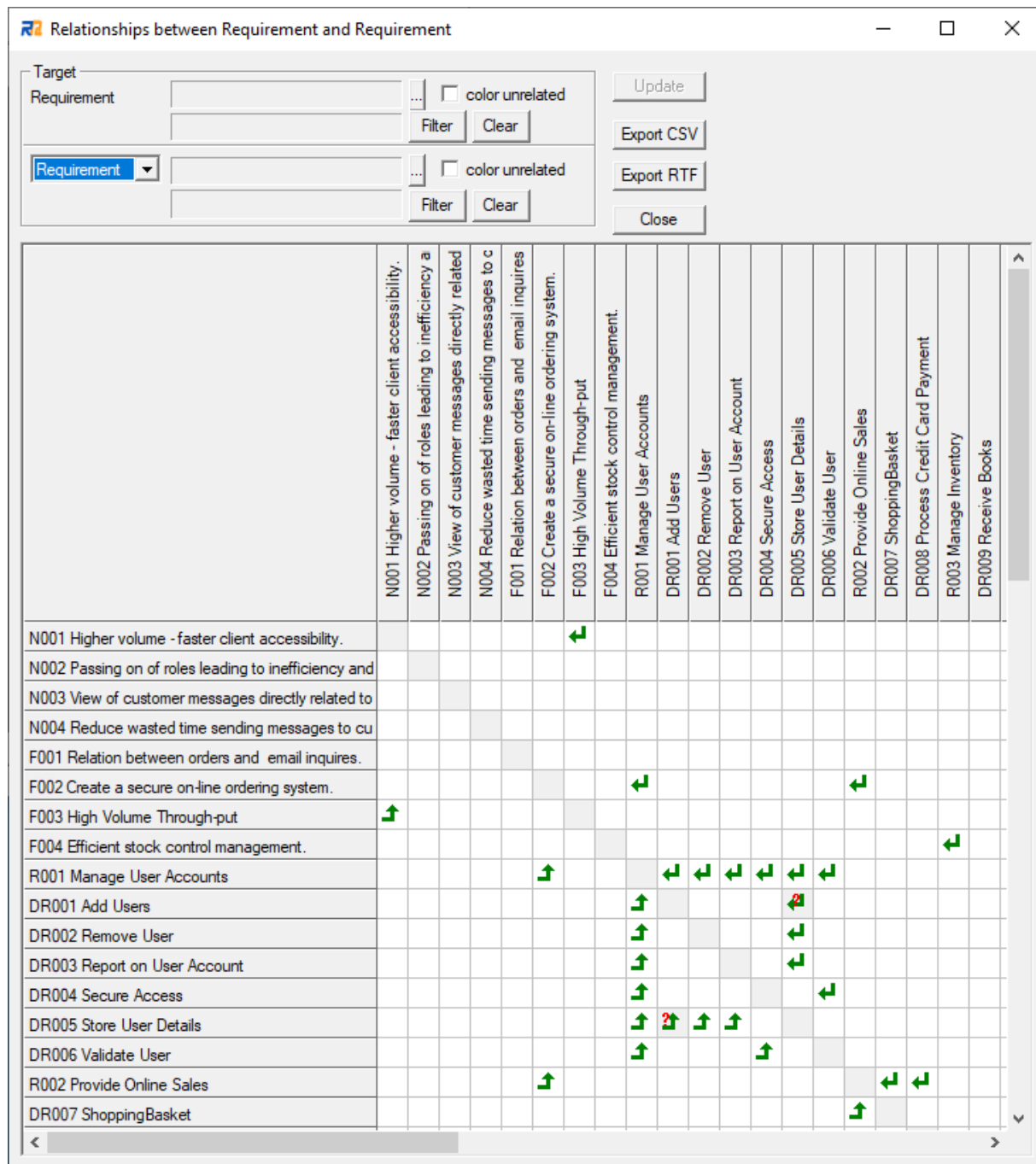


fig. 49

This matrix feature can show not only relationships between requirements and requirements but also relationships between requirements and team members (fig. 50), requirements and Use Cases (fig. 51), and

requirements and UML item (fig. 52). For example, in the case of requirements and Use Cases, you can easily check whether Use Cases are defined for all requirements by showing the relationships as a matrix.

If you check the **color unrelated** checkbox and press the Update button, the elements that are not related to other elements will be colored. So you can accurately grasp the unrelated elements at a glance.

Not only can the matrix feature show relationships, but also it can define new relationships. To define a relationship, click the appropriate cell on the matrix. When you have many requirements or Use Cases, you can narrow them down by selecting a target package.

It is also possible to export the data in CSV or RTF format.

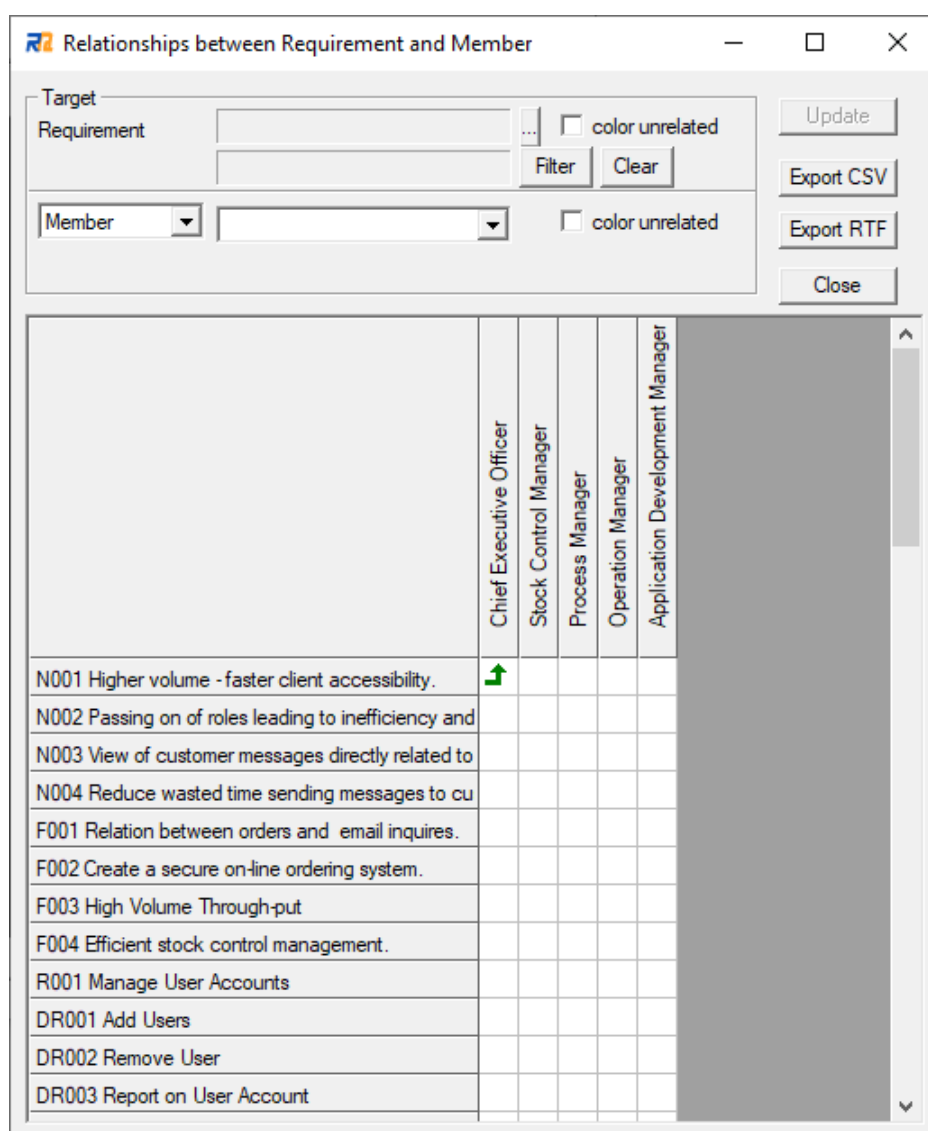


fig. 50

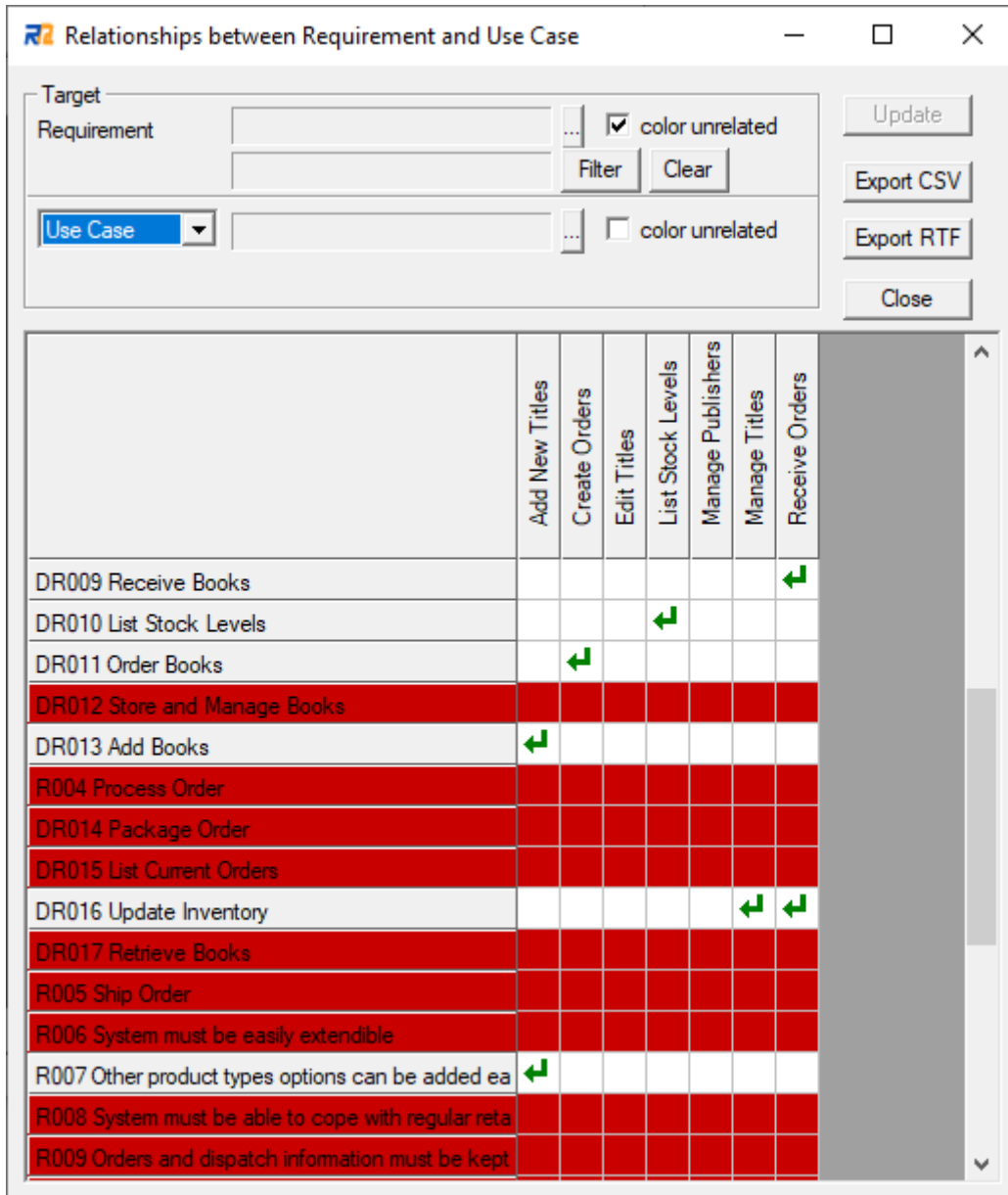


fig. 51

In fig. 51, the requirements that do not have any relationships with the Use Cases are colored.

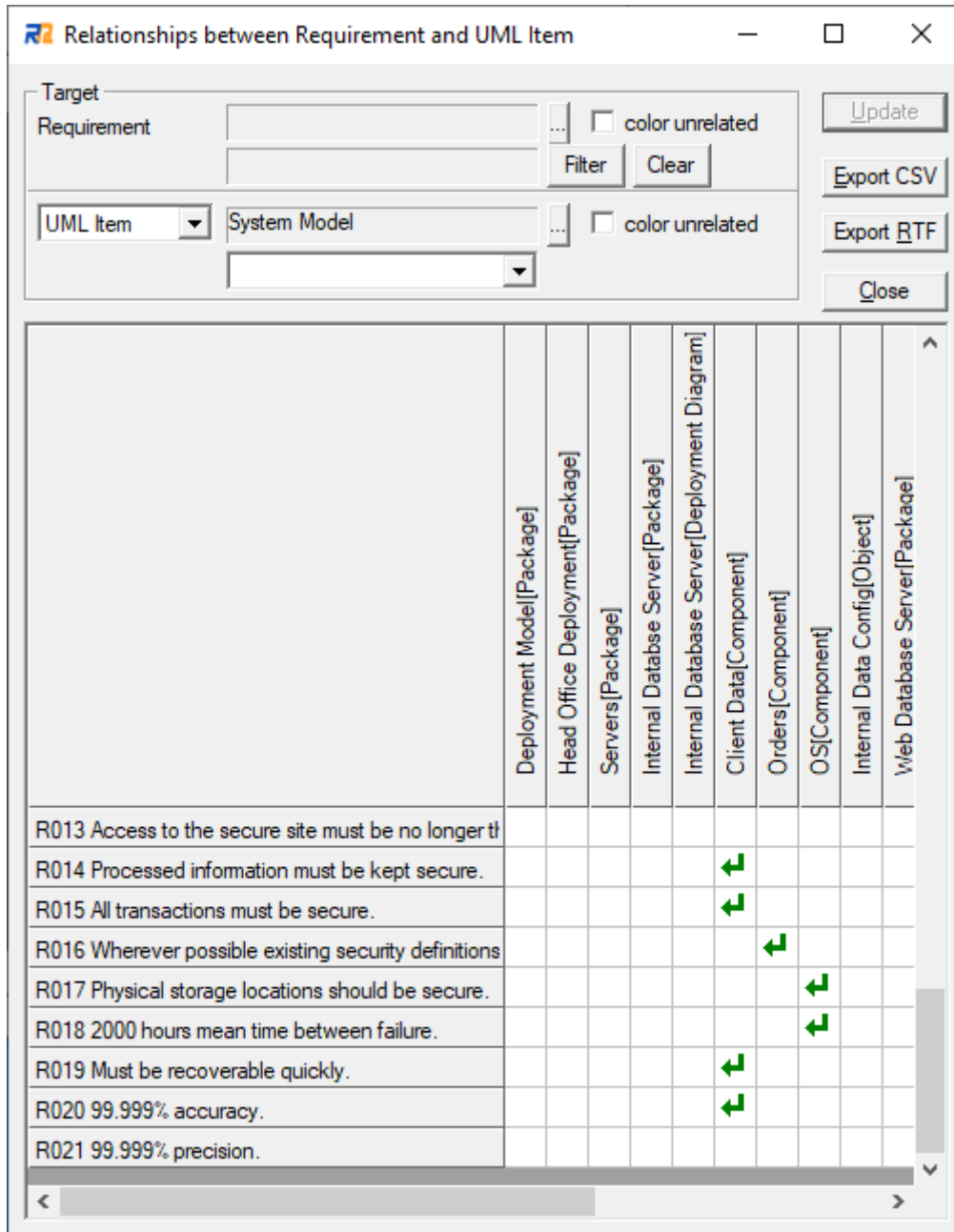


fig. 52

13. How to use Baseline

Requirements are always changing as the development goes on. To save a snapshot at a certain point, the baseline feature is useful.

Any baseline is not specified at the beginning. In this manual, we assume a development with several phases. When you set requirements existing at the start point of the first phase as the new baseline “Phase 1,” the management dialog of the baseline is displayed as below (fig. 54).

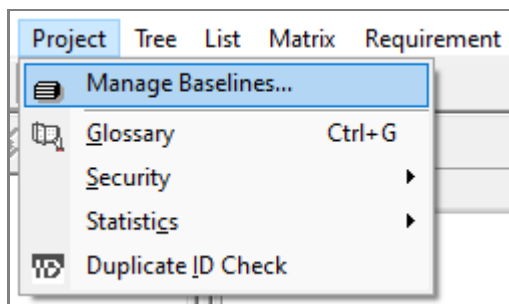


fig. 53

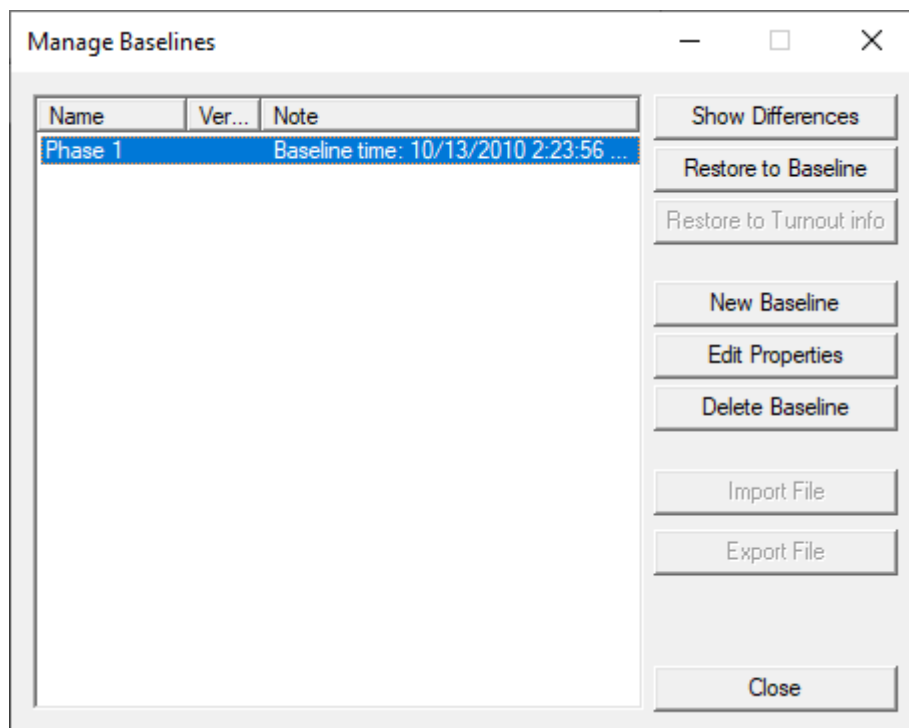


fig. 54

Continue working in this state. After finishing the first phase and before starting the next phase “Phase 2,”

execute the **New Baseline** again to save the snapshot of the end of "Phase 1." Then, continue working with the baseline "Phase2." After that, work in the same way.

When you want to check the difference from a saved previous baseline while at work, it is possible to show it by executing the **Show Differences** on the **Manage Baselines** dialog.

Or, if you need to restore the condition of requirements at a certain point, it is possible by executing the **Restore to Baseline**. After restoring, you can also change the requirements and save them as a new baseline.

14. Management of Changes

Requirements in a system are shifting with time. The passage of time (even if the system is under development) may require you to change requirements, or a lack of understanding about the system may cause the change of requirements.

For these kinds of requirement changes, if it is during a certain development phase (within the same baseline), direct modification of the requirement is available. However, if the change of the requirement spans multiple baselines, the original requirement cannot be changed because of its status "Approved." In such a case, you need to create a **Change Item** for the requirement and manage it.

For example, a case that a requirement in version 1.0 needs to be changed in version 2.0 falls into this. In such cases, it is convenient to create **Change Items** and manage them.

To define a Change Item, the target requirement must be "Approved." The "New Change" menu is only available when selecting a requirement with "Approved" status, and you can create the Change Item from this menu (fig. 55).

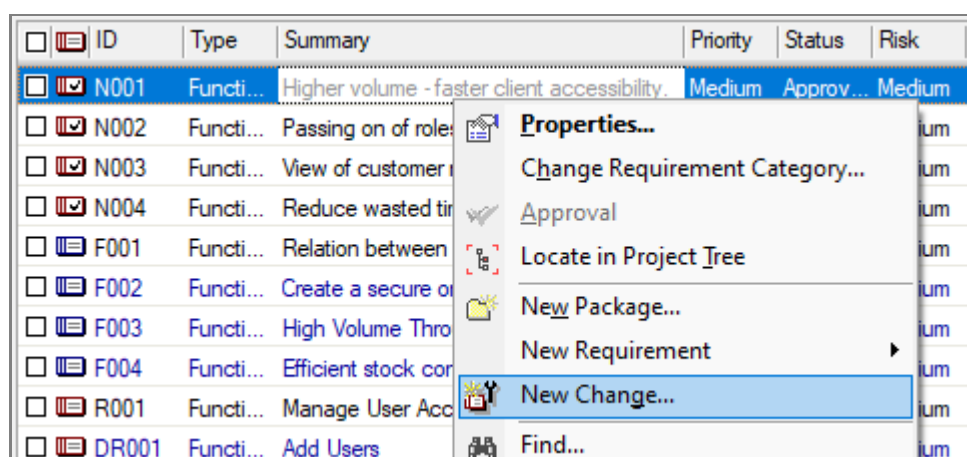


fig. 55

After creating the Change Item, you can easily check the details of the original requirement by pressing the **Original Requirement** button on the **Properties** dialog of the Change Item (fig. 56).

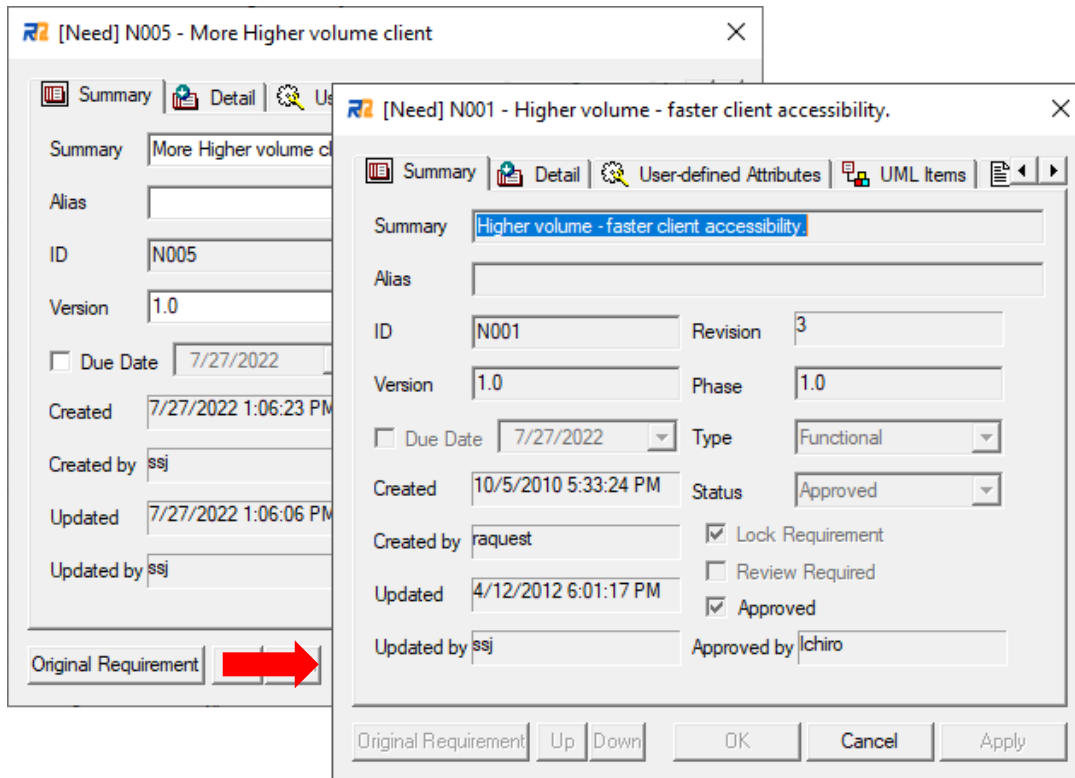


fig. 56

15. Documenting and Utilization of Data

Requirements created in RaQuest are stored in a project file. This project file is the same format as Enterprise Architect, so it is not readable by general documenting applications. But you may need to document requirements for having presentation to customers or discussions within your development team. For such cases, RaQuest has the feature to document requirements.

RaQuest can export requirements in two formats: HTML (.htm) and RTF (.rtf).

Let's export requirements in RTF format. First, select a package that includes the requirements to export. Second, select the **File | Export | RTF** menu item (fig. 57). Finally, specify the Filename, Template Name, and so on, and export the requirements to the RTF document.

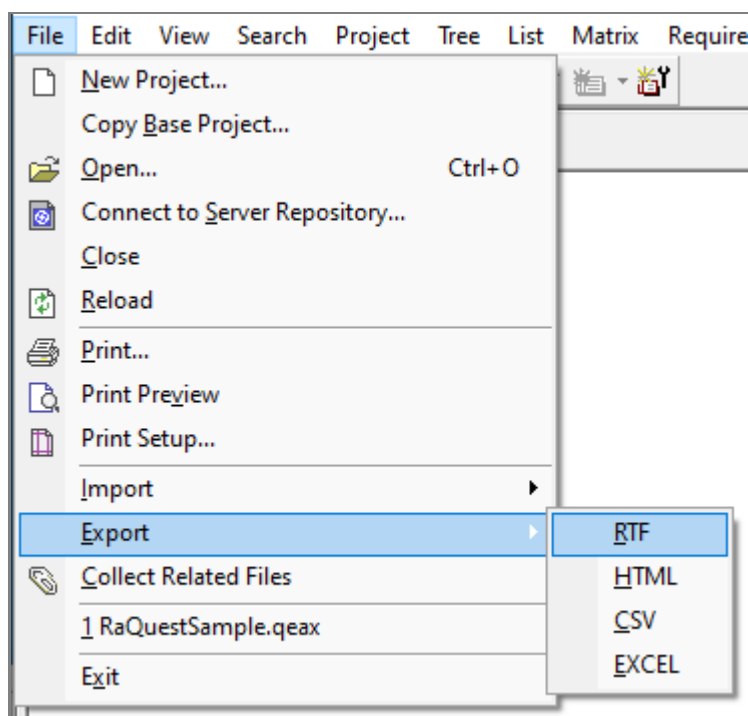


fig. 57

The following document (fig. 58) is a sample of an exported file in RTF format. You can customize the format using the RTF document editor of Enterprise Architect.

⟨a Sample of exported file in RTF⟩

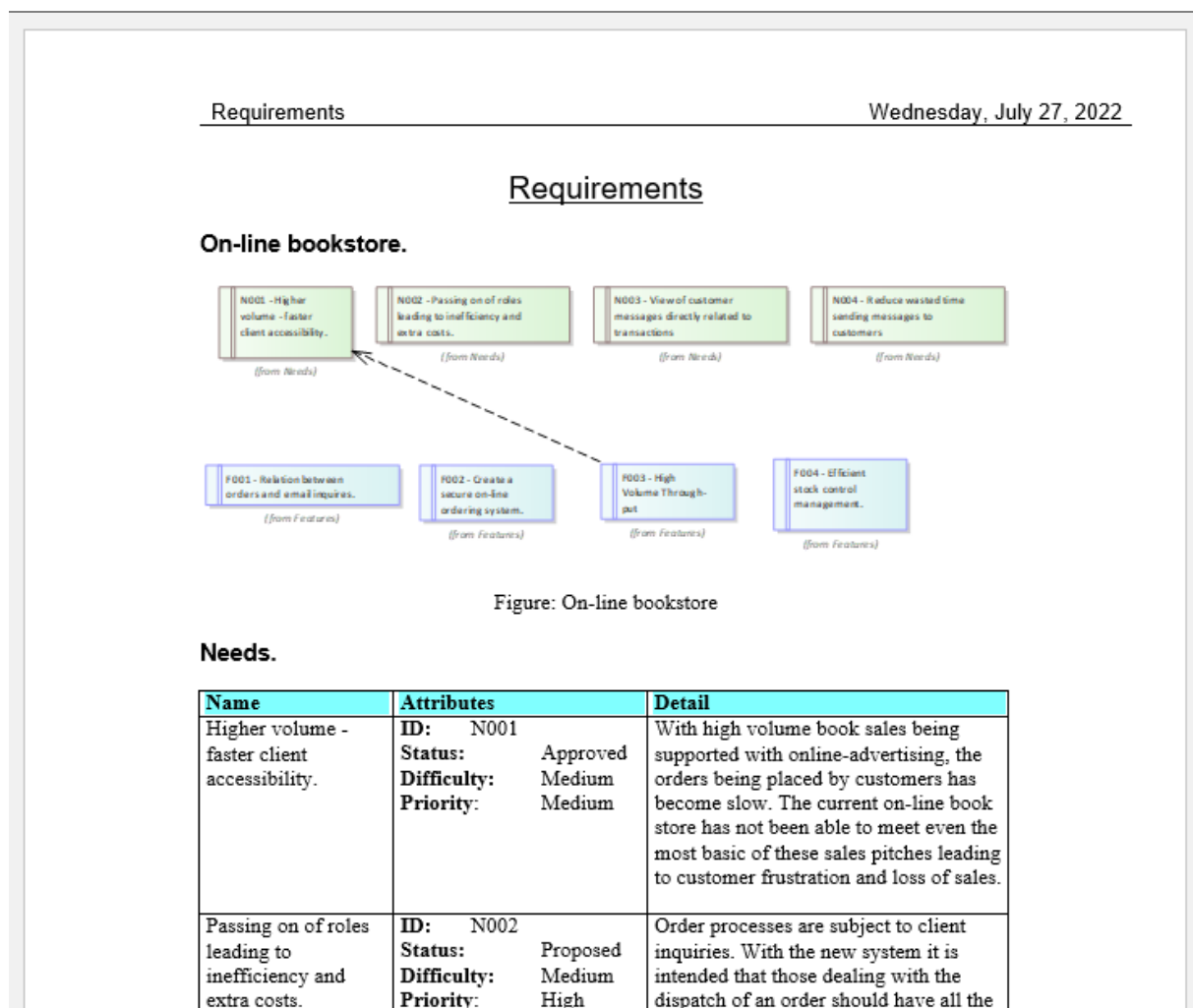


fig. 58

In the same way, you can also export requirements in HTML format, although the format is fixed.

Moreover, RaQuest has the feature to export requirements in CSV and Excel formats. These files are useful for analyzing the data and utilizing the data with other applications.

Select the **File | Export | CSV** menu item. Then, specify the exported filename, location, and so on, and export the CSV file.

The following fig. 59 is an example of an exported CSV file opened by MS-Excel.

A1									
ID									
	A	B	C	D	E	F	G	H	I
1	ID	Type	Summary	Priority	Status	Risk	Difficulty	Stability	2022/07/27
2	N001	Functional	Higher volur	Medium	Approved	Medium	Medium	Medium	
3	N002	Functional	Passing on	High	Proposed	Medium	Medium	High	
4	N003	Functional	View of cus	High	Proposed	Medium	Medium	High	
5	N004	Functional	Reduce was	High	Proposed	Medium	Medium	High	
6	F001	Functional	Relation bet	Medium	Proposed	Medium	Medium	Medium	
7	F002	Functional	Create a sec	Medium	Validated	Medium	Medium	Medium	
8	F003	Functional	High Volum	Medium	Validated	Medium	Medium	Medium	
9	F004	Functional	Efficient sto	Medium	Validated	Medium	Medium	Medium	
10	R001	Functional	Manage Us	Medium	Considering	Medium	Medium	Medium	
11	DR001	Functional	Add Users	High	Validated	Medium	Medium	Medium	
12	DR002	Functional	Remove Use	Low	Proposed	Medium	Medium	Medium	
13	DR003	Functional	Report on U	High	Proposed	Medium	Medium	Medium	
14	DR004	Functional	Secure Acc	High	Proposed	Medium	High	High	
15	DR005	Functional	Store User I	Medium	Proposed	Medium	Medium	Medium	
16	DR006	Functional	Validate Us	Medium	Proposed	Medium	Medium	Medium	
17	R002	Functional	Provide Onl	Medium	Considering	Medium	Medium	Medium	
18	DR007	Functional	ShoppingBa	Low	Proposed	Medium	Medium	Medium	
19	DR008	Functional	Process Cro	High	Proposed	Medium	Medium	Medium	

fig. 59

16. Importing External Requirements Information

RaQuest can import requirements data managed by external tools like spreadsheet programs and the like.

To import the requirements information managed by tools like spreadsheet programs, convert the data into the CSV format, and import the CSV file by RaQuest. When importing, you can specify columns in the CSV file to allocate to the attributes of requirements.

If an ID or a GUID of the data in the CSV file matches those of existing requirements data in the project file, you can overwrite the requirement data. That means, by including ID or GUID to the exporting CSV/Excel data, already explained in the previous section, you can synchronize the data between RaQuest and the external tools.

Importing requirements information from document files, rather than spreadsheet tools files, is also available only by MS-Word at the moment.

Installing the Word Add-in at the installation of RaQuest, the right-click menu of high-lighted texts shows the **Register to RaQuest** menu item. When RaQuest and MS-Word are running, this menu item registers the high-lighted texts as a requirement of the currently opened project of RaQuest.

17. Notice of Changes

RaQuest can call an external program after adding/deleting requirements or changing requirements attributes. By calling the mailing program, it is possible to send a notice of those actions.

You can set the Project Options using the mailing program Blat (<https://www.blat.net/>) (fig. 60) to send an e-mail notification when requirement is changed (fig. 61).

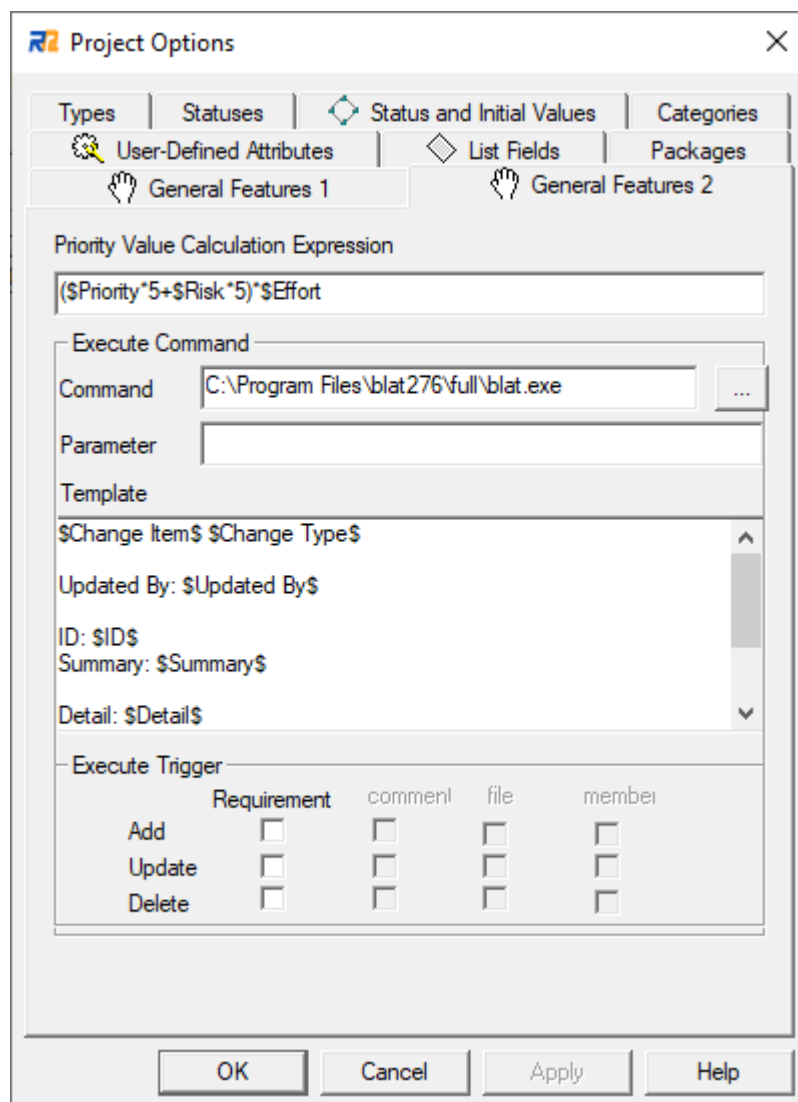


fig. 60

```
To: alluser@sparxsystems.co.jp↓  
Subject: Requirement Attribute update↓  
↓  
Requirement Attribute update↓  
↓  
Updated By: mami↓  
↓  
ID: 009↓  
Summary: Manage User Accounts↓  
↓  
Detail: The system is required to store and maintain a list of client accounts in a persistent repository↓  
↓  
Change Contents:↓  
Version : 1.0 -> 1.1↓
```

fig. 61

You can give notice of changes efficiently by using this feature.

18. Integration of Enterprise Architect and RaQuest

Not only project files are common to Enterprise Architect and RaQuest, but also Enterprise Architect and RaQuest can work together in various aspects. This section explains how they work together.

For example, RaQuest can generate Use Cases from requirements already defined (fig. 62). This feature makes it easy to create diagrams of Use Cases. You can also select requirements by specifying the type, such as functional requirements, and export them as Use Cases.

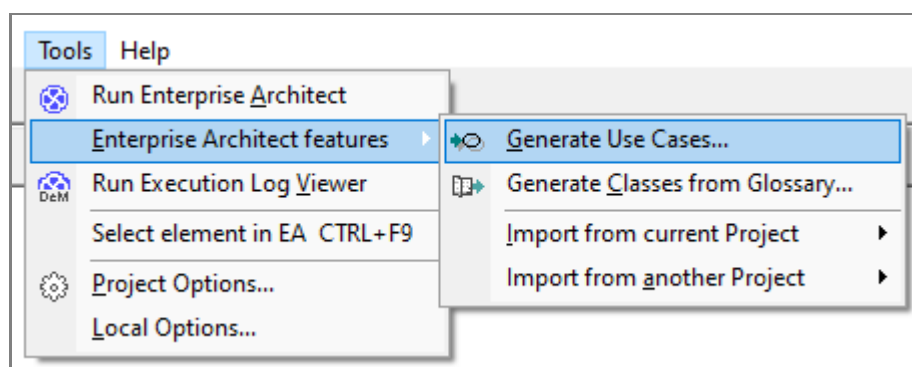


fig. 62

The following fig. 63 shows Use Cases generated from the sample project. You can specify a location of Use Cases as you need.

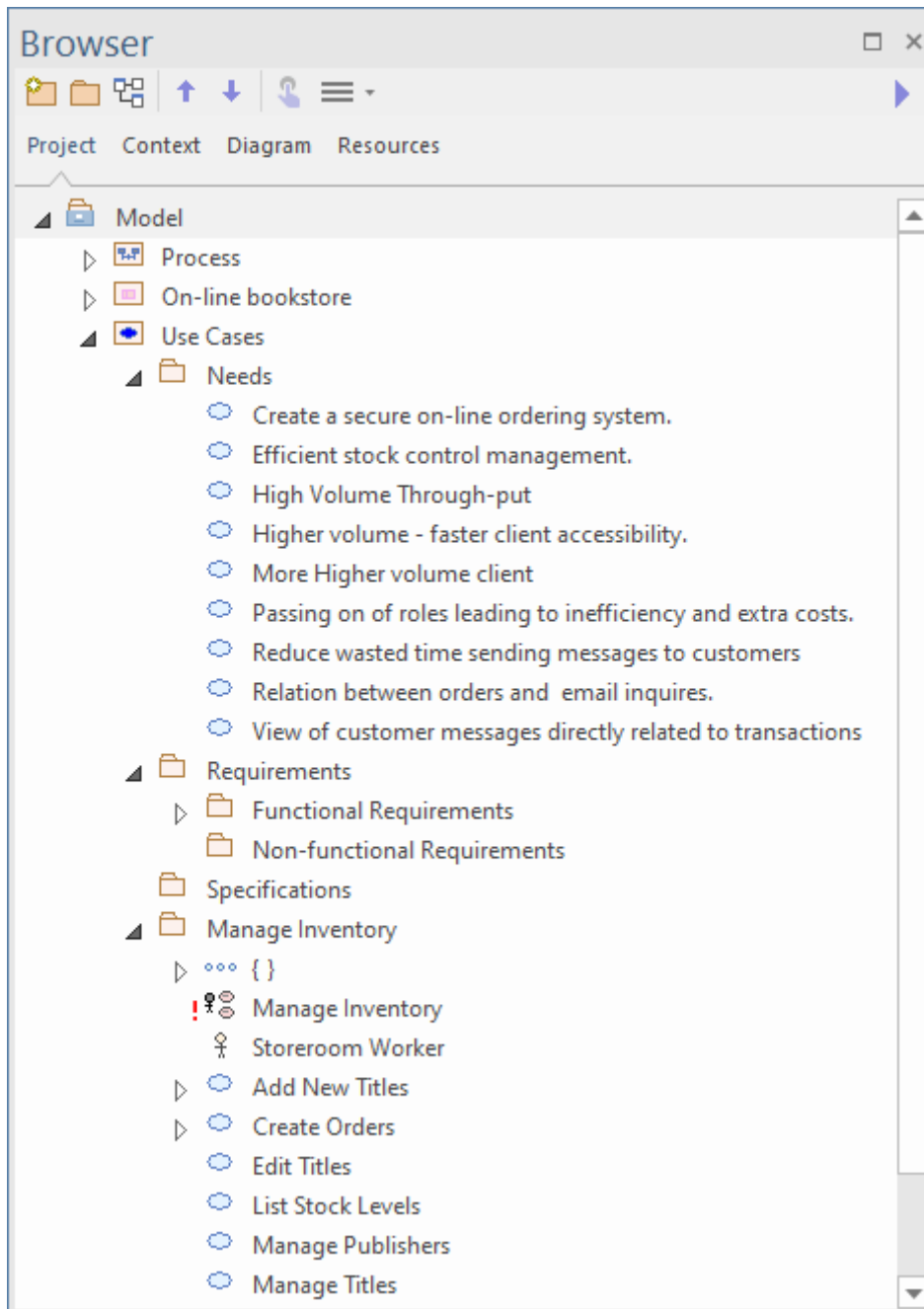


fig. 63

RaQuest can read existing Use Cases and requirements defined in the properties of Use Cases. This feature makes it easy to introduce RaQuest into existing projects or projects under development.

RaQuest Data is common to Enterprise Architect. Enterprise Architect can use the data of RaQuest as needed. You can make good use of the abilities of Enterprise Architect for the data of RaQuest.

The following fig. 64 shows the window which appears when the sample project file is opened by Enterprise

Architect directly. You can see the requirements are stored in almost structurally the same tree as the tree in RaQuest.

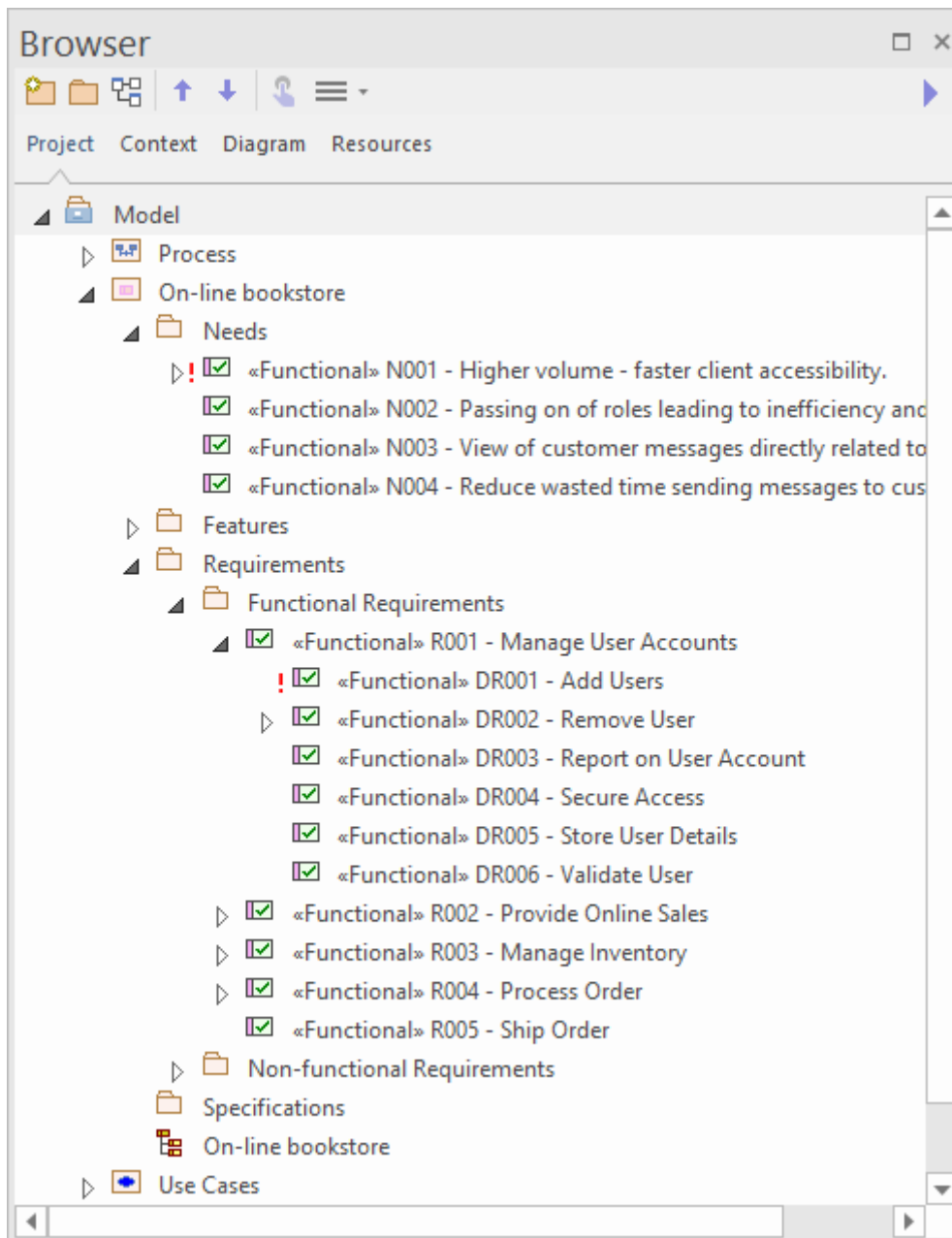


fig. 64

For example, you can also use the **Generate RTF Documentation** feature of Enterprise Architect for these packages of RaQuest. Please note that Enterprise Architect does not output several attributes to the generated documents.

RaQuest attributes which Enterprise Architect does not have are saved as tagged values. However, the update log is excluded from this.

The data compatibility enables you to use Enterprise Architect and RaQuest mutually and brings out the advantages of Enterprise Architect and RaQuest.

RaQuest can also generate classes that have the same names as the terms in the glossary. This feature is useful in various situations, such as illustrating relationships between items at the analysis and design phase.

The operation for the **Glossary** dialog in RaQuest is the same as that in Enterprise Architect. Enter the terms into the **Glossary** dialog (fig. 65).

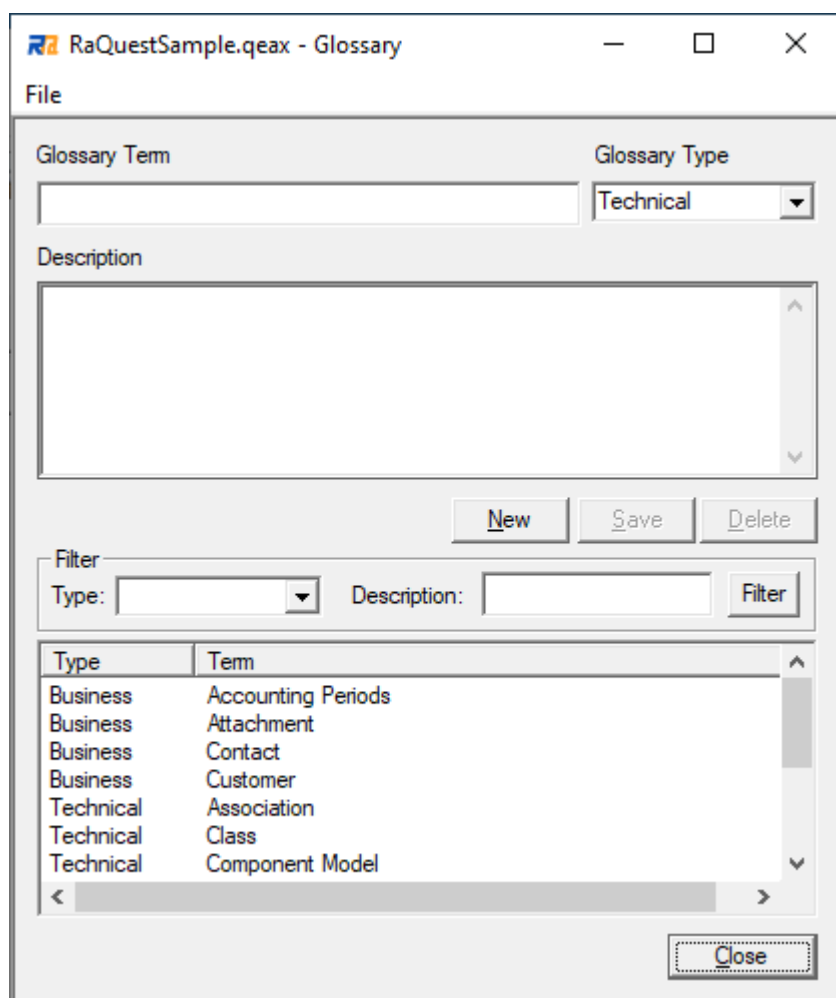


fig. 65

You can refer to the terms registered in the glossary of RaQuest from that of Enterprise Architect. Documenting them is also possible by Enterprise Architect.

The **Generate Classes from Glossary** feature can generate classes under the specified location from the

terms in the glossary (fig. 66).

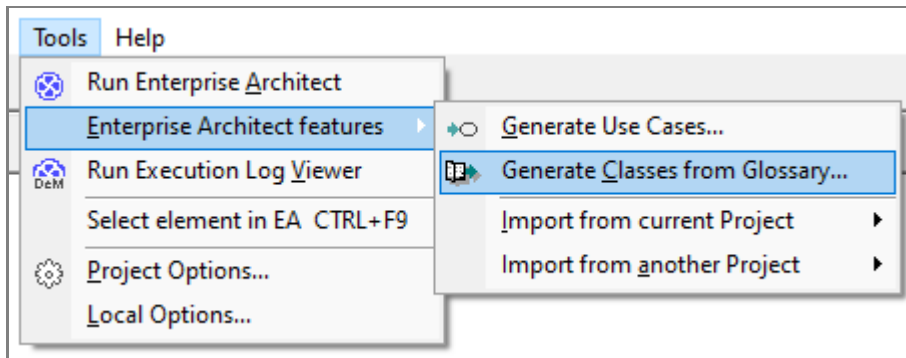


fig. 66

These features will further increase the efficiency and convenience of requirements management.