

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.

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	🗆 💷 F001	Functi	Relation between orders and email in	Medium	Propo M	edium	Medium	Medium	
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Add Users	🗆 💷 DR002	Functi	Remove User	Low	Propo M	edium	Medium	Medium	
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Provide Online !	🗆 💷 R002	Functi	Provide Online Sales	Medium	Consid M	edium	Medium	Medium	
ShoppingBa	🗆 💷 DR007	Functi	ShoppingBasket	Low	Propo M	edium	Medium	Medium	
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	🗆 💷 R003	Functi	Manage Inventory	Medium	Consid M	edium	Medium	Medium	
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Project Members	All Requirements				-				
,	,		Current	t Baseline	: Nothing		KA	NA CAP	N

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

₹ 2 RaQuestSample.qeax - RaQuest				- 0 ×
File Edit View Search Project	Tree List Matrix Requirement	Tools Help		
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E Functional Requiren	Summary			
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Secure Acc	Version 1.0	Phase 1.0		
Validate Us	Due Date 7/26/2022 -	Type Functional	•	
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	,	Current Ba	seline: Nothing	KANA CAP N

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.

₹ 2 RaQuestSample.qeax - RaQuest				- 🗆 X
File Edit View Search Project	Tree List Matrix Requirement	Tools Help		
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		1		1
E. Functional Requiren	Summary			
⊡ Manage User A	Alias			
Remove Us	ID 005	Revision 1		
Secure Acc	Version 1.0	Phase 1.0		
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		Look Pequimment		
	Created by ssj			
List Stock L 🗸	Updated			
<		I Approved		
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	,	Current Baseline	: Nothing	

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.

	Req	uirement	Tools	Help				
No.		Edit Cheo	ked Rec	quireme	ents Attrib	utes		L
Ī		Delete Checked Requirements						
ie	P	Properties						k
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	ð	New Req	uiremer	nt			Ctrl+N	
	諧	New Cha	nge					

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)

	_			>	<
Re	uirement Tools Help				
201	Edit Checked Requirements Attributes			1	
Ť	Change Checked Requirements Categories			ţ.	x
s	Delete Checked Requirements			bi	
ß	Properties			h	
Ē	Change Requirement Category			di)	
0	Ne <u>w</u> Package	Ctrl+	Ρ.	di	
H	New Requirement		×		New Need
間	New Change				New Feature
18	New <u>C</u> omment				New Requirement
a 🛷	Approval				New Detail Requirement
1	Set Constraints between Requirements			ً	New Specification

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.

R [New Requirement]		>	<	
🔟 Summary 🎦 Detail 🙀 User	-defined Attril	butes		
Summary				
Alias				
ID 022	Revision	1		
Version 1.0	Phase	1.0		
Due Date 7/26/2022	Туре	Functional 💌		
Created	Status	Proposed 💌		
Created by ssj	C Lock	Requirement		
Updated	Review Required Approved			
Updated by	Approved b	y		
Original Requirement Up Down	OK	Cancel Create & Next		

Rew Re	quirement]			×
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Detail				
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1				~
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Priority	Medium	Effort		0
Difficulty	Medium	Stability	Medium	•
Risk	Medium	Priority Value		0
Keywords				
			1	1
Original Req	uirement Up Down	OK	Cancel	Create & Next

fig. 7

₹ [New Requirement]	×
🔟 Summary 🎦 Detail 👯 User-defined Attributes	_
User-defined Attributes	
Urgency	
Original Requirement Up Down OK Cancel Create & N	ext

₹2 [New Requirement]	×
Description Attributes	
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Detail	
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Original Requirement Up Down OK Cancel Create & No	ext

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	ID	001	
	Revision	1	
	Version	1.0	
	Phase	1.0	
-	Date Due		
	Date Due	7/26/2022	
	Туре	Functional	_
	Status	Proposed	
	Lock		_
	Review Required		_
	Approved	False	
	Reviewed	False	~

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.

₹ [Need] N002 - Passing on of roles leading to inefficiency and extra cos X
🔟 Description 🚵 Attributes 🖳 UML Items 🖹 Files 💡 Members 🔺 🕨
Summary Passing on of roles leading to inefficiency and extra costs.
Alias
Detail
B I U A F ≔ j≡
Order processes are subject to client inquiries. With the new system it is intended that those dealing with the dispatch of an order should have all the relevant data to be able to follow up on any user inquiries through a direct relation between emails and order data.
Original Requirement Up Down OK Cancel Apply

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

R [Detail Requirement] DR009 - Receive Books	×
🔟 Description 🏠 Attributes 🖳 UML Items 🖹 Files 💡 Members 🔍	ŀ
Show Related UML Items Only Reload	
⊡ · 🏠 Model ⊡ - ☐☐ Use Cases ⊡ - ☐☐ Manage Inventory ☑ ④ Receive Orders	
^	
· · · · · · · · · · · · · · · · · · ·	
Original <u>R</u> equirement Up Down OK Cancel Apply	

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.

7 [Detai	il Requirement] DR007 - ShoppingBasket	×
🔳 Des	scription 🚵 Attributes 🏪 UML Items 🖹 Files 😣 Members 💶	Þ
Name	site File ID W001	
Path / URL	https://www.sparxsystems.jp/cgi-bin/mart.cgi	
Note	reference site	
File list	t Open New Update Delete	
ID	Name Path/URL Note	
¥	site https://www.sparxsys reference site	

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).

₹ [Need] N001 - Higher volume - faster client accessibility. ×
🔟 Description 🏠 Attributes 🖫 UML Items 🖹 Files 🎗 Members 💶
Member Chief Executive Officer Start Date 10/13/2010
Role Project Manager Find Date 10/13/2010
Complete % 0 Expected 0 Allocated 0 Expended 0
Description
^
× .
Assigned Members New Update Delete
Assigned member Role
Chief Executive Officer Project Manager
< >
Original Requirement Up Down OK Cancel Apply

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.

君 [Detail Red	quirement] DR002 - R	emove User		×
🖹 Files 🖇	e Members 🕅 🎹 Test	ltems 🗔 C	omments	eview Rec 🔹 🕨
DateTime	12/8/2010 6:18:44 PI	<u>и </u>	ıblic	
Member	raquest			
Comment	Delete data? Or place a delete flag	?		^
				~
Comment lis	st		New Updat	e Delete
P Date	Time Men	nber Det	ails	
12/8/	/2010 6:18:44 raqu	est Del	ete data?Or place	a delete fl
<				>
Original Requi	ement Up Down	OK	Cancel	Apply

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).

Members Source Requireme	Test Items (Comments Refer to Source ew	Preview Rec	quirements
Source Requirement	nt List for Revi	Refer to Sourc	ce Requirement	Reviewed
Source Requirement	nt List for Revie	ew		
Source Req	C			
	Summary		DateTime	
DR001	Add Users		10/6/2010 4	:56:22 PM
riginal Requirement	Up Down	0K.	Cancel	Apply

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.

Revision	4			
	10.00.0010.4	FC 00 DM	lated D.	
Opdated	10/6/2010 4:	56:22 PM Opd	lated by raquest	
Update	Attribute	Before	After	^
LUg	Status	Validated	Proposed	
	Reviewed	True	False	······
	Lock	True	False	~
Update Lo	og	View	Rollback	Diff
Revision	n Updated		Updated by	^
6	4/12/2012	2 6:01:19 PM	ssj	
5	10/6/201	0 4:56:40 PM	raquest	_
4	10/6/201	0 4:55:57 PM	raquest	
-	10/ 0/ 201	04.00.07114	raquest	· · · · ·

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).

Roject Options		×
(¹) General Fo ¹ User-Defined Types Statuse Type: Desc Functional Func	eatures 1 Original Features 2 Attributes Original Features 2 Attributes Original Categories es Original Requirement	
Type Functional Usability Reliability Performance Supportabili Etc - Secure	New Save Delete Description	
1	Add EA Extended Requirement Types	
ОК	Cancel Apply Help	

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).

₹ Project Options ×
Image: Construct of the second status of
OK Cancel Apply Help

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.

R Project Options		×
《 ^{(*}) General Fea 従 User-Defined A Types Statuses	atures 1 (ⁿ) General Features 2 ttributes () () List Fields () Packages () () Status and Initial Values () Categories	
Initial Status	Proposed	
Reviewed Status	Validated	
Approved Status	Approved 💌	
Default Type	Functional	
Default Version	1.0	
Default Phase	1.0	
✓ ID Numbering	C All 047	
	• by Requirement Category	
	O by Package	
	C by Hierarchy style	
	001 - 0	
ОК	Cancel Apply Help	

fig. 23

8. Calculation (Requirement Priority Value/Calculation type User-define d 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.

Project Options	×
Types Statuses 今 Status and Initial Values Categorie	s
🔅 User-Defined Attributes 🛛 🛇 List Fields 🔹 Packages	;
Priority Value Calculation Expression	
(\$Priority*5+\$Risk*5)*\$Effort	_
Execute Command	
Command	
Parameter	7
Template	
\$Change Item\$ \$Change Type\$	~
Updated By: \$Updated By\$	
ID: \$ID\$	
Summary: \$Summary\$	
Detail: \$Detail\$	1
- Execute Trigger	
Requirement comment file member	
Add	
OK Cancel Apply Help	

R Project Options
Types Statuses Status and Initial Values Categories (*) General Features 1 (*) General Features 2 (*) User-Defined Attributes (*) List Fields Packages Name: Value Type: Calculation
(\$Priority*5+\$Risk*5)*\$Effort New Save Delete
Attribute Name Attribute Type Value Calculation
OK Cancel Apply Help

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.

⊡ 🚰 On-line bookstore
🚊 💼 Needs
Passing on of roles leading to inefficiency and extra costs.
····· III View of customer messages directly related to transactions
Reduce wasted time sending messages to customers
🚊 💼 Features
💷 High Volume Through-put
Efficient stock control management.
🚊 💼 Requirements
🚊 💼 Functional Requirements
🖻 📲 Manage User Accounts
TEI Add Users
The Temove User
Report on User Account
Secure Access
Store User Details
Validate User
🖻 📲 Provide Online Sales
ShoppingBasket
Process Credit Card Payment
🖻 📲 Manage Inventory
Receive Books
List Stock Levels
Order Books
Store and Manage Books
Add Books
Process Order
Package Order
List Current Orders
Update Inventory
Retrieve Books
Ship Order
🗄 💼 Non-functional Requirements
Specifications



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).

ShoppingBasket						
🛄 Process Credit Card Payment						

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).

Project Members by Type by Status by Category Custom1

fig. 30

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

				[Local Setting]		•	×
	Туре	Summary	Priority	Status Risk	Difficulty	Stability	^
🗆 💷 N001	Functi	Higher volume - faster client accessibility.	Medium	Approv Mediur	n Medium	Medium)
🗆 💷 N002	Functi	Passing on of roles leading to inefficienc	High	Propos Mediur	n Medium	High	
🗆 💷 N003	Functi	View of customer messages directly relat	High	Propos Mediur	n Medium	High	
🗆 💷 N004	Functi	Reduce wasted time sending messages	High	Propos Mediur	n Medium	High	
🗆 💷 F001	Functi	Relation between orders and email inqui	Medium	Propos Mediur	n Medium	Medium	
🗆 💷 F002	Functi	Create a secure on-line ordering system.	Medium	Validat Mediur	n Medium	Medium	
🗆 💷 F003	Functi	High Volume Through-put	Medium	Validat Mediur	n Medium	Medium	
🗆 💷 F004	Functi	Efficient stock control management.	Medium	Validat Mediur	n Medium	Medium	
🗆 💷 R001	Functi	Manage User Accounts	Medium	Consid Mediur	n Medium	Medium	
🗆 💷 DR001	Functi	Add Users	High	Validat Mediur	n Medium	Medium	
🗆 💷 DR002	Functi	Remove User	Low	Propos Mediur	n Medium	Medium	
🗆 💷 DR003	Functi	Report on User Account	High	Propos Mediur	n Medium	Medium	
🗆 💷 DR004	Functi	Secure Access	High	Propos Mediur	n High	High	
🗆 💷 DR005	Functi	Store User Details	Medium	Propos Mediur	n Medium	Medium	
🗆 💷 DR006	Functi	Validate User	Medium	Propos Mediur	n Medium	Medium	
🗆 💷 R002	Functi	Provide Online Sales	Medium	Consid Mediur	n Medium	Medium	
🗆 💷 DR007	Functi	ShoppingBasket	Low	Propos Mediur	n Medium	Medium	
🗆 💷 DR008	Functi	Process Credit Card Payment	High	Propos Mediur	n Medium	Medium	
🗆 💷 R003	Functi	Manage Inventory	Medium	Consid Mediur	n Medium	Medium	
🗆 💷 DR009	Functi	Receive Books	Medium	Propos Mediur	n Medium	Medium	
🗆 💷 DR010	Functi	List Stock Levels	Medium	Propos Mediur	n Medium	Medium	~
All Requirements							

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.

	Туре	Summary	Priority	St △ F	lisk	Difficulty	Stability	^
🗆 💷 N002	Functi	Passing on of roles leading to inefficienc	High	Propos N	ledium	Medium	High	
🗆 💷 N003	Functi	View of customer messages directly relat	High	Propos N	ledium	Medium	High	
🗆 💷 N004	Functi	Reduce wasted time sending messages	High	Propos N	edium	Medium	High	
🗆 💷 F001	Functi	Relation between orders and email inqui	Medium	Propos N	edium	Medium	Medium	
🗆 💷 DR002	Functi	Remove User	Low	Propos N	edium	Medium	Medium	
🗆 💷 DR003	Functi	Report on User Account	High	Propos N	edium	Medium	Medium	
🗆 💷 DR004	Functi	Secure Access	High	Propos N	edium	High	High	
🗆 💷 DR005	Functi	Store User Details	Medium	Propos N	edium	Medium	Medium	
🗆 💷 DR006	Functi	Validate User	Medium	Propos N	ledium	Medium	Medium	
🗆 💷 DR007	Functi	ShoppingBasket	Low	Propos N	ledium	Medium	Medium	
🗆 💷 DR008	Functi	Process Credit Card Payment	High	Propos N	edium	Medium	Medium	
🗆 💷 DR009	Functi	Receive Books	Medium	Propos N	edium	Medium	Medium	
🗆 💷 DR010	Functi	List Stock Levels	Medium	Propos N	edium	Medium	Medium	
🗆 💷 DR011	Functi	Order Books	Medium	Propos N	edium	Medium	Medium	
🗆 💷 DR012	Functi	Store and Manage Books	Medium	Propos N	ledium	Medium	Medium	
🗆 💷 DR013	Functi	Add Books	Medium	Propos N	edium	Medium	Medium	
🗆 💷 DR014	Functi	Package Order	Medium	Propos N	ledium	Medium	Medium	
🗆 💷 DR015	Functi	List Current Orders	Medium	Propos N	ledium	Medium	Medium	
🗆 💷 DR016	Functi	Update Inventory	Medium	Propos N	edium	Medium	Medium	
🗆 💷 DR017	Functi	Retrieve Books	Medium	Propos N	edium	Medium	Medium	
🗆 💷 R006	Suppor	System must be easily extendible	Medium	Propos	edium	Medium	Medium	¥

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).

Filter List			×
□ D			Run
and 🔽 Summary	User		▼ Run (New Tab)
and 📃 Detail			- Add Check
and 🗌 Category			Cancel
and 🗌 Type			
and 🔲 Status			and/or
and 🔲 Updated By	/		✓ ● and ○ or
and 🔲 Created By			_
and 🔲 KeyWords			_
and 🗌 Version		~	and 🗌 Risk 📃 🚽
and 🥅 Phase		-	and 🗌 Stability 📃
and 🗌 Priority		-	and 🗌 Effort
and 🗌 Difficulty		~	and 🗌 Review Req. True 💌
and 🗌 User Attr.	Urgency	-	V
and 🗌 Lock	Locked	-	and 🗌 CheckBox Checked 💌
and Oate	C Updated	O Due	Options Ignore Case
☐ before	7/26/2022	~	Match whole word only
after	7/26/2022	Y	Iv Jeaich Subpackages

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

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	Type Summary	Priority	St 🛆	Risk	Difficulty	Stability
🗆 💷 DR002	Functio Remove User	Low	Proposed	Medium	Medium	Medium
🗆 💷 DR003	Functio Report on User Account	High	Proposed	Medium	Medium	Medium
🗆 💷 DR005	Functio Store User Details	Medium	Proposed	Medium	Medium	Medium
🗆 💷 DR006	Functio Validate User	Medium	Proposed	Medium	Medium	Medium
🗆 💷 R001	Functio Manage User Accounts	Medium	Consid	Medium	Medium	Medium
🗖 💷 DR001	Functio 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).

Find			×
□ ID			Run
and 🔽 Summary	User		•
and 🗌 Detail			_
and 🗌 Category			- Cancel
and 🔲 Type			
and 🗌 Status			and/or
and 🔲 Updated By			▼
and 🔲 Created By			Direction
and 🗌 KeyWords			Up 🖲 Down
and 🗌 Version		-	and 🗌 Risk 📃 🚽
and 🔲 Phase		-	and 🗌 Stability 🔄
and 🔲 Priority		-	and 🗌 Effort
and 🗌 Difficulty		-	and 🗌 Review Req. True 🖃
and 🔲 User Attr.	Urgency	-	V
and 🗌 Lock	Locked	-	and CheckBox Checked 🚽
and Oate	C Updated	C Due	Options Ignore Case
before	7/26/2022	~	Match whole word only
T after	7/26/2022	~	

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).

List	Matrix	Requirement	Tools	Help	
r b	<u>R</u> equiren	nent List	Ci	trl+R	1
ല്	Change	List			Γ
1	To- <u>D</u> o Lis	st	Ct	rl+D	⊢
Ū	Member	<u>U</u> nassigned List	t		F

fig. 37

🖆 🖉 🛱 🐂 🐜 155						[Local Set	ting]		▼ X
⊡ 🚭 On-line bookstore		Туре	Summary		Priority	Status	Risk	Difficulty	Stability
	🗖 🔝 N001	Functio	Higher volume - faster clien	nt accessibility.	Medium	Approv	Medium	Medium	Medium
Requirements	🗆 💷 N002	Functio	Passing on of roles leading	to inefficiency	High	Proposed	Medium	Medium	High
E Functional Requirements	🗆 🖭 N003	Functio	View of customer messages	s directly relate	High	Proposed	Medium	Medium	High
Non-functional Requirements	🗆 ⊡ N004	Functio	Reduce wasted time sendir	ng messages t	High	Proposed	Medium	Medium	High
Project Members	All Requirements	Require	ments for Needs						
		nequire		urrent Baseline	Nothing		KANA		
				urrent Baseline:	Nothing		JKANA	JCAP JNUI	VI ISCRE

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.



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 fileds displayed on the Requirements list by Local Options dialog (fig. 40) or Project Options dialog (fig. 41).

R Local Options			×
◆ View1 ◆ View2	A. App. Lo	ok 🛇 List Fields	Colors
Kind: Requirement List	•	[New
Name: [Local Setting]			▼ Del.
Available		Selected	
Alias Revision Version Phase Date Due Category Lock Review Required Approved Reviewed Approved by Detail Detail (no format tags) Effort Priority value KeyWords Parent ID Package Name Created Author Last Updated Updated By GUID Child Requirement IDs Source Requirement IDs Destination Requirement Num. of Files		Category Icon ID Type Summary Status Risk Difficulty Stability	
ОК	Cano	el Apply	Help

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).

R Project Options
(⁽¹⁾) General Features 1 (⁽¹⁾) General Features 2 Types Statuses ((1)) Status and Initial Values Categories ((2)) User-Defined Attributes ((1)) List Fields Packages
Name: Detail
Available Selected Alias ▲ Revision ↓ Version ↓ Phase ↓ Date Due ↓ Category ↓ Status ↓ Lock ● Review Required ↓ Approved ● Priority □ Detail ● Priority □ Difficulty ■ Risk Stability Effort Priority value KeyWords ● Parent ID ● Package Name ✓ Created ✓
OK Cancel Apply Help



ſ					[Local Set	ting]		• X
l		Туре	Summary	Priority	[Local Set Detail	ting]		lity
l	🗆 💷 N001	Functio	Higher volume - faster client accessibility.	Medium	Approv	Medium	Medium	Medium
l	🗆 💷 N002	Functio	Passing on of roles leading to inefficiency	High	Proposed	Medium	Medium	High
l	🗆 💷 N003	Functio	View of customer messages directly relate	High	Proposed	Medium	Medium	High
	🗆 💷 N004	Functio	Reduce wasted time sending messages t	High	Proposed	Medium	Medium	High
L								

R Local Options		×
♥ View1 ♥ View2 A. App. Look	S List Fields Color	s
List item color by Status Use colors defined by project. Original colors Reviewed Approved	Past Due Review Required Updated by others Updated	
Selected Item in Tree/List	Background	
Updating Attributes Background		
OK Cancel	Apply	Help

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.

🖻 😫 🖗 😘 🐜 🕷	
⊡	DID Type Summary
	🗆 💷 N001 Functi Higher volume - faster client
Features Food Relation between orders a	💭 📼 N002 🛛 Functi Passing on of roles leading
F002 Create a secure on-line ord	🚺 🗖 📼 N003 🛛 Functi View of customer messages
E F003 High Volume T- agh-put	N004 Functi Reduce wasted time sendir
English Full Fluid Efficient stock control man	🔲 🗆 📼 F001 🛛 Functi Relation between orders an
The sequirements	Functi Create a secure on-line orde
• Non-functional Requirements	Functi High Volume Through-put
Specifications	🔲 🗖 📼 F004 🛛 Functi Efficient stock control mana

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

					[Local	Setting]		-
	Туре	Summary		Priority	Status	Risk	Difficulty	Stability
🗖 💷 N001	Functi	Higher y	r i k i dati	8.8 D	^ rov	Medium	Medium	Medium
🗆 💷 N002	Functi	Passing 🕮	Properties		bos	Medium	Medium	High
🗆 💷 N003	Functi	View of	C <u>h</u> ange Requirement Ca	tegory	bos	Medium	Medium	High
🗆 💷 N004	Functi	Reduce 🖤	<u>A</u> pproval		bos	Medium	Medium	High
🗆 💷 F001	Functi	Relatior [8]	Locate in Project <u>T</u> ree		bos	Medium	Medium	Medium
🗆 💷 F002	Functi	Create a 😁	Ne <u>w</u> Package		dat	Medium	Medium	Medium
🗆 💷 F003	Functi	High Va	New Requirement		🖡 dat	Medium	Medium	Medium
🗆 💷 F004	Functi	Efficient 🔬 🦞	New Change		dat	Medium	Medium	Medium
🗆 💷 R001	Functi	Manage 🛄	Final Strategies		— sid	Medium	Medium	Medium
🗆 💷 DR001	Functi	Add Us	Find		dat	Medium	Medium	Medium
🗆 💷 DR002	Functi	Remove 🗖	<u>F</u> ilter List)os	Medium	Medium	Medium
🗆 💷 DR003	Functi	Report 🖓 🗉	Destination Requirement	ts	bos	Medium	Medium	Medium
🗆 💷 DR004	Functi	Secure 💿	Source Requirements		bos	Medium	High	High
🗆 💷 DR005	Functi	Store U	Show Relationship Map		pos	Medium	Medium	Medium
🗆 💷 DR006	Functi	Validate 🔀	Delete Relationshin		pos	Medium	Medium	Medium
🗆 💷 R002	Functi	Provide	Delete		sid	Medium	Medium	Medium
🗆 💷 DR007	Functi	Shoppir 🔼	Delete			Medium	Medium	Medium
🗆 💷 DR008	Functi	Process Cred	it Card Payment	High	Propos	Medium	Medium	Medium

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



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).

[Detail Require	ement] DR005 -	Store User De	tails	>
Members	🖽 Test Items 🛛 🖸	Comments	M Review Rev	quirements 🚺
		Refer to Sour	ce Requirement	Reviewed
Source Requirer	nent List for Revie	ew		
Source Reg	Summary		DateTime	
DR001	Add Users		10/6/2010 4	:56:22 PM
<				>
<				>
<		01/		>

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).

Relationships between Requirement and Rec	quire	eme	nt														—				×
Target			_						Ho	date											
Requirement	_			color	unre	lated	1		00	0010											
	_	Filt	er		ear			ł	хро	rt CS	V										
Requirement -				color	unre	lated	I	I	Ехро	rt RT	F										
		Filt	er	Cle	ear				~		_										
				_				_	Cic	ose											
	001 Higher volume - faster client accessibility.	002 Passing on of roles leading to inefficiency a	003 View of customer messages directly related	004 Reduce wasted time sending messages to c	001 Relation between orders and email inquires	002 Create a secure on-line ordering system.	003 High Volume Through-put	004 Efficient stock control management.	001 Manage User Accounts	R001 Add Users	R002 Remove User	R003 Report on User Account	R004 Secure Access	R005 Store User Details	R006 Validate User	002 Provide Online Sales	R007 ShoppingBasket	R008 Process Credit Card Payment	003 Manage Inventory	R009 Receive Books	^
	ž	ž	ž	ž	Ĕ	Ĕ	Ĭ	Ĕ	Ē							Ē			Ē		_
N001 Higher volume - faster client accessibility.							-														-
NUU2 Passing on of roles leading to inefficiency and																					-
N004 Reduce wasted time conding measures to gu																					-
F001 Polation between ordem and email inquires																					-
F001 Create a secure on line ordering outer									4							4					-
F002 High Volume Throughout	Ŧ								-							-				-	-
F004 Efficient stock control management	-						_												4		-
R001 Mapage User Accounts						£				4	4	4	4	4	4				-	-	-
DB001 Add Users									÷					4						-	-
DR002 Remove User									£					4							-
DR003 Report on User Account									£					4							-
DR004 Secure Access									£						4						-
DR005 Store User Details									£	2	t	t									
DR006 Validate User									£				t								-
R002 Provide Online Sales						t											4	4			
DR007 ShoppingBasket																±.					- v
<																				>	-

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.

Relationships between Requirement and Me		\times						
Target Requirement Member	Updat Export C Export F Close	SV RTF						
	Chief Executive Officer	Stock Control Manager	Process Manager	Operation Manager	Application Development Manager			
N001 Higher volume - faster client accessibility.	t							
N002 Passing on of roles leading to inefficiency and								
N003 View of customer messages directly related to								
N004 Reduce wasted time sending messages to cu								
F001 Relation between orders and email inquires.								
F002 Create a secure on-line ordering system.								
F003 High Volume Through-put								
F004 Efficient stock control management.								
R001 Manage User Accounts								
DR001 Add Users								
DR002 Remove User								
DR003 Report on User Account								¥

Relationships between Requirement and Us	e Ca	se					_	[\times
Target			-			• • •			Indate	
Requirement		00000								
	Ex	Export CSV								
Use Case	Ex	port R	TF							
		Close								
					ŝ			_		^
	es	é		evels	lishe	8	lers			
	v Tit	Orde	8	<u>ح</u>	Pub	Title	ő			
	Pe l	ate (Ē	Sto	age	age	eive			
	Add	S	Щ	List	Mar	Mar	Reg			
DR009 Receive Books							4			
DR010 List Stock Levels				4						
DR011 Order Books		4								
DR012 Store and Manage Books										11
DR013 Add Books	4									
R004 Process Order										
DR014 Package Order										
DR015 List Current Orders										
DR016 Update Inventory						4	4			
DR017 Retrieve Books										
R005 Ship Order										
R006 System must be easily extendible										
R007 Other product types options can be added ea	4									
R008 System must be able to cope with regular reta										
R009 Orders and dispatch information must be kept										~

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

Relationships between Requirement and UN	/L It	em]	×	<
Target Requirement Filter									Update Export CSV		
UML Item 💽 System Model	UML Item V System Model						I	Export RTF			
	Deployment Model[Package]	Head Office Deployment[Package]	Servers[Package]	Internal Databse Server[Package]	Internal Database Server[Deployment Diagram]	Client Data[Component]	Orders[Component]	OS[Component]	Internal Data Config[Object]	Web Database Server[Package]	
R013 Access to the secure site must be no longer th										_	
RU14 Processed information must be kept secure.						4				_	
R015 All transactions must be secure.	-					-	4			-	
R017 Physical storage locations should be secure								4		-	
R018 2000 hours mean time between failure.								4			
R019 Must be recoverable quickly.						4					
R020 99.999% accuracy.						4					
R021 99.999% precision.											
<										>	

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

Manage Baselines	- 🗆 X
Name Ver Note	Show Differences
Phase 1 Baseline time: 10/13/2010 2:23:56	Restore to Baseline
	Restore to Turnout info
	New Baseline
	Edit Properties
	Delete Baseline
	Import File
	Export File
	Close

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).

	Туре	Summary			Priority	Status	Risk	
🗆 💷 N001	Functi	Higher volume - fa	ster cl	lient accessibility.	Medium	Approv	Medium	h
🗆 💷 N002	Functi	Passing on of role:	P	Properties			ium	n I
🗆 💷 N003	Functi	View of customer i		C <u>h</u> ange Requir	ement Ca	ategory	ium	i I
🗆 💷 N004	Functi	Reduce wasted tir	41	<u>A</u> pproval			ium	i I
🗆 💷 F001	Functi	Relation between	r وا	Locate in Proje	ct <u>T</u> ree		ium	n I
🗆 💷 F002	Functi	Create a secure or	 ⊘≪	New Dackage			ium	n I
🗆 💷 F003	Functi	High Volume Thro	<u> </u>	New Package			ium	i I
🗆 💷 F004	Functi	Efficient stock cor	a ha daa	New Requirem	ent		ium	i I
🗆 💷 R001	Functi	Manage User Acc	۵ĩ	New Change			ium	n I
🗆 💷 DR001	Functi	Add Users		Find			ium	n I

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).

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Reed] N005 - More Higher volu	ume client	×
🔟 Summary 🎦 Detail 🕃 Us	Reed] N001 - Higher volume - f	faster client accessibility. X
Summary More Higher volume cl	🔟 Summary 🎦 Detail 🕅 👯 User	r-defined Attributes 🛛 🖳 UML Items 🗋 🖹 🚺
ID N005	Summary Higher volume - faster cli	ient accessibility.
Version 1.0	Alias	Revision 3
Due Date 7/27/2022	Version 1.0	Phase 1.0
Created 7/27/2022 1:06:23 PM	Due Date 7/27/2022	Type Functional 💌
Updated 7/27/2022 1:06:06 PM	Created 10/5/2010 5:33:24 PM	Status Approved
Updated by ssj	Created by raquest Updated 4/12/2012 6:01:17 PM	Lock Requirement Review Required
Original Requirement	Updated by ^{ssj}	Approved by Ichiro
	Original Requirement Up Down	OK Cancel Apply

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.

 $\langle a \text{ Sample of exported file in RTF} \rangle$

Requirements				Wednesday, J
	<u>R</u>	equirem	<u>ents</u>	
On-line bookstore	e.			
NOO1 - Higher volume - faster client accessibility.	N002 - Passing on of roles leading to inefficiency and extra costs.	N003 messi transi	View of customer ges directly related to ctions	N004 - R aduce wasted time sending messages to customers
F001 - Relation batw ean orders and email inquires. (from Features)	f002 - Graste a socure on-Sne ordering system. (from Firatures)	re: On-line b	- High me Through- em Features) (for ookstore	Efficiant ontrol prmeet.
Needs.				
Name	Attributes		Detail	
Higher volume -	ID: N001 Status:	Approved	With high volume b	ook sales being
accessibility.	Difficulty:	Medium	orders being placed	by customers has
	Priority:	Medium	become slow. The c	urrent on-line book
	_		store has not been a	ble to meet even the
			most basic of these to customer frustrati	sales pitches leading ion and loss of sales.
Passing on of roles	ID: N002		Order processes are	subject to client
leading to	Status:	Proposed	inquiries. With the r	new system it is
inefficiency and	Difficulty:	Medium	intended that those of	lealing with the
extra costs.	Priority:	High	dispatch of an order	should have all the

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.

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A	. .	: × •	f _x ID						
	А	В	С	D	E	F	G	Н	1
1	ID	Туре	Summary	Priority	Status	Risk	Difficulty	Stability	2022/07/27
2	N001	Functional	Higher volu	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 Acce	High	Proposed	Medium	High	High	
15	DR005	Functional	Store User [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	
10		Eunctional	Process Cro	High	Proposed	Modium	Modium	Modium	

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 (<u>https://www.blat.net/</u>) (fig. 60) to send an e-mail notification when requirement is changed (fig. 61).

Project Options					
Types Statuses Status and Initial Values Categories Image: Statuse of the state of the sta					
Priority Value Calculation Expression					
(SPriority S+SPrisk S) SEITOR					
Execute Command					
Command C:\Program Files\blat276\full\blat.exe					
Parameter					
Template					
Updated By: \$Updated By\$ ID: \$ID\$ Summary: \$Summary\$					
Detail: \$Detail\$					
Execute Trigger Requirement comment file member Add Update Delete					

To: <u>alluser@sparxsystems.co.jp</u> 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:↓ Yersion : 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.

Browser		×
Project Context Diagram Resources		
🔺 💼 Model		
Process		
On-line bookstore		
✓ Use Cases		
Needs		
Create a secure on-line ordering system.		
 Efficient stock control management. 		
 High Volume Through-put 		
 Higher volume - faster client accessibility. 		
 More Higher volume client 		
Passing on of roles leading to inefficiency and extra costs.		
Reduce wasted time sending messages to customers		
 Relation between orders and email inquires. 		
View of customer messages directly related to transaction	5	
▲		
Functional Requirements		
Non-functional Requirements		
Specifications		
Manage Inventory		
▷ •••• {}		
! ^g 응 Manage Inventory		
🖇 Storeroom Worker		
Add New Titles		
Create Orders		
 Edit Titles 		
 List Stock Levels 		
Manage Publishers		
 Manage Titles 		-

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.

Browser	□ ×
	•
Project Context Diagram Resources	
🔺 💼 Model	
Process	
On-line bookstore	
Needs	
I value - faster client accessibility.	
«Functional» N002 - Passing on of roles leading to inefficiency	and
«Functional» N003 - View of customer messages directly related	d to
«Functional» N004 - Reduce wasted time sending messages to	cus
▷ □ Features	
Requirements	
Functional Requirements	
«Functional» R001 - Manage User Accounts	
«Functional» DR001 - Add Users	
Functional» DR002 - Remove User	
«Functional» DR003 - Report on User Account	
«Functional» DR004 - Secure Access	
«Functional» DR005 - Store User Details	
«Functional» DR006 - Validate User	
Functional» R002 - Provide Online Sales	
Functional» R003 - Manage Inventory	
V Functional» R004 - Process Order	
«Functional» R005 - Ship Order	
Non-functional Requirements	
Specifications	
🛱 On-line bookstore	
Use Cases	-
4	•

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).

₹2 RaQuestSample.qeax - Glossary	_		Х
File			
Glossary Term	Glossan	у Туре	
J	Technic	cal	-
Description			
			^
			~
New	<u>S</u> ave	<u>D</u> e	elete
Type: Description:		F	ilter
Type Term			^
Business Accounting Periods Business Attachment Business Contact Business Customer			
Technical Association			
Technical Component Model			~
<			>
		Clos	e)

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).

	Tool	s Help			
	8	Run Enterprise <u>A</u> rchitect			
Ī		Enterprise Architect features	•0	<u>G</u> enerate Use Cases	Ī
Η	Sem 1	Run Execution Log <u>V</u> iewer	۰.	Generate <u>C</u> lasses from Glossary	ŀ
		Select element in EA CTRL+F9		Import from current Project	
	\otimes	Project Options		Import from <u>a</u> nother Project	
		Local Options	Γ		

fig. 66

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