

User Manual, FAA Requirements Quality Tool (FRQT) For The IBM Rational Dynamic Object Oriented Requirements System (DOORS), Version 1.0

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16. Abstract This Technical Note is the User Manual for the FAA Requirements Quality Tool written for the IBM Rational Dynamic Object Oriented Requirements System (DOORS). It provides a detailed description of the 6 DOORS eXtension Language (DXL) scripts that comprise the FAA Requirement Quality Tool (FRQT). It also provides detailed instructions for running the scripts in DOORS 9.6.1. This technical note should be used as reference material only. Modifications to any of these scripts and its package of routines will be dependent upon the users' specific needs. Additionally, it is recommended that the script outputs be reviewed by a requirements subject matter expert (SME).					
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LIST OF ACRONYMS

ANG-B	NAS Systems Engineering and Integration Office
CATM-T	Collaborative Air Traffic Management- Technologies
DOORS	Dynamic Object Oriented Requirements System
DXL	DOORS eXtension Language
FAA	Federal Aviation Administration
FRQT	FAA Requirements Quality Tool
RTF	Rich Text Format
HQ	Federal Aviation Administration Headquarters
IBM	International Business Machines
IETF RFCs	Internal Engineering Task Force Requests for Comments
MRS	Mature Requirements Statement
MS WORD	Microsoft Word
NAS	National Airspace System
NASA	National Aeronautics and Space Administration
NJ	New Jersey
NSA	National Security Agency
RM	Requirements Management
RQT	Requirements Quality Tool
RTF	Rich Text Format
SME	Subject Matter Expert
TBD	To Be Determined
TBS	To Be Scheduled

EXECUTIVE SUMMARY

IBM Rational Dynamic Object Oriented Requirements System (DOORS) is a requirements management (RM) software tool. It has the capability to capture, track, trace and analyze requirements, regardless of project size or complexity. In recent years, DOORS has become the Federal Aviation Administration's (FAA) preferred RM software tool. The NAS Systems Engineering and Integration Office (ANG-B) manages two DOORS environments as shown in Figure 1. Each server environment services a number of users and contains a variety of requirements and other related documentation

DOORS eXtension Language (DXL) is a customizable scripting language exclusive to DOORS. DXL shares many similarities with C and C++, and can be used to extend and automate many DOORS features and functions. The FAA currently has over 50 scripts in its DXL library. Many of the scripts were inherited from Telelogic AB, which IBM acquired in 2008. The remaining scripts were obtained from a number of sources including other government agencies and private industry. The entire DXL library is available to authorized users on both the Technical Center and Headquarters DOORS servers.

Over the years, ANG-B has modified the package of routines in a number of DXL scripts in its library to better support requirements analysis and management process activities. The FAA Requirements Quality Tool (FRQT) is used to inform and identify potential problems within the text of a specified DOORS formal module. It scans the module against a predefined set of requirements quality factors. Based on prior research by the National Aviation and Airspace Administration (NASA), RQT was first developed in 1999 by the National Security Agency (NSA). The FAA has since modified the package of routines included in the original RQT DXL script and adapted them for their specific areas of interest such as Mature Requirements Statements (MRS).

This Technical Note provides a detailed description of the six (DXL) scripts that comprise the FAA Requirements Quality Tool (FRQT), and detailed instructions for running the scripts in DOORS 9.6.1. It should be used as reference material only. Modifications to any of these scripts and its package of routines will be dependent upon the users' specific needs. Additionally, it is recommended that the script outputs be reviewed by a requirements subject matter expert (SME).

INTRODUCTION

BACKGROUND.

IBM Rational Dynamic Object Oriented Requirements System (DOORS) is a requirements management (RM) software tool. It has the capability to capture, track, trace and analyze requirements, regardless of project size or complexity. In recent years, DOORS has become the Federal Aviation Administration's (FAA) preferred RM software tool. The NAS Systems Engineering and Integration Office (ANG-B) manages two DOORS environments as shown in Figure 1. Each server environment services a number of users and contains a variety of requirements and other related documentation

DOORS eXtension Language (DXL) is a customizable scripting language exclusive to DOORS. DXL shares many similarities with C and C++ and can be used to extend and automate many DOORS features and functions. The FAA currently has over 50 scripts in its DXL library. Many of the scripts were inherited from Telelogic AB, which IBM acquired in 2008. The remaining scripts were obtained from a number of sources including other government agencies and private industry

Over the years, ANG-B has modified the package of routines in a number of DXL scripts in its library to better support requirements analysis and management process activities. These scripts are available to authorized DOORS users on the Technical Center server under the FRQT menu selection tab. The entire DXL library is available to authorized users on both the Technical Center and Headquarters DOORS servers.

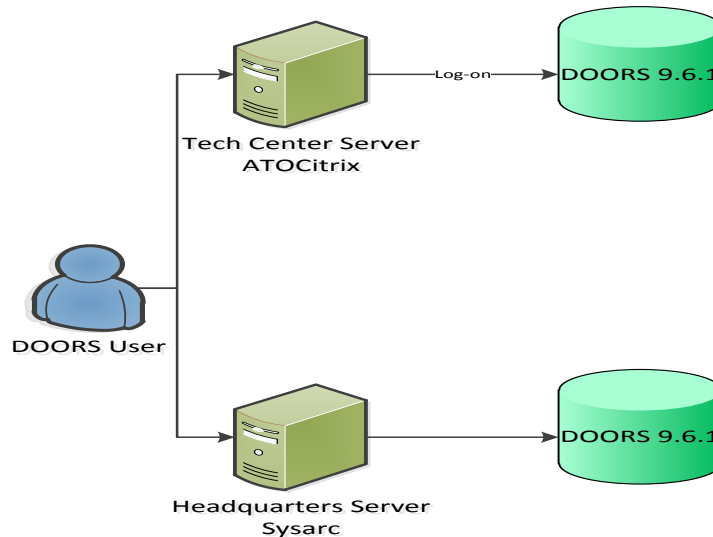


Figure 1: Context Diagram for ANG-B DOORS Environments

PURPOSE.

This Technical Note provides a detailed description of the six DXL scripts under the FRQT menu selection on the DOORS environment at the William J Hughes Technical Center in Atlantic City, NJ. It also provides detailed instructions for running the scripts in DOORS 9.6.1. This technical note should be used as reference material only. Modifications to any of these

scripts and its package of routines will be dependent upon the users' specific needs. Additionally, it is recommended that the script outputs be reviewed by a requirements subject matter expert (SME).

FRQT MENU SELECTION

The FRQT menu selection, shown in Figure 2, contains six DXL scripts. Each script can be used to assist in the analysis of a requirements set. An overview of each script is detailed below.

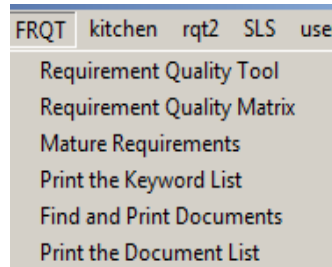


Figure 2: FRQT Menu Selection Tab

Requirements Quality Tool

The Requirements Quality Tool (RQT) is used to inform and identify potential problems within the text of a specified DOORS formal module. It scans the module against a predefined set of requirements quality factors. Based on prior research by the National Aviation and Airspace Administration (NASA), RQT was first developed in 1999 by the National Security Agency (NSA). The FAA has since modified the package of routines included in the original RQT DXL script and adapted them for their specific areas of interest such as Mature Requirements Statements (MRS).

The requirements quality factors include:

- **Imperatives** are words and phrases that command something must be provided. A formal module containing explicit specifications will have most of its counts high in the imperative list. Examples of imperative words and phrases include *shall*, *must*, *must not*, and *will*.
- **Weak Phrases** are clauses that are apt to cause uncertainty, leaving room for multiple interpretations. The Weak Phrase total indicates that the specification may be ambiguous and incomplete. Examples of weak phrases include *adequate*, *as appropriate*, *but not limited to* and *as a minimum*.
- **Options** are those words that give the developer latitude in the implementation of the specification that contains them. This type of statement loosens the specification, reduces the acquirer's control over the final product, and establishes a basis for possible cost and schedule risks.
- **Incomplete** is the category of words and phrases that indicate that the specification of requirements is not fully developed. It also provides a basis for expansion or addition of new requirements at a later date.
- **TBD** indicates that necessary information has yet to be determined. **TBS** indicates that a required event has yet to be scheduled. *Not defined* and *not determined* are phrases that explicitly declare that a specification statement is incomplete. *But not limited to* and *as a minimum* are phrases that open the requirements specifications to future modifications or additions.

- **Directives** are words or phrases that indicate that the document contains examples or other illustrative information. Directives point to information that makes the specified requirements more understandable. The implication is the higher the number of total directives the more precisely the requirements are defined.
- **Compounds** indicate the number of objects containing compound and/or multiple imperatives.

Requirements Quality Tool Operation

RQT analyzes imperative text found in a DOORS formal module for the requirements quality factors described above and marks them for review. Appendix A contains a complete list of the imperative words and phrases the script scans for. The script displays its results as a numerical summary list along with a graphical bar chart. Script functions may be run on the entire module or a section thereof.

It is important to note that running this script does not replace the manual requirements verification and validation activities. This script should only support those activities. It should also be noted that there will be instances where the use of weak words is necessary, i.e. contract documents. In those cases, the requirements SME will be responsible for making the appropriate assessment as the final authority.

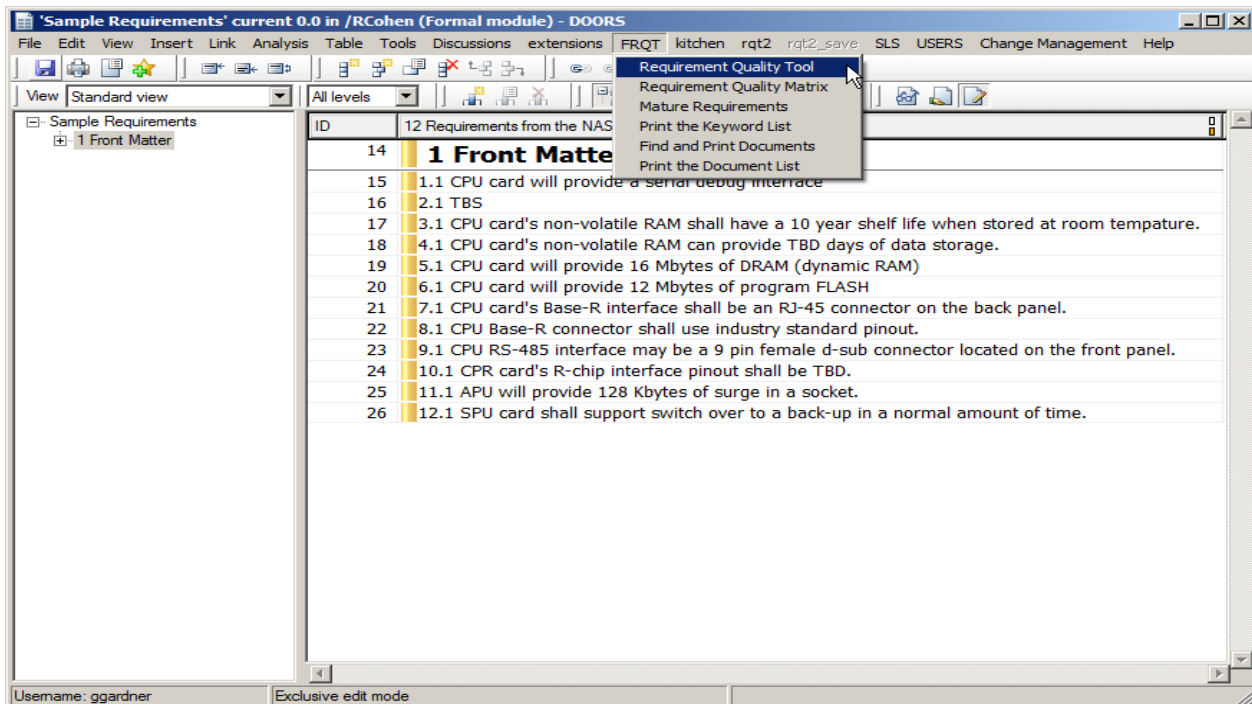


Figure 3: Opening RQT

Requirements Initializer

Upon establishing a requirements baseline, the requirements initializer should be run on the module of interest. The requirements initializer scans the DOORS objects within the module of

interest for those imperative words and phrases identified in Appendix A. It then adds a “Requirement” Attribute to the module and marks those objects containing an imperative as “*True*”. Objects without an imperative are marked “*False*” indicating the object is not a requirement. The number of objects with the “Requirement” attribute marked as “*True*” is then displayed in the results box.

Running the requirements initializer identifies those objects that are in fact mature requirements statements (MRS). A manual review should be performed to ensure all requirements have been identified. In some cases, an object may contain an imperative word or phrase but not be an actual MRS, and other cases where an MRS may not contain an imperative word or phrase listed in Appendix A resulting in misclassification. In either case, revisions may be required to prevent any confusion.

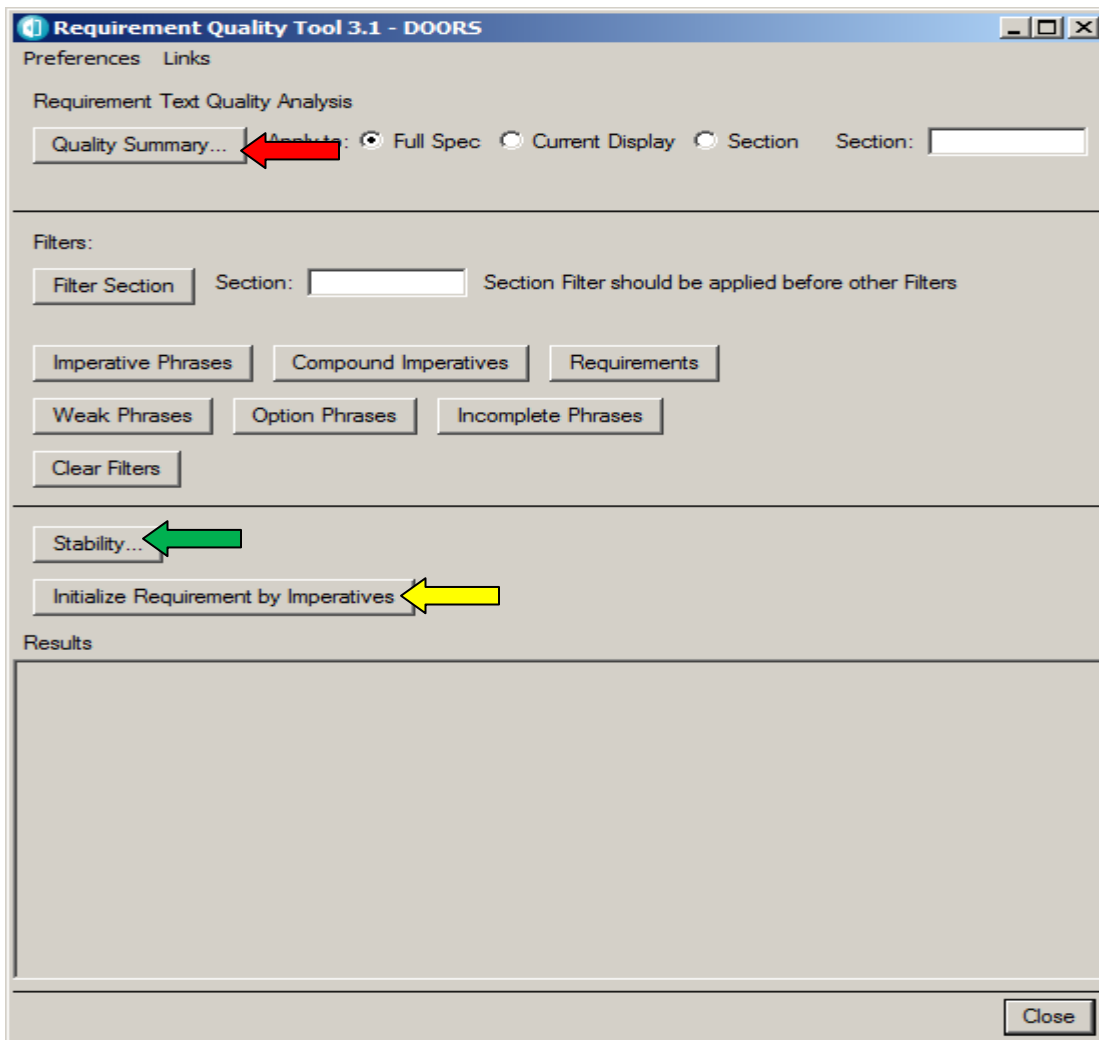


Figure 4: Running Requirements Initializer

How to Initialize a Requirements Set:

1. Open the formal module of interest.
2. Select the Requirements Quality Tool from the *FRQT* drop down menu as shown in Figure 3.
3. Click “Initialize Requirements by Imperatives” from the RQT dialog box as shown in Figure 4. (See yellow arrow) By selecting “initialize requirements by imperatives” the system adds the “Requirement” attribute, of type Boolean, to the module of interest.
4. If this is the first initializing requirements, select “Confirm” when prompted as shown in Figure 5.
5. Click “OK” when prompted as shown in Figure 6. This indicates that the attribute has been added to the module of interest.

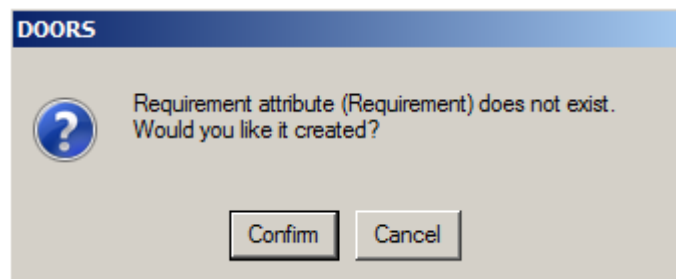


Figure 5: System Dialog to create ‘Requirement’ attribute

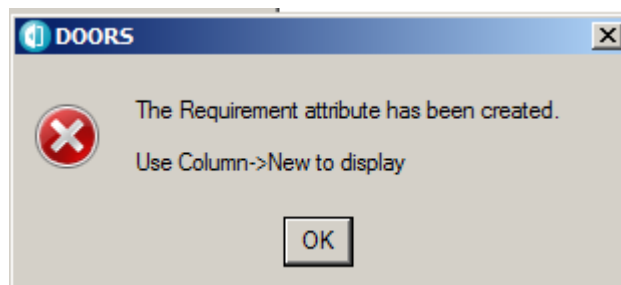


Figure 6: The system reports the Requirements attribute has been created

After the requirements have been initialized, the number of potential requirements found and flagged are displayed in the RQT Results box as shown in Figure 7. This shows the number of DOORS objects with a “Requirement” attribute value set to *True*.

It should be noted that re-running the requirement initializer will only change requirements with a *False* requirement attribute value to *True*. It does not change objects with a *True* requirement attribute value to *False*. It is recommended that requirements that are extensively edited have their requirement attribute manually changed to false, so that it will be evaluated on a re-scan of the requirements set.

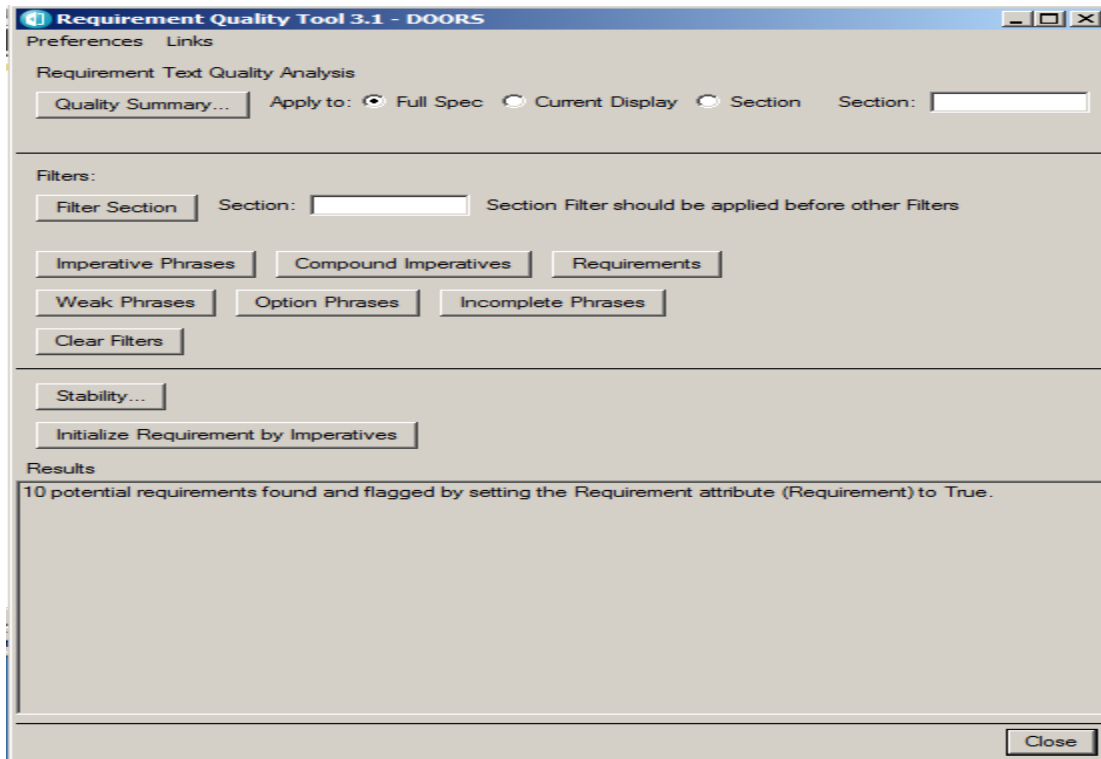


Figure 7: Requirements Initializer Results

In the example above, the initializer identified ten potential requirements for the selected requirements set. This number should be saved as it will be important in calculating the stability of the requirements set, discussed in detail in the next section.

Requirements Stability Calculator

Requirements stability saves the number of the requirements identified in a requirement baseline set for subsequent calculations. The stability function should be run each time a module baseline is established. The stability number should fall between 0 and 1. The higher the number, the more stable the requirements.

Stability Calculation

Stability is calculated relative to the current baseline. As requirements are added, deleted or changed, the stability decreases.

Variables

R_o : original number of requirements i.e. number of requirements in last baseline

R_n : number of requirements in the current set

R_a : number of requirements added since last baseline

R_c : number of requirements changed since last baseline**

R_d : number of requirements deleted since last baseline

** Note: This is not the same as the number of changes to the requirements set.

Formula:

$$\text{Stability} = R_o / (R_o + R_a + R_c + R_d)$$

** Note: The number of deleted requirements cannot be directly determined

$$R_n = R_o + R_a - R_d$$

$$\text{Therefore } R_d = R_o + R_a - R_n$$

Therefore substituting:

$$\text{Stability} = R_o / [2(R_o + R_a) + R_c - R_n]$$

How to Initialize Requirements Stability:

1. Continuing in the formal module of interest, reopen RQT.
2. Click “Stability” from the RQT dialog box as shown identified by the green arrow in Figure 4.
3. When prompted, click “OK” as shown in below. This saves the number of requirements.

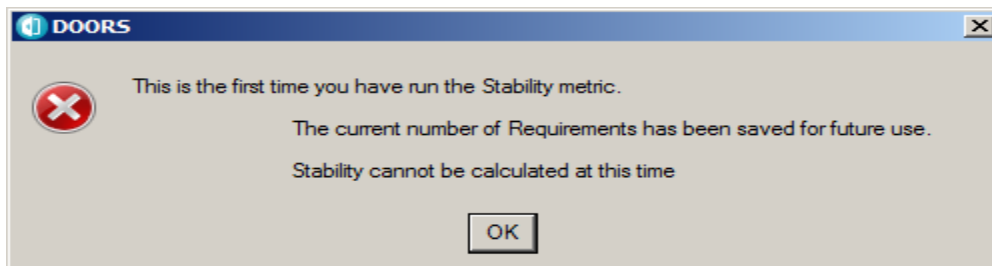


Figure 8: Saving the number of current requirements

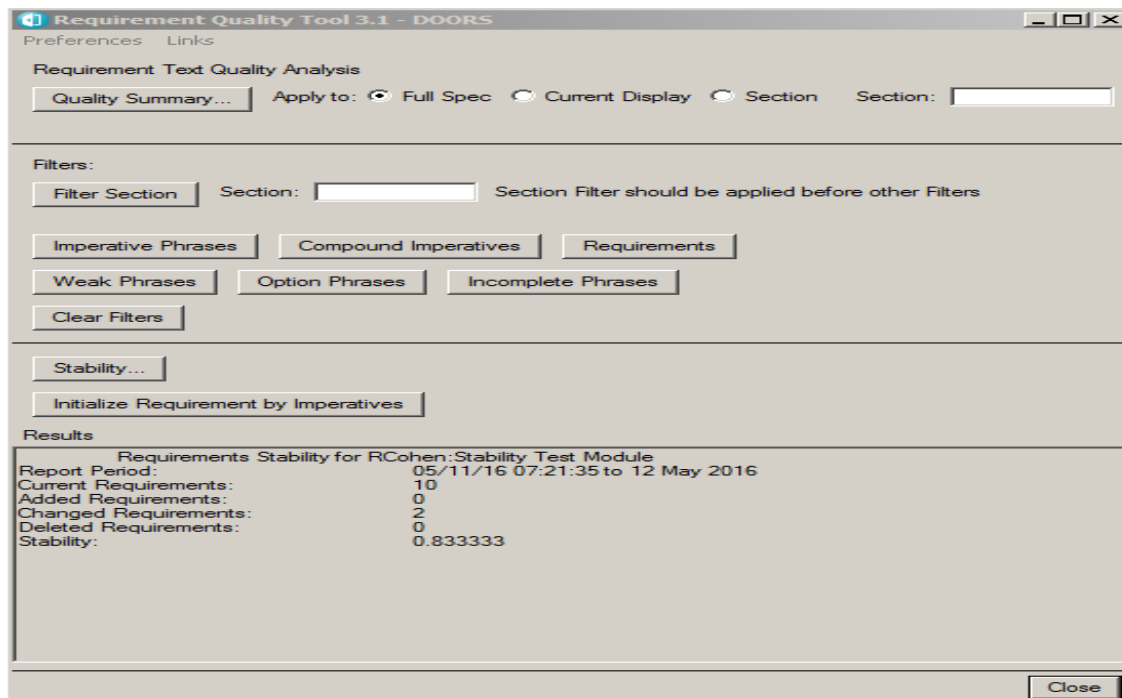


Figure 9: Typical requirement stability calculation screen

Figure 9 shows the requirements stability for this particular example. The stability was calculated as 0.833333, which is between 0 and 1 as expected. See Appendix B for a description of this operation and details for the stability calculator.

Recommendation:

Run the stability function after a new baseline has been established. This will allow the user to store a new R_o value used for subsequent calculations.

Requirements Quality Summary

The Quality Summary provides an itemized list and bar chart of the number of occurrences of keywords by type found in a module of interest. The quality summary should only be run after the requirements initializer and stability has been stored. The Keyword types include:

- Objects* -- the number of lines in a module of interest
- Imperatives* -- the number of objects that indicate a mandatory action
- Requirements* -- the number of objects that have imperatives
- Shalls Count* -- the number of objects containing shall
- Weak* -- the number of objects containing weak words or phrases
- Options* -- the number of objects containing option words or phrases
- Incomplete* -- the number of objects containing incomplete words or phrases
- Directives* -- the number of objects containing directives words or phrases
- Compound* -- the number of objects containing compound requirements
- Must Count* -- the number of objects containing must
- Will Count* -- the number of objects containing will
- Is Count* -- the number of objects containing is

How to run the Quality Summary:

1. Continuing in the formal module of interest, reopen RQT.
2. Click “Quality Summary” as shown in Figure 4 identified by the red arrow.

After running the Quality Summary, the summary statistics will appear in the RQT results dialog box as shown in Figure 10. The bar chart produced by running the summary will appear in a separate window, see Figure 11.

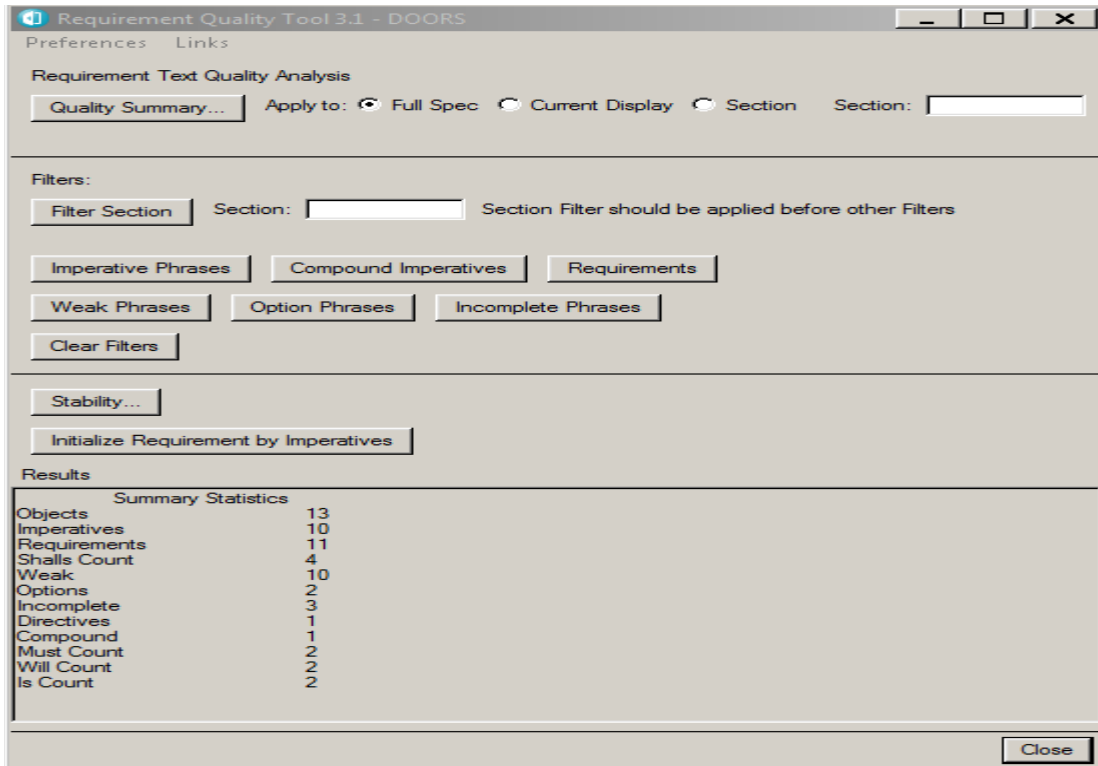


Figure 10: Quality Summary Statistics

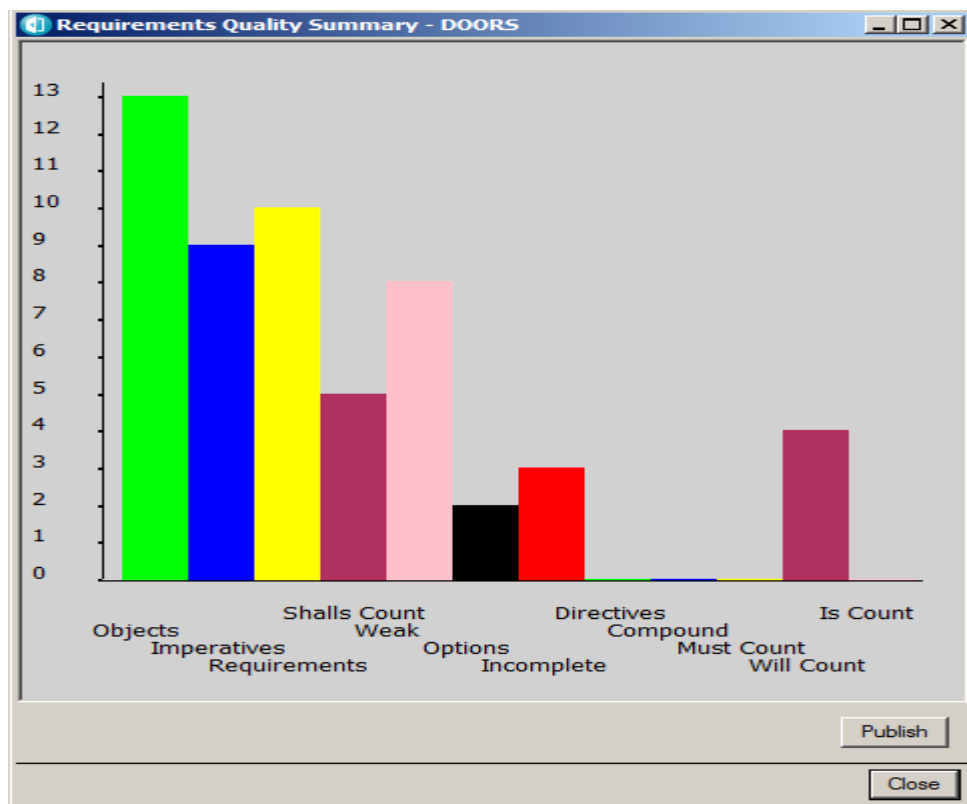


Figure 11: Quality Summary Bar Chart

The Requirements Quality Summary can be run on an entire module, the currently displayed view, or a particular section of a module. In the above example, the summary was run on the entire module. The following will demonstrate how to run the summary on a particular section of a module of interest.

How to run the Quality Summary on a Section:

1. Open the module of interest. For this example, a copy of the CATM-T requirements specification document was used.
2. Initialize the Requirements by imperatives. (See “How to Initialize a Requirements Set). As shown in Figure 12, 229 potential requirements were identified.
3. Select “Section” radio button and enter the section of interest. In this example, the quality summary is run only on Section 3.1.2.9. See Figure 13.
4. Click Quality Summary

As with running the Quality Summary on an entire module, the summary statistics for the particular section appear in the RQT results dialog box and the corresponding bar chart appears in a separate window. Please see Figures 14 and 15 respectively.

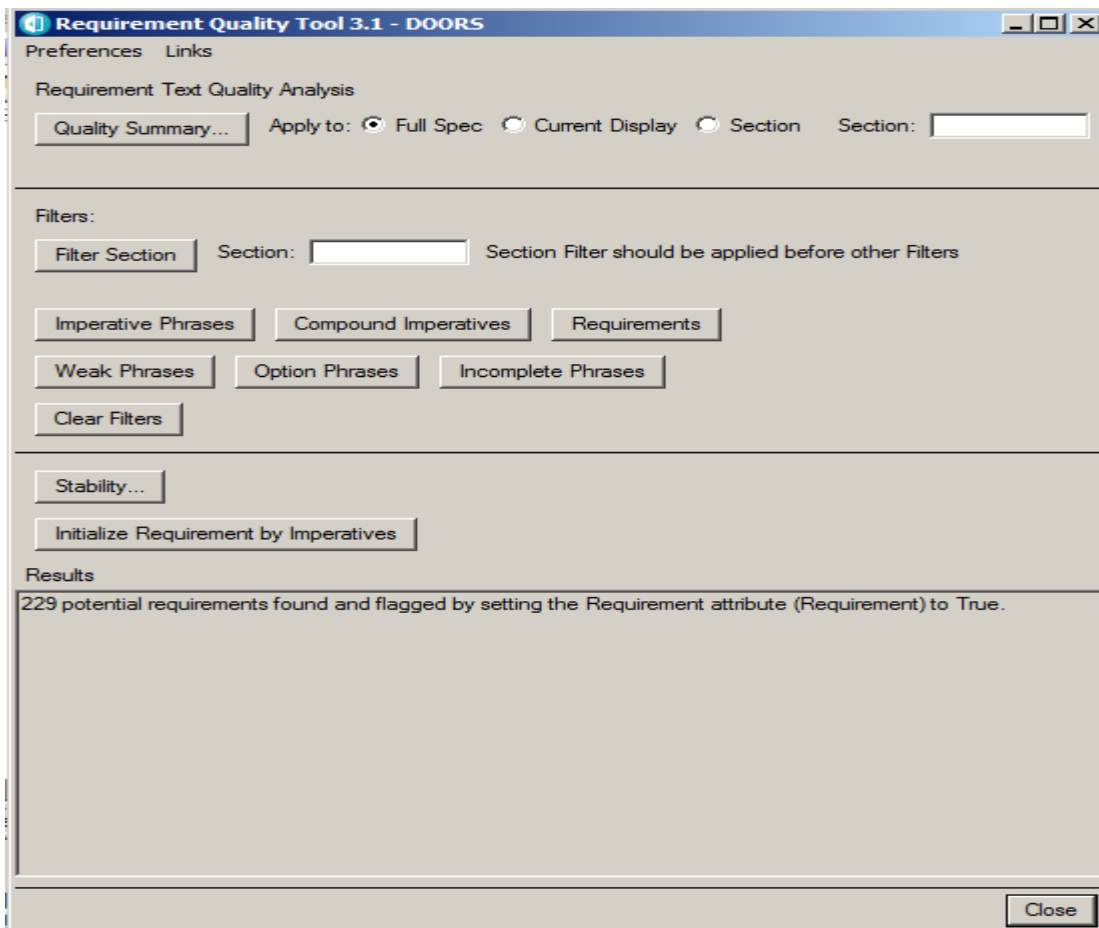


Figure 12: Initializing CATM-T requirements specification set

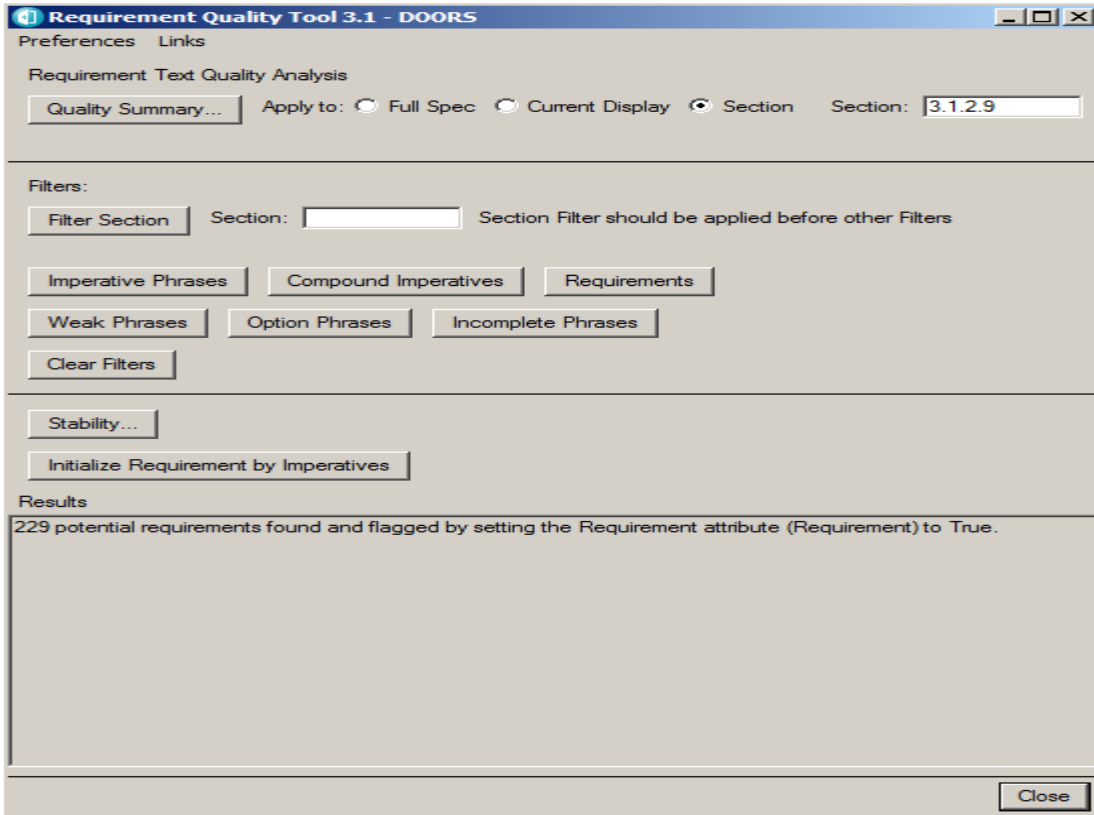


Figure 13: Applying Quality Summary to a particular section

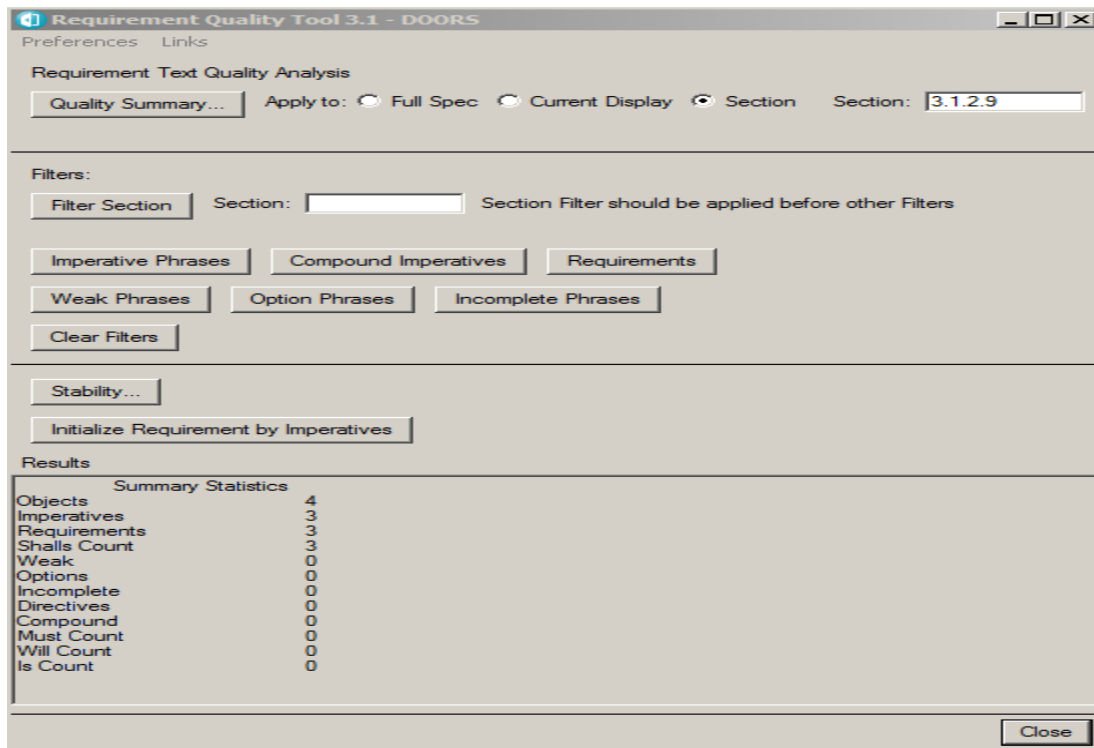


Figure 14: Quality Summary for section 3.1.2.9 of the CATM-T formal module

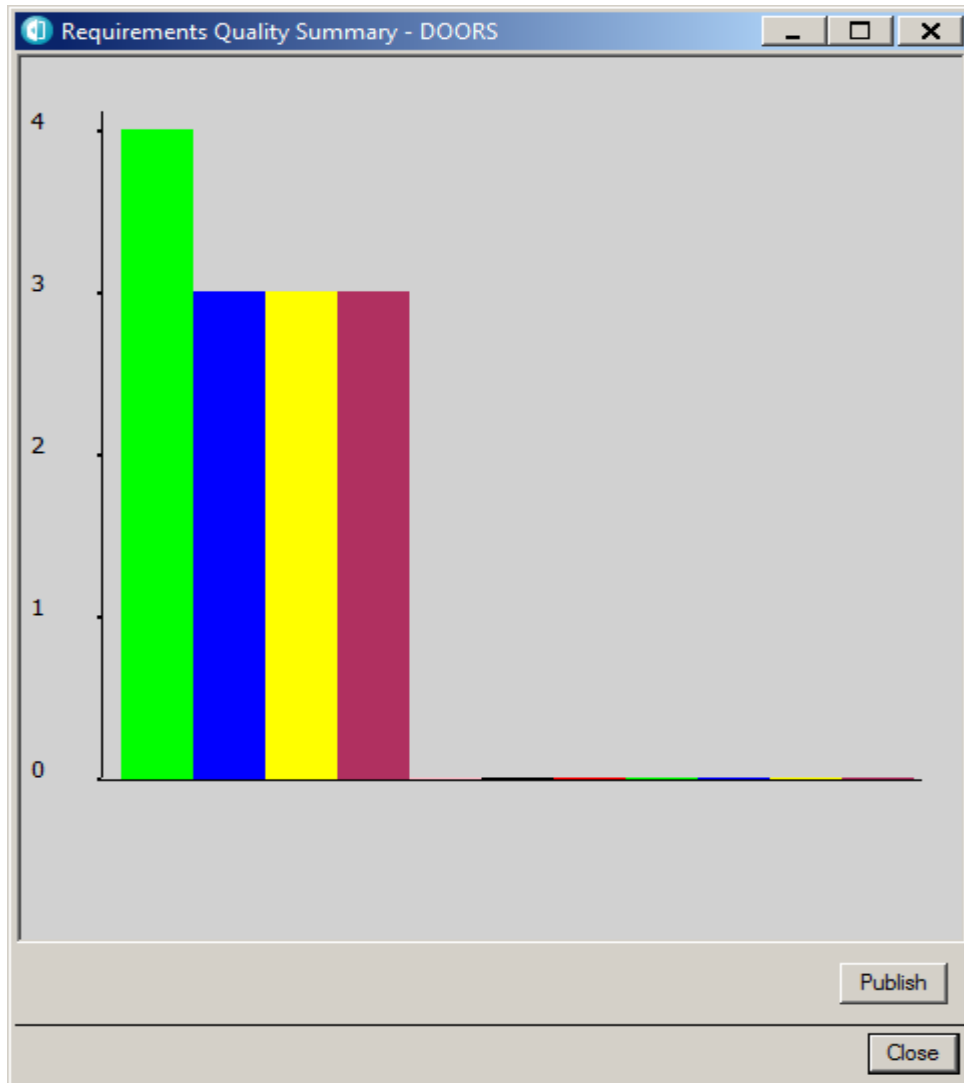


Figure 15: Quality Summary Bar Chart for Section 3.1.2.9 of CATM-T module

Filters

The Requirements Quality Tool has a filter feature which allows users to filter a module of interest by section, keyword or both. There are currently six keyword filters: Imperative Phrases, Compound Imperatives, Requirements, Weak Phrases, Option Phrases and Incomplete Phrases. This can be especially helpful when reviewing large documents with multiple sections and has been proven to be more efficient than a traditional search and find.

How to Filter by Section:

1. Open the module of interest. For this example, a copy of the CATM-T requirements specification document was used.
2. Open RQT.
3. Enter Section of Interest under Filters. In this example, the filter is applied only to section 3.1.2.9. See Figure 16.

- Click “Filter Section”. The user should now only see Section 3.1.2.9 in their Module current view.

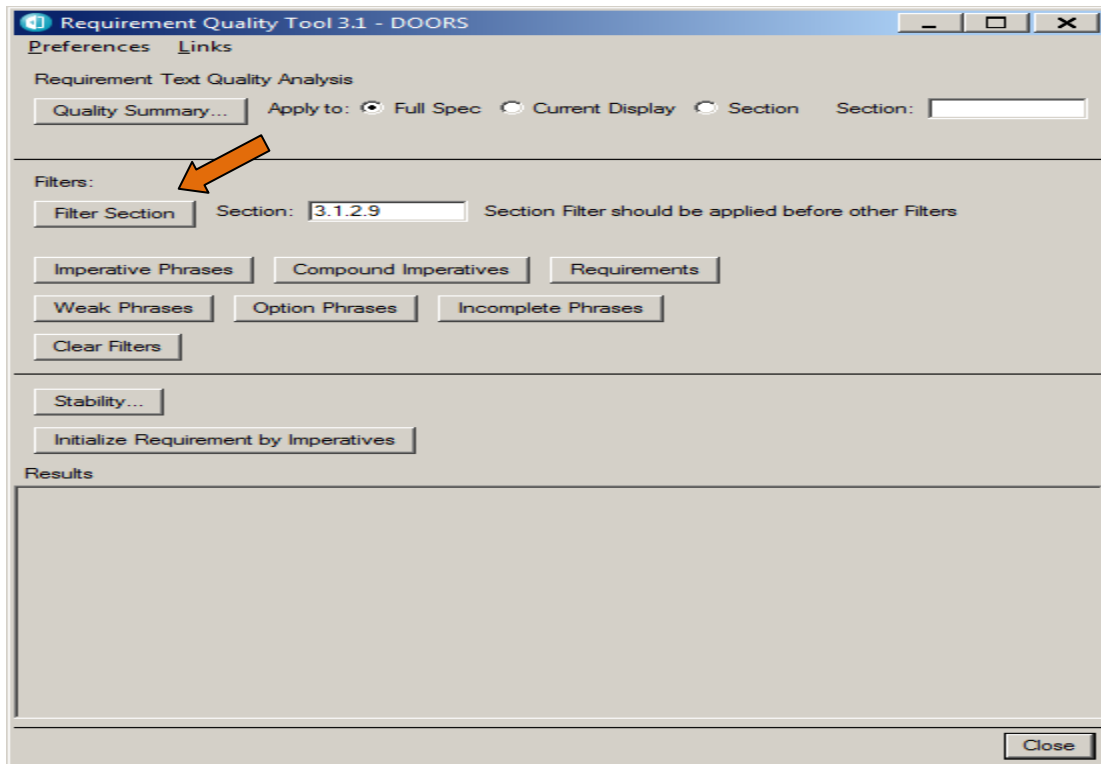


Figure 16: Filter by Section

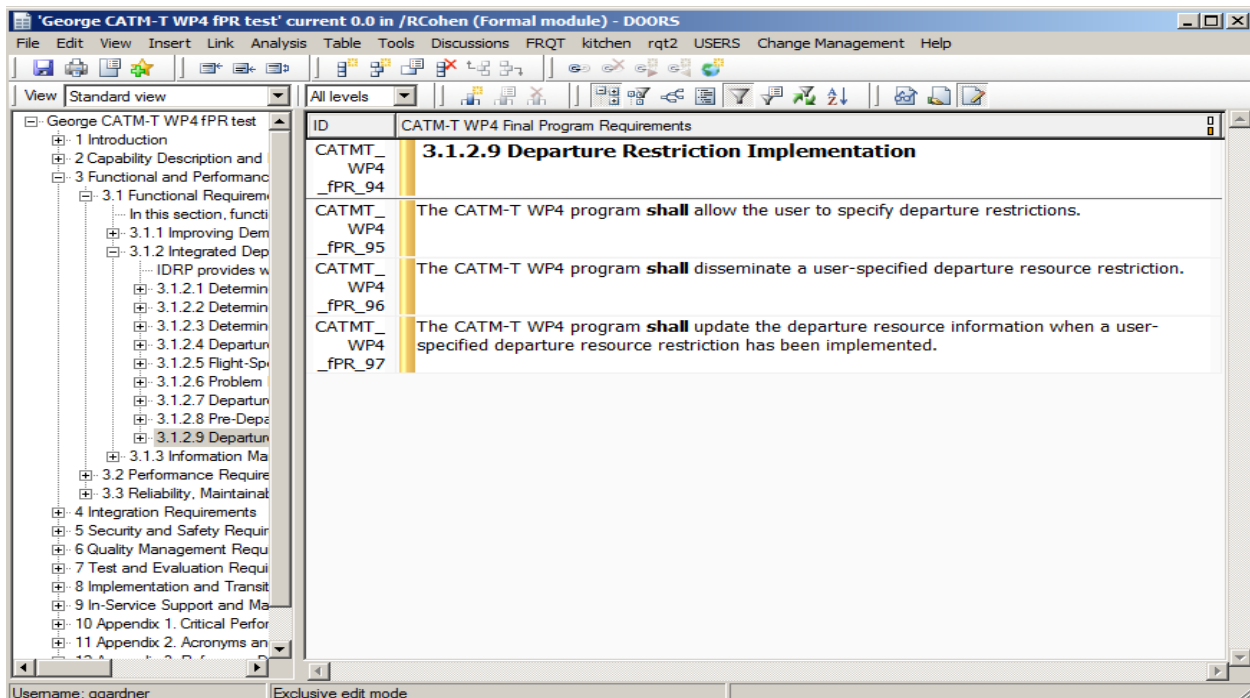


Figure 17: Section 3.1.2.9 for the CATM-T formal Module

Recall the Quality summary statistics for Section 3.1.2.9 of the CATM-T requirements specification shown in Figure 14. They align with the filtered section shown in Figure 17. There are four objects in this section: the section heading and three shall statements. Each shall statement contains an imperative identified in Appendix A and is thus a requirement. Hence, the shall, imperative, and requirement counts all have three.

**Always remember to select “Clear Filters” to return to the standard view.

How to Filter by Keyword:

1. Open the module of interest. For this example, the requirement set shown in Figure 3 was used
2. Open RQT.
3. Initialize the requirements set if this is the first time running this.
4. Click appropriate Keyword filter type. For this example, the module was filtered by “Incomplete Phrases”. A dialog box appears with the number of objects found after the filter has been applied as shown in Figure 18 and they are also displayed in the module’s current view as shown in Figure 19.

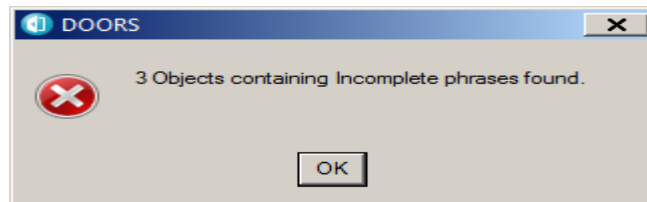


Figure 18: Keyword Filter Object count Dialog Box

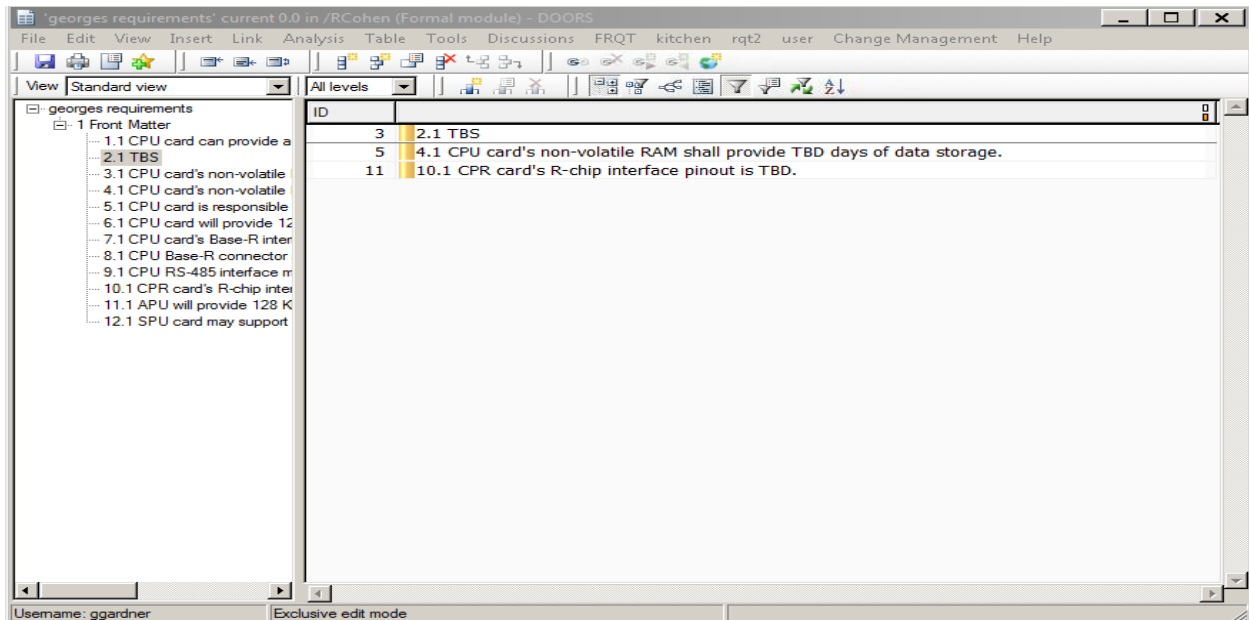


Figure 19: Incomplete Phrases Keyword Filter Results View

** Always remember to select “Clear Filters” to return to the standard view.

How to Filter by Section and Keyword:

1. Open the module of interest. For this example, a copy of the CATM-T requirements specification document was used.
2. Open RQT.
3. Enter Section of Interest under Filters. In this example, the filter is applied only to section 3.1.1.2.
4. Click “Filter Section”. Only Section 3.1.1.2 (Acquisition of Restriction Data) is displayed as shown in Figure 20.
5. Click appropriate keyword filter type. For this example, the filtered section was then filtered by “Options Phrases”. The system displays a message that 3 objects containing options are found. See Figure 21. The three options phrases are identified because of the three notes in Section 3.1.1.2 that contain the word “may”.

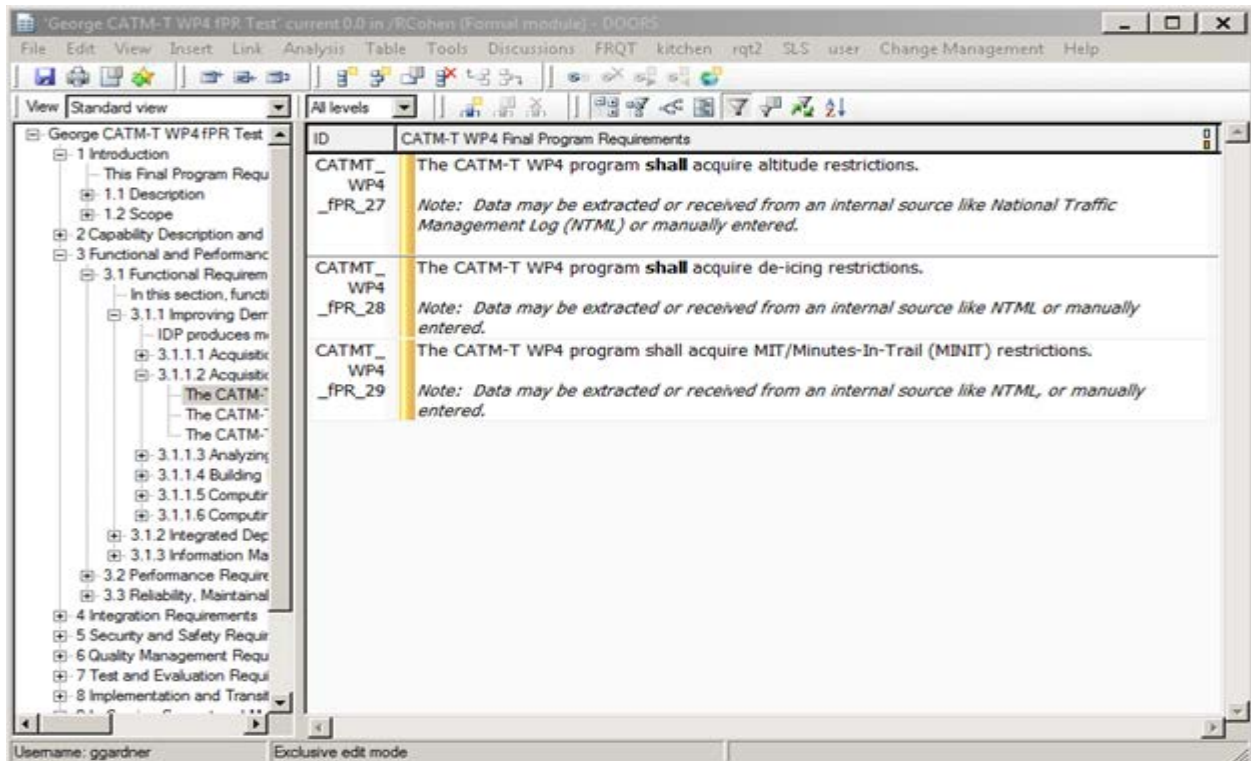


Figure 20: Section 3.1.1.2 of the CADM-T formal module

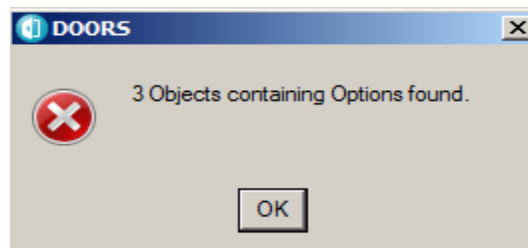


Figure 21: Dialog reporting number of Options phrases

** Always remember to select “Clear Filters” to return to the standard view.

Requirement Quality Matrix

The Requirement Quality Matrix analyzes a module of interest and displays the results of that analysis as object attributes. The attribute columns are automatically added to the current view of the module and are populated as applicable. The attribute columns are:

- Requirement Phrases
- Imperative Phrases
- Weak Phrases
- Reason for Weak Phrases
- Directive Phrases
- Option Phrase
- Compound Imperative Phrase
- Weak Phrase Replacement

The Requirement Quality Matrix should be run after the Requirement Quality Tool has been run.

How to Run the Requirements Quality Matrix

1. Open the formal Module of Interest
2. Select “Requirements Quality Matrix” from *FRQT* drop down menu as shown in Figure 22.

The results of the Requirements Quality Matrix are shown in Figure 23.

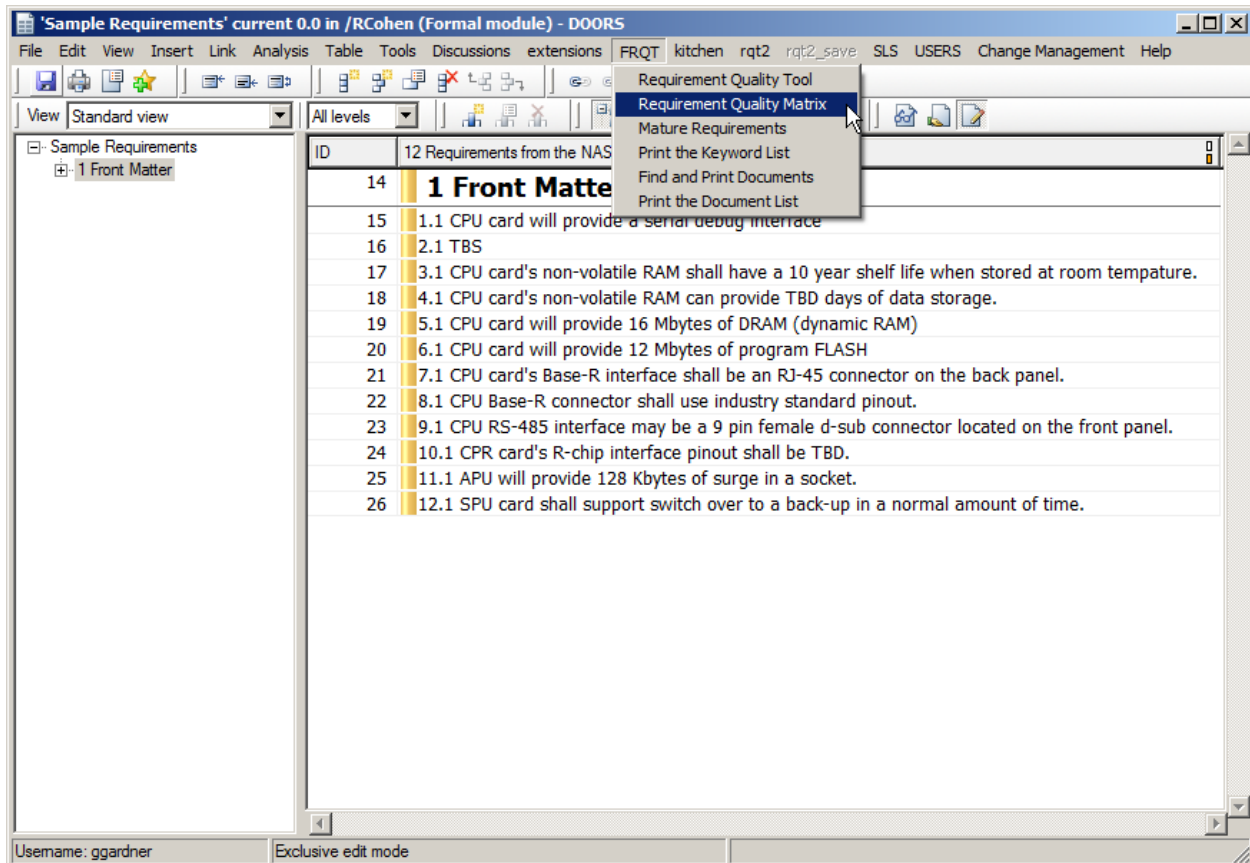


Figure 22: Opening the Requirements Quality Matrix

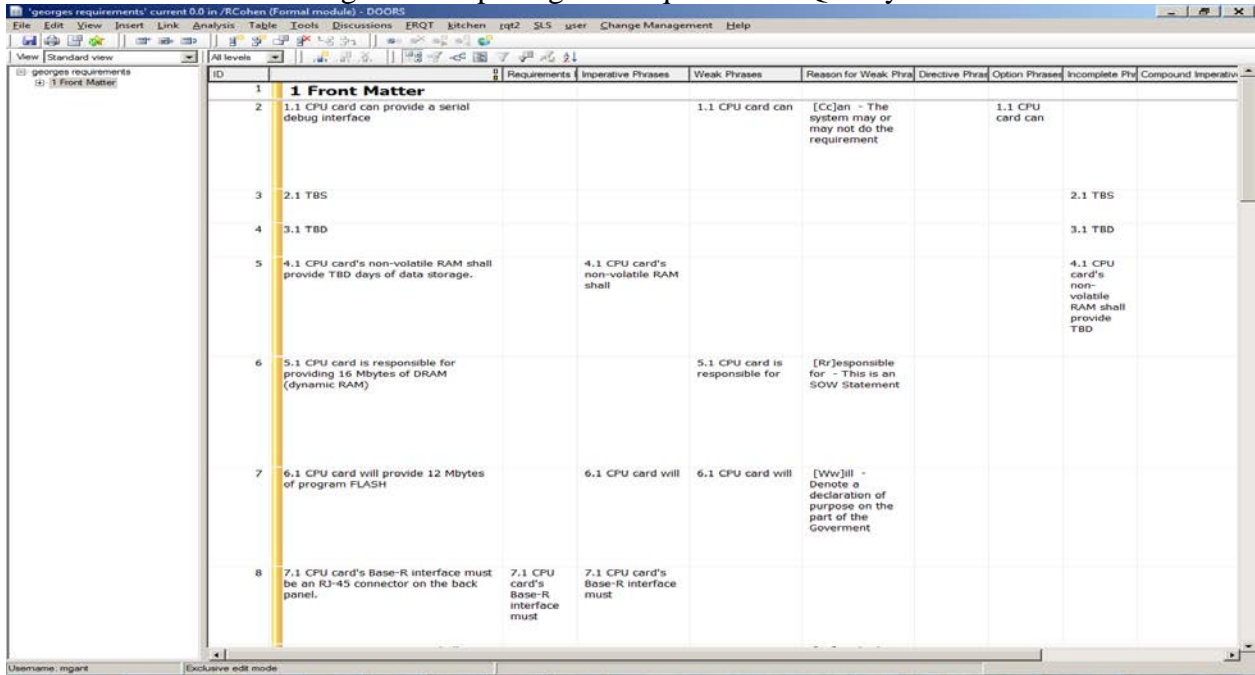


Figure 23: Requirements Quality Matrix Results View

Developing the Tool Output for a Requirements Set

The following package of commands allows a user to create an MS Word document containing the results of the Requirement Quality Summary and the Requirement Quality Matrix. This output can be used to support the requirements analysis activities of non-DOORS users.

How to Create a Requirements Analysis Output in MSWord:

1. Open the formal module of interest. Figure 24 depicts the example module of interest.

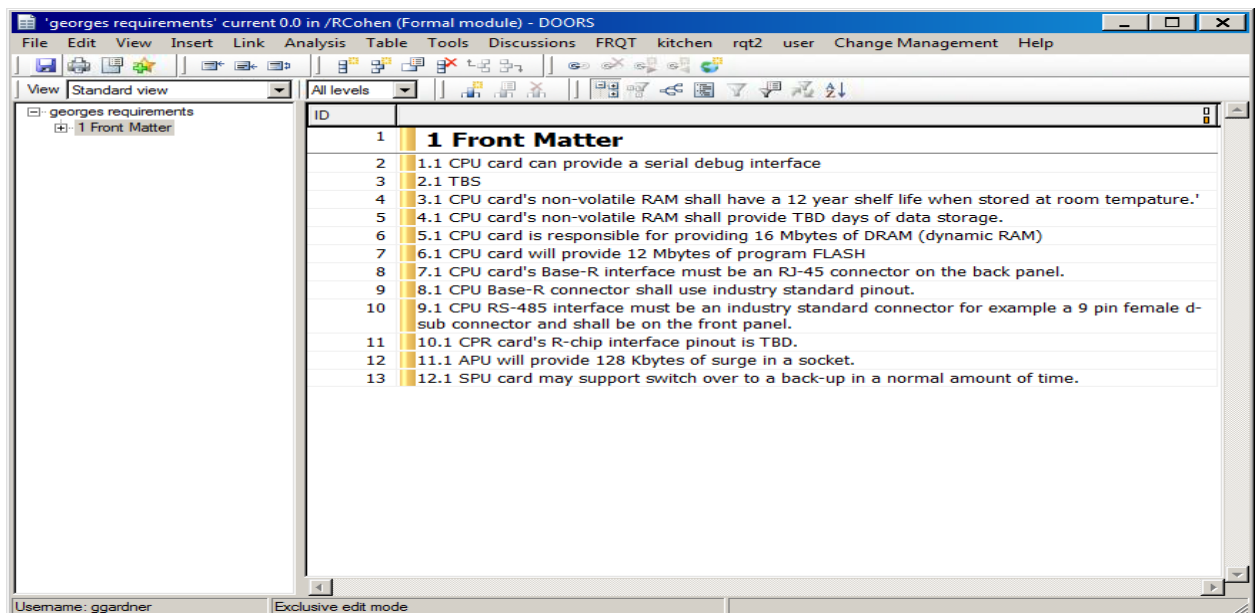


Figure 24: Sample Formal Module

2. Open the MS Word “Printing Template” located in the documents folder. The actual location of the “Printing Template” will vary based on the DOORS environment.
3. Delete the requirements summary graphic and the bar chart graphic from the template. These are place holders and will be replaced with the appropriate corresponding information for the module of the interest.
4. In the module of interest, open RQT. Shown in Figure 25.

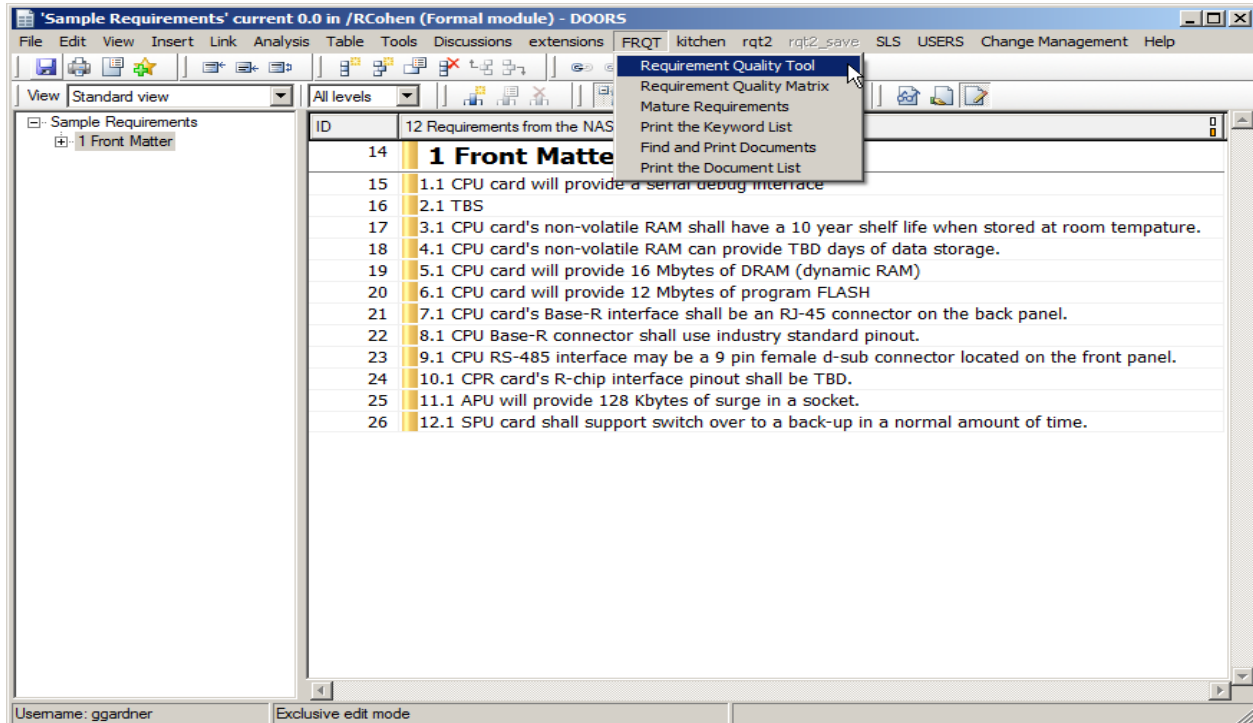


Figure 25: Selecting RQT from Module of Interest

5. Initialize the requirements in the module of interest. (See “How to Initialize a Requirements Set”)
6. Run the Quality Summary on the full module of interest. (See “How to run the Quality Summary”. The results of the quality summary for this example are shown in Figures 26 and 27.
7. Copy and Paste the results of the quality summary Statistics in the template
 - a. Select the RQT active window with the quality summary statistics
 - b. Press ALT + Print Screen. This copies the active window.
 - c. Return to the printing template, Press Ctrl+V to paste the graphic.

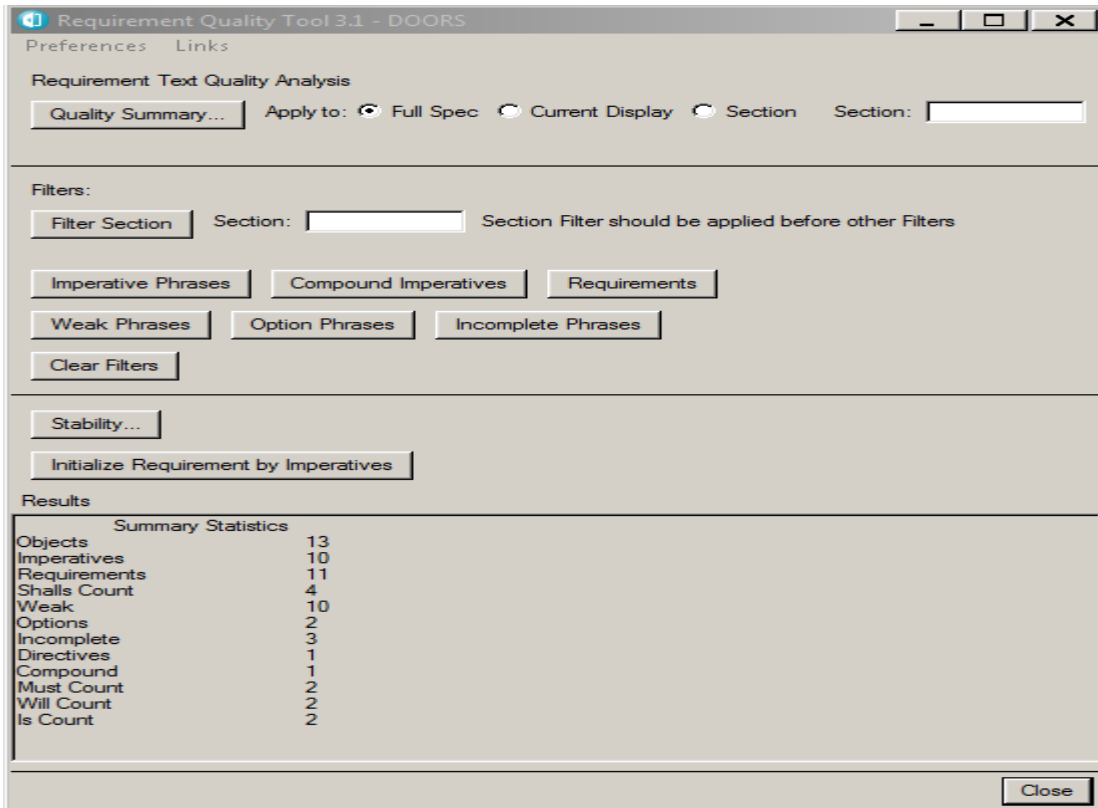


Figure 26: Quality Summary Statistics for Module of interest

8. Copy and Paste the results of the quality summary bar chart in the template
 - a. Select the Requirements Quality Summary active window
 - b. Press ALT + Print Screen. This copies the active window.
 - c. Return to the printing template, Press Ctrl+V to paste the graphic.
9. Go to page 3 of the printing template

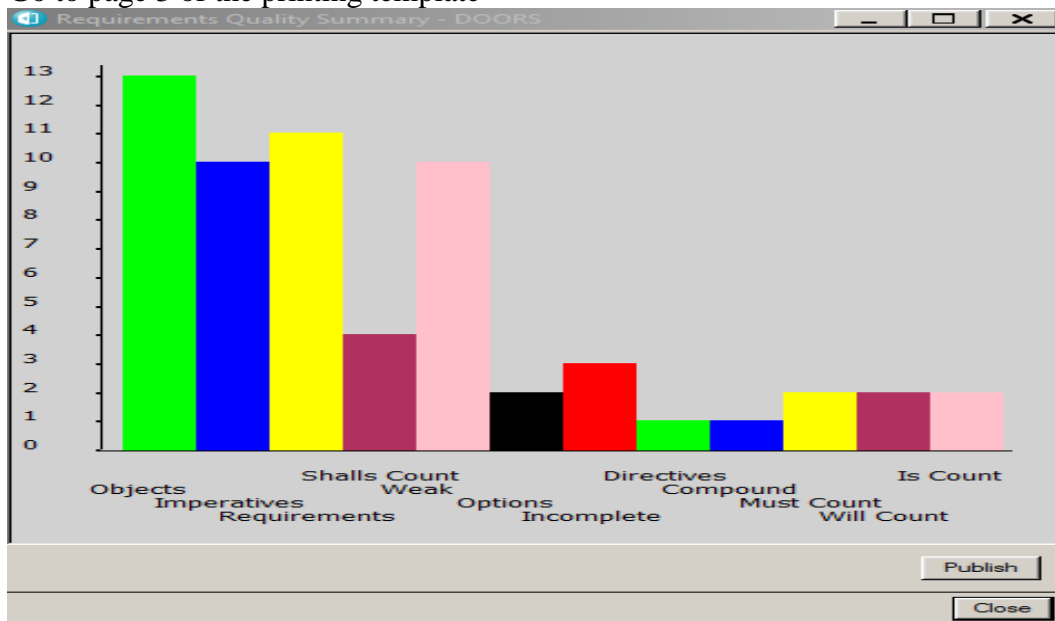


Figure 27: The Summary Statistics Bar Chart window

10. Delete the table. This is a place holder and will be replaced with the appropriate corresponding information for the module of the interest
11. Returning to the module of interest, run the Requirements Quality Matrix as shown in Figure 27. (See “How to Run the Requirements Quality Matrix”)
12. Export the results of running the Quality Requirements Matrix on the module of interest. See Figure 28.
 - a. Click File
 - b. Export
 - c. Rich Text Format

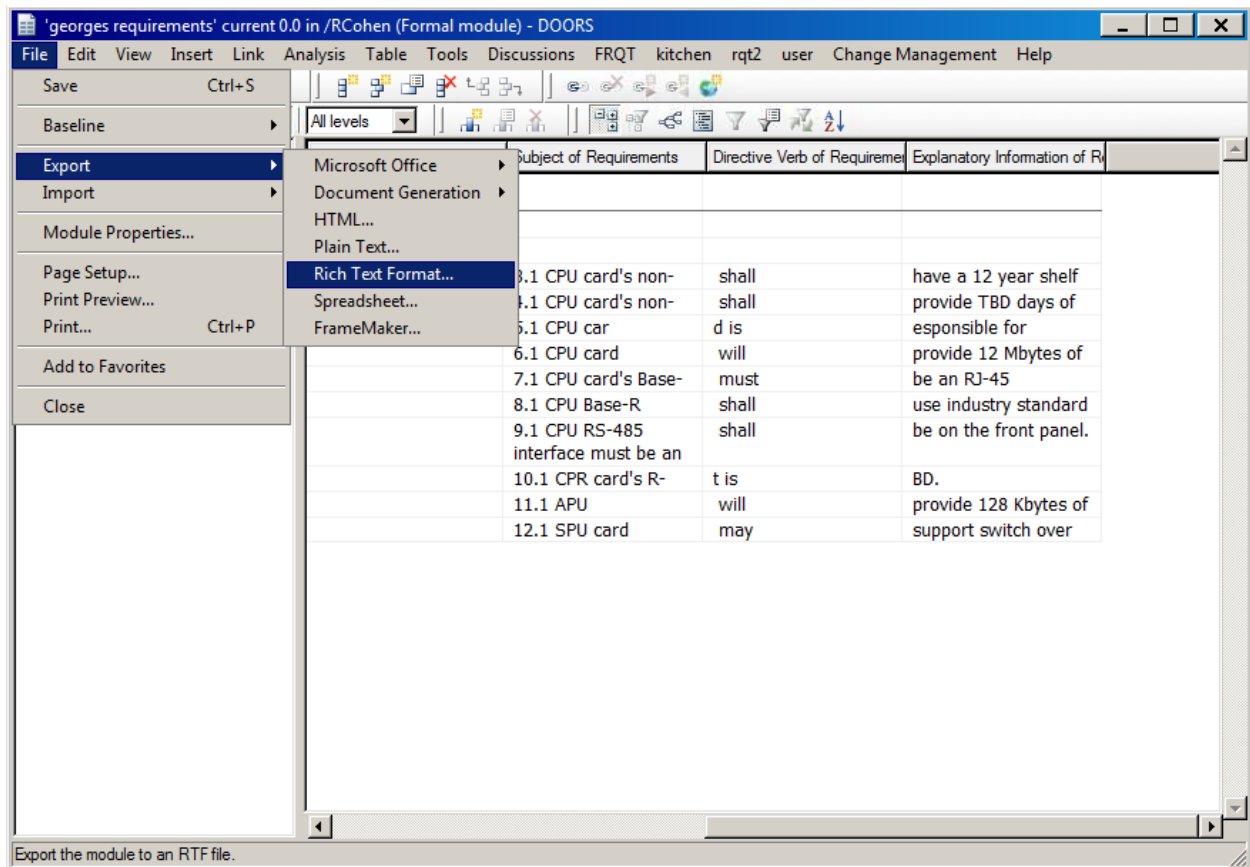


Figure 28: Requirements Quality Matrix

13. When the Export RTF Window appears, Figure 29, unclick “Include DOORS Heading Numbers”, Select “Table” from the Layout drop down menu, and enter the correct filename. When complete, the Export RTF window should look like Figure 30.

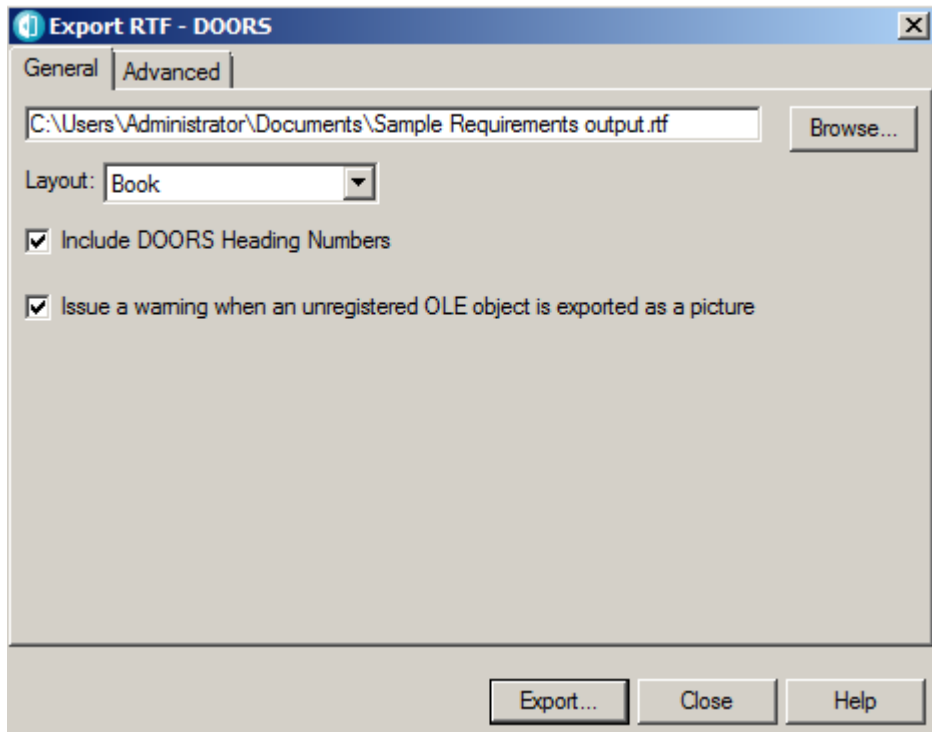


Figure 29: Export RTF window

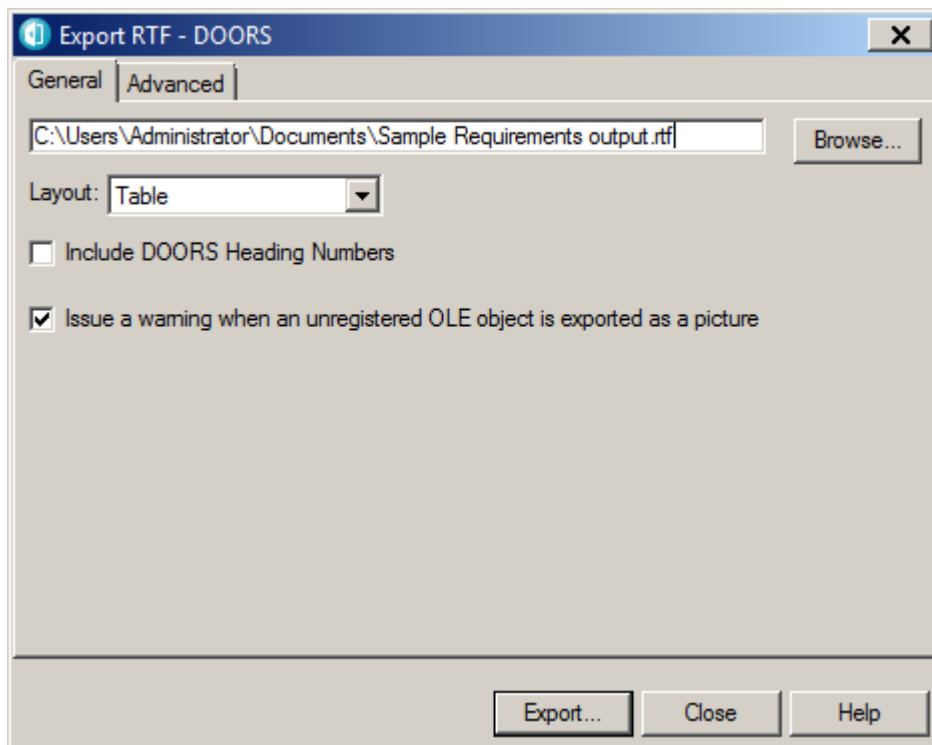


Figure 30: Export RTF window with changes

14. Click "Export". The exported RTF table is written to the file and location specified.
15. Open the RTF file.

16. Copy the table and paste it at the top of page 3 of the template. This will put the table into the printing template.
17. Select View; pick Draft
18. Delete any unnecessary columns
19. Adjust column widths to fit 11” by 14” paper in Landscape mode.
20. Save the template as a new name.
21. Print the file on the appropriate printer.

Appendix C contains a sample output of the printing template.

Mature Requirements

Mature Requirement Statements (MRS) are requirements expressed in complete sentences. Requirements, according to the FAA Systems Engineering Manual V1.1, are essential characteristics, conditions, or capabilities that shall be met or exceeded by a system or component. Additional information on MRS is available in the FAA Systems Engineering Manual V1.1.

Mature Requirement Statements take the form *Subject-Verb-Explanatory Information*. The Mature Requirements tool creates mature requirements statements (MRS) for the objects in the module of interest. When run, it automatically adds five attribute columns to the current view of the module of interest and populates each column as applicable. The column attributes for the Mature Requirements tool are:

- Object Number
- Document Source
- Subject of Requirements
- Directive of Requirements
- Explanatory Information of Requirements

How to Generate Mature Requirements

1. Open the formal Module of interest.
2. From the **FRQT** drop down menu, select Mature Requirements. See Figure 31.

The result of running the Mature Requirements is displayed in Figure 32.

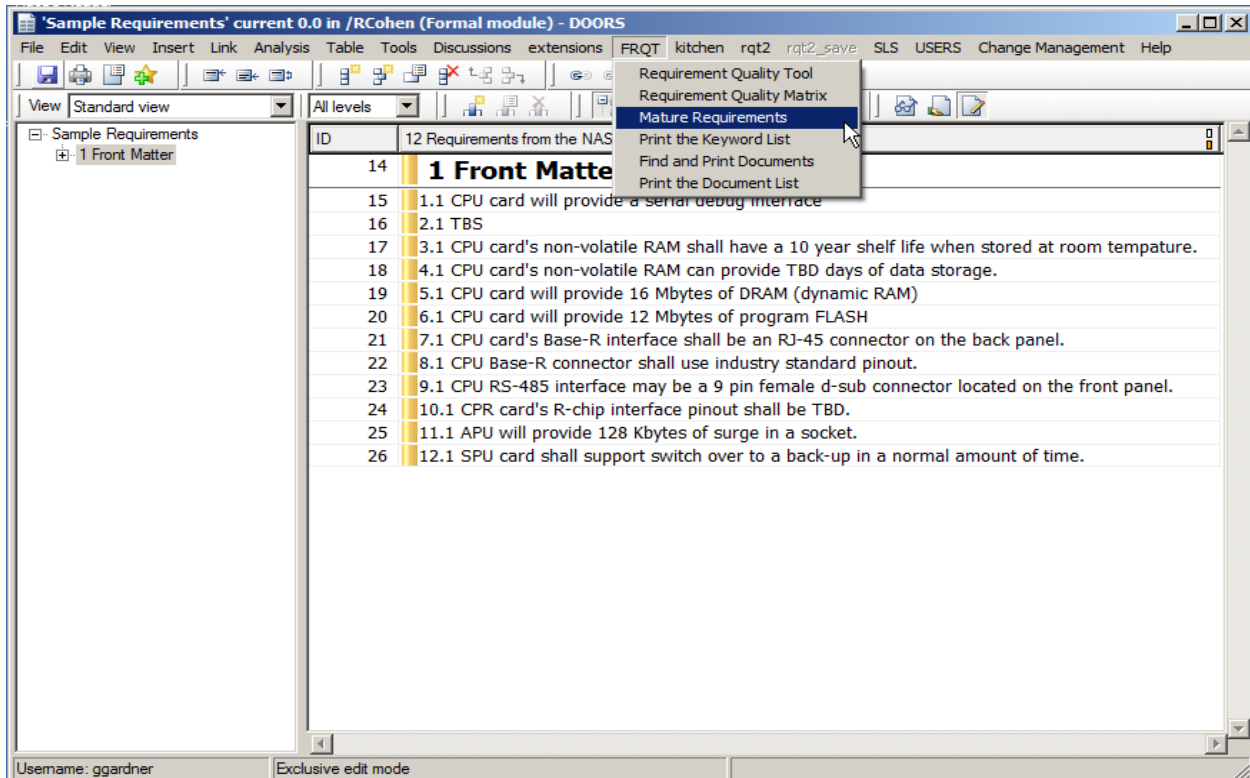


Figure 31: Opening Mature Requirements

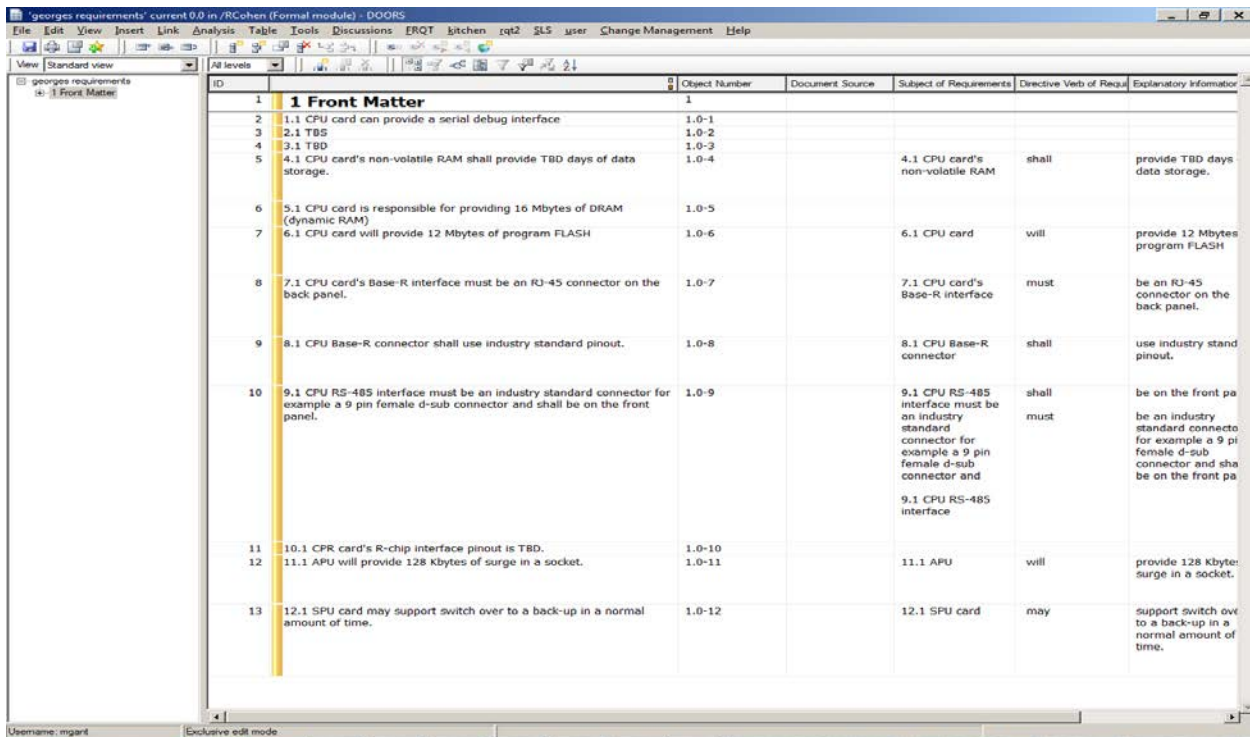


Figure 32: Mature Requirements Tool Output

Developing the Tool Output for a Requirements Set

The following package of commands allows a user to create an MS Word document containing the results of the Mature Requirements Tool. This output can be used to support the requirements analysis activities of non-DOORS users.

How to Create a Mature Requirements Output in MSWord:

1. Open Microsoft Word
2. In the module of interest, run the Mature Requirements Tool. (See “How to generate mature requirements”)
3. Export the results of running the Mature Requirements Tool. See Figure 33
 - a. Click File
 - b. Export
 - c. Rich Text Format

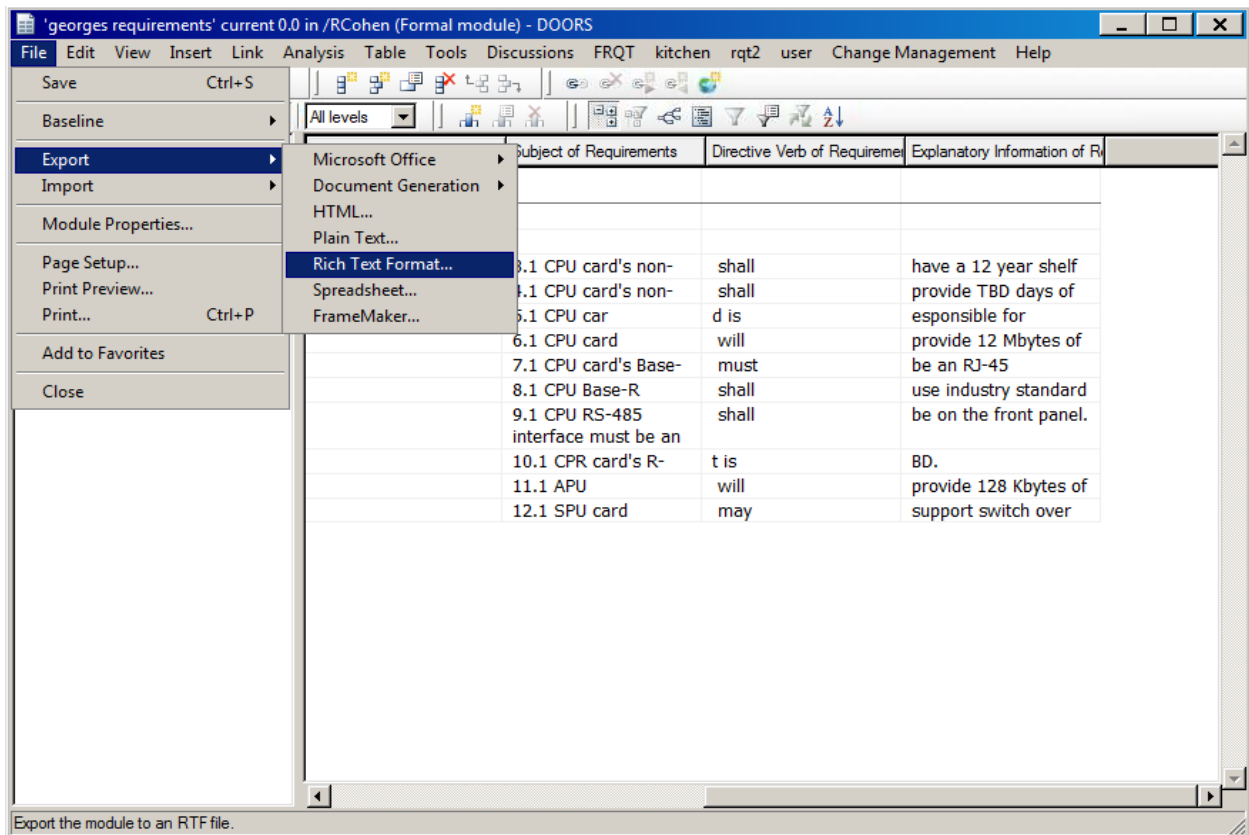


Figure 33: Mature Requirements Tool Results

4. When the Export RTF Window appears Figure 34,:
 - a. Select “Table” from the Layout drop down menu,
 - b. Unclick “Include DOORS Heading Numbers”
 - c. Click “Export”.

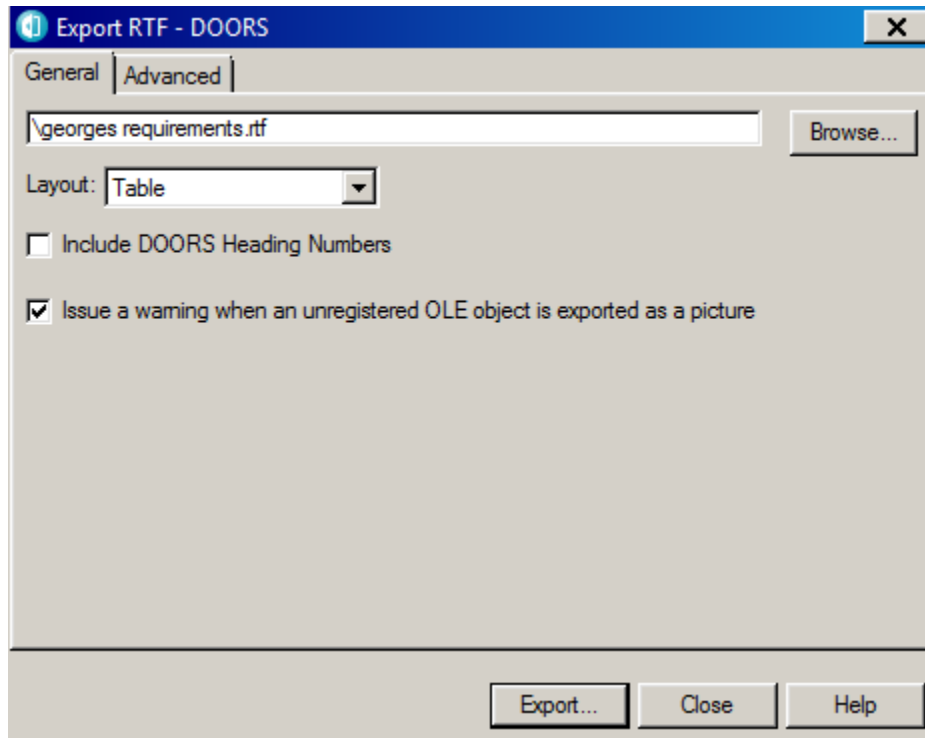


Figure 34: Export RTF dialog box

5. When the File Selector dialog box appears, see Figure 35:
 - a. Select appropriate file location
 - b. Enter the desired filename
 - c. Click Save

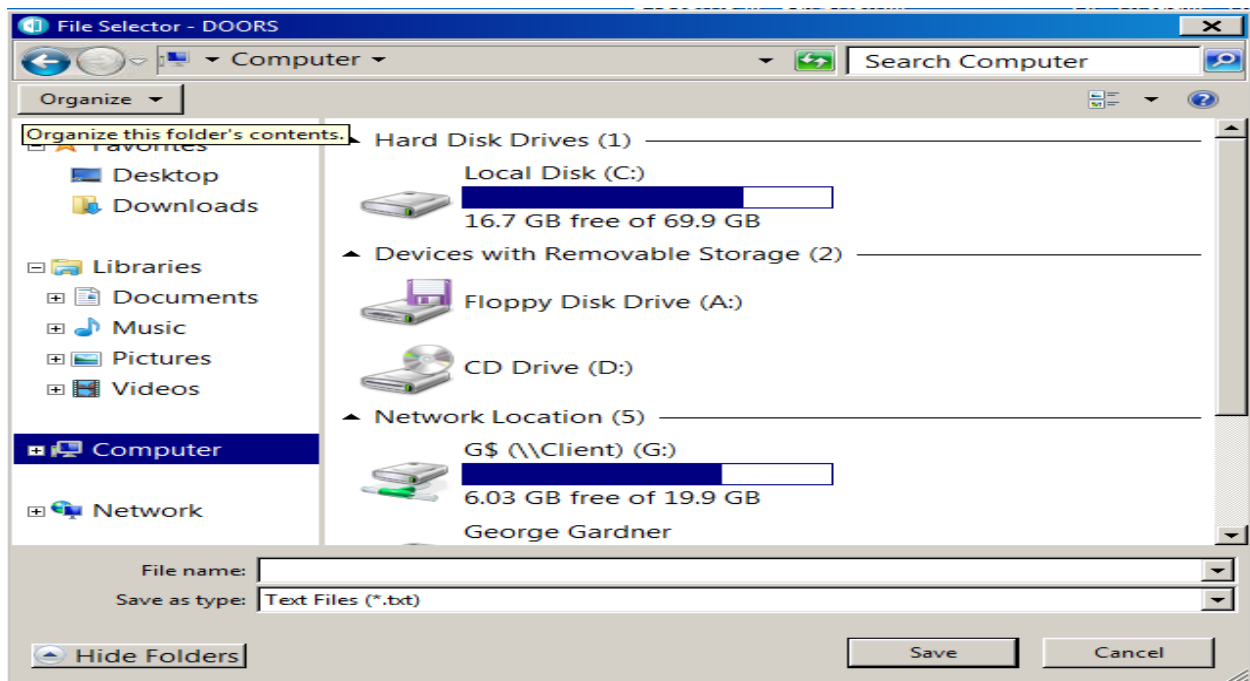


Figure 35: File selector dialog box

6. In Windows Explorer, double click on the filename. This opens the RTF File exported from DOORS in MS Word.
7. Select View; pick Draft
8. Delete any unnecessary columns
9. Adjust column widths to fit 8.5” by 11” paper in Landscape mode.
10. Print on the appropriate printer.

A sample Mature Requirement Specification output is attached at Appendix D.

Print the Keyword List

The Keyword list contains the requirement and imperative words used by the other scripts under the FRQT drop menu to perform their respective functions. This list should be reviewed regularly to ensure its relevance and updated as needed.

The “Print the Keyword List” tool displays the current keyword list.

How to Generate the Keyword List:

1. Open the module of interest.
2. Select “Print the Keyword List” under the FRQT drop down menu. See Figure 36.

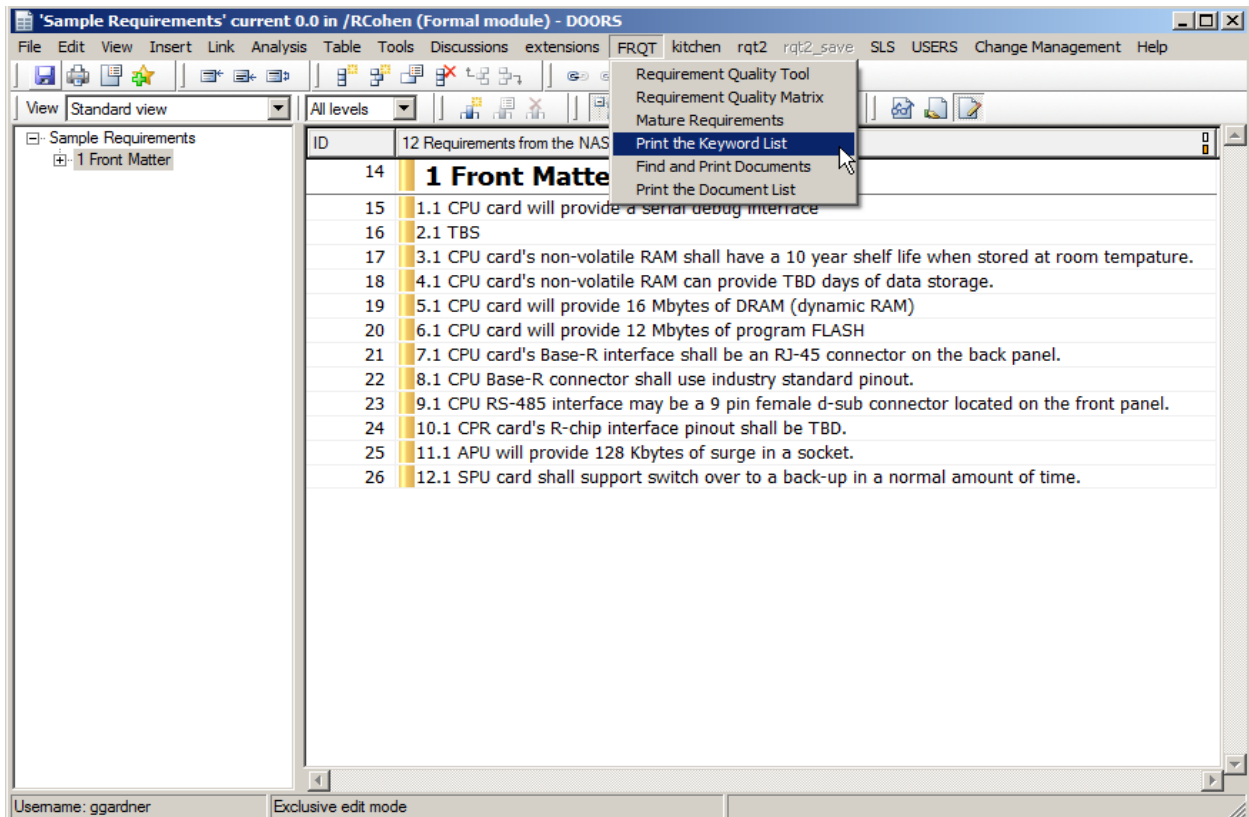


Figure 36: FRQT dropdown menu with Print the Keyword List selected

After running the “Print the Keyword List” tool, the DXL Interaction window appears with the keyword list in the DXL output box. See Figure 37 below.

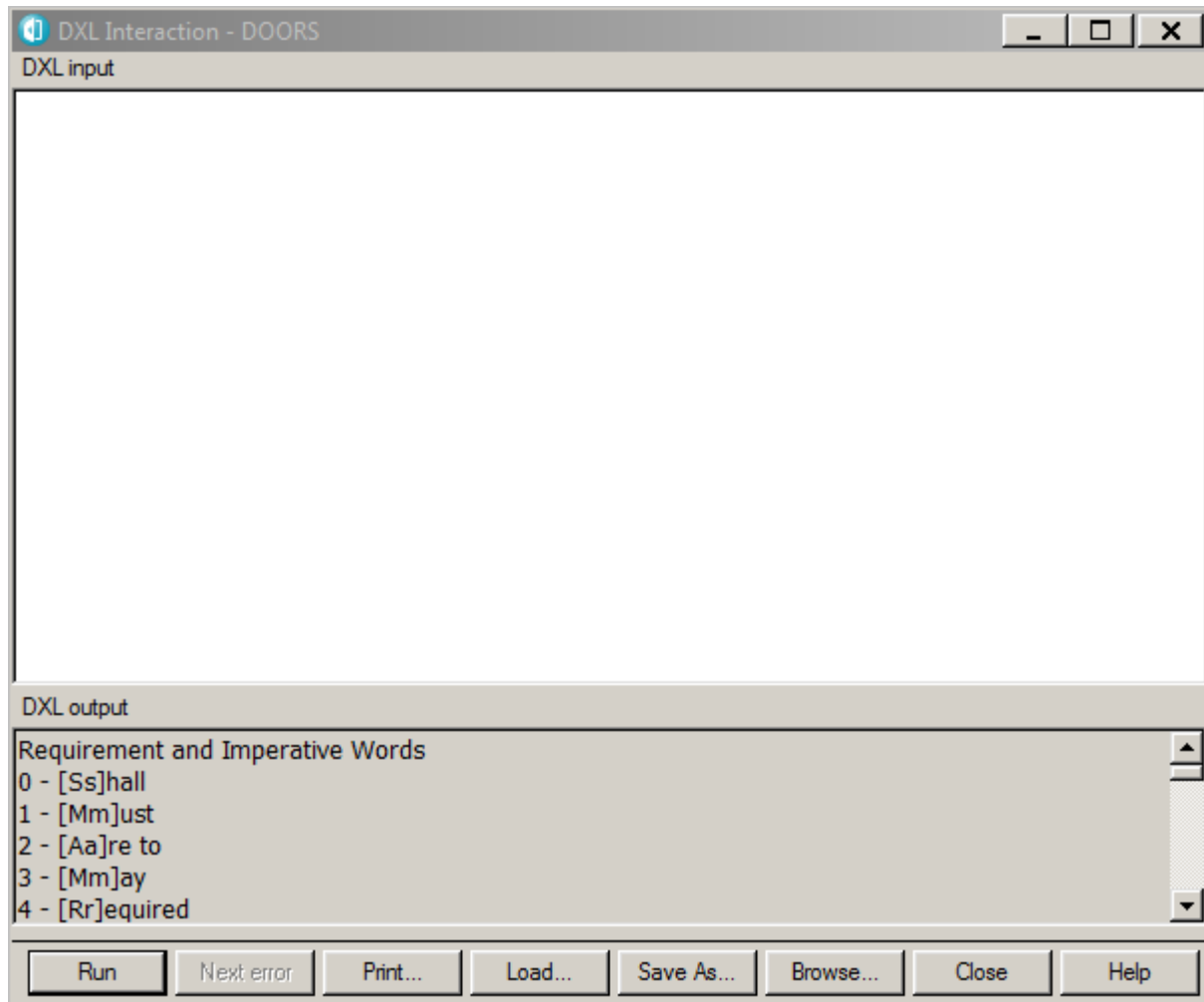


Figure 37: DXL Interaction Box keyword list showing in DXL output

Developing the Tool Output for a Keyword List

The following package of commands allows a user to create a text file containing the complete Keyword List. This output can be used to support the requirements analysis activities of non-DOORS users.

How to Save the Keyword List as a Text File:

1. Save the Keyword List from the DXL interaction dialog box. See Figure 38.
 - a. Click <ctrl-a> in the DXL output box to select all of the keyword outputs.
 - b. Right click in the grey area of the output box
 - c. Pick file
 - d. Save As

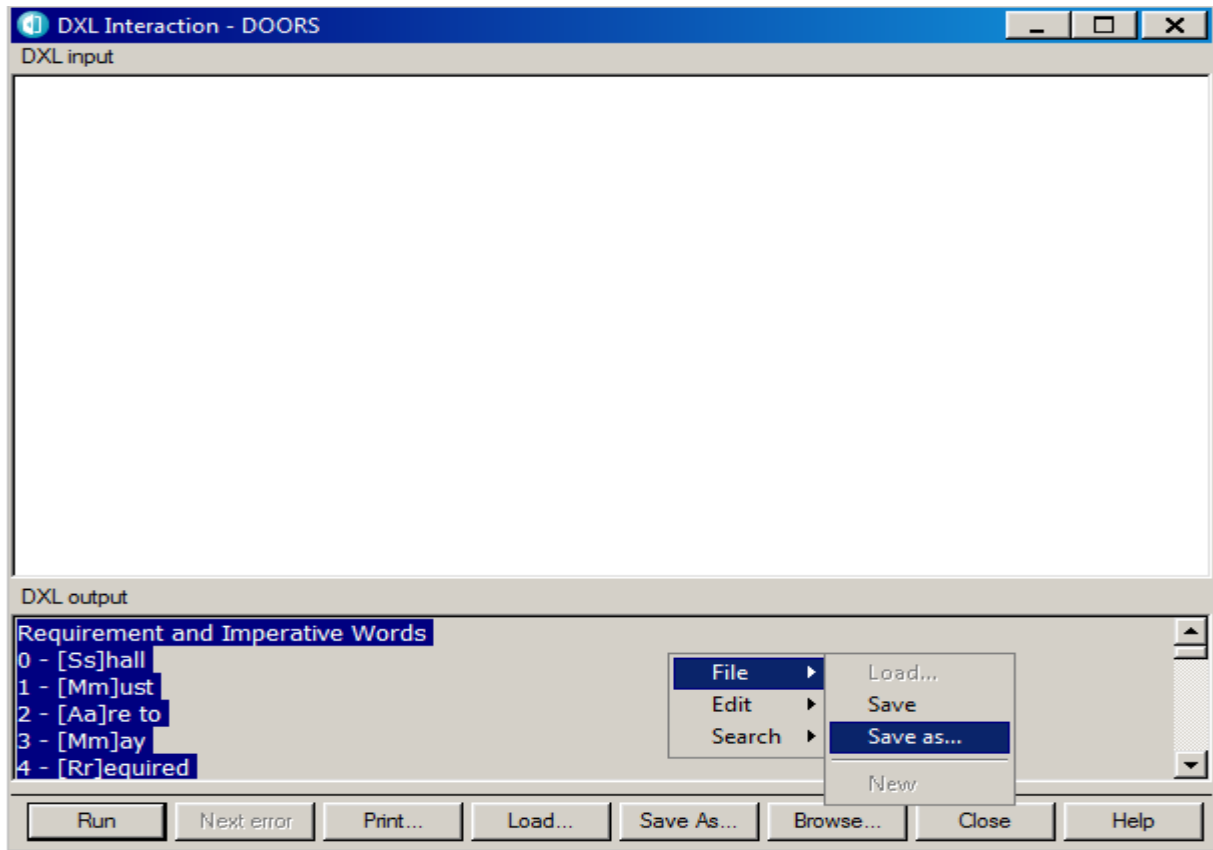


Figure 38: Dialog boxes for file output of selected keyword list

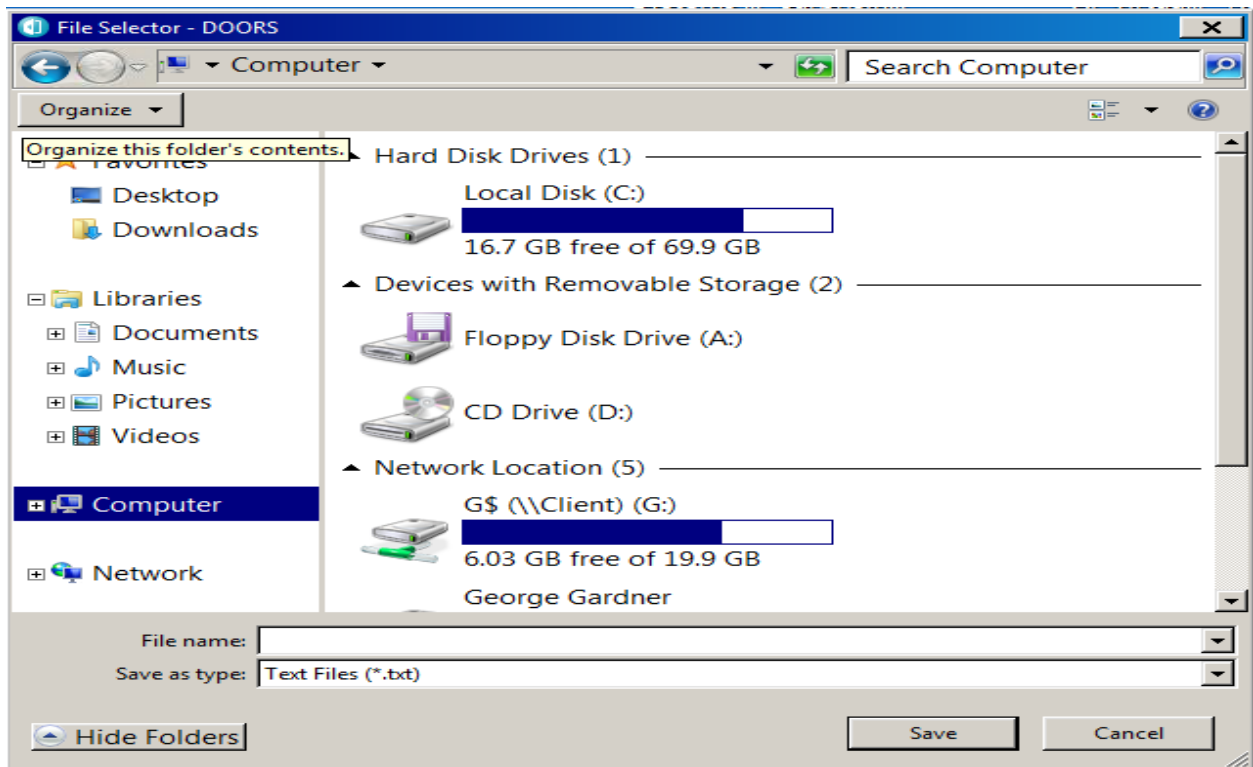


Figure 39: DOORS File Selector

2. Select the appropriate filename and directory. See Figure 39.
3. Select desired location and enter desired filename.
4. Click “Save” button.

The Keyword list output is in Appendix A.

Find and Print Documents

The “Find and Print Documents” analyzes the objects in a module of interest and identifies the references called out by that object. This is useful when checking the validity of the identified references. The script automatically adds column attributes for each reference type to the current view of the module of interest. The columns are populated as applicable. The column attributes for the Find and Print Documents are:

- Object Number
- FAA Specification
- FAA Standards
- Internet Engineering Task Force Requests for Comments (IETF RFCs)
- International Standards
- FAA Publications
- FAA Orders
- Other Documents

How to Find and Print a Document List:

1. Open the module of interest. For this example, a copy of the CATM-T requirements specification document was used.
2. Select “Find and Print Documents” from the FRQT drop down menu. See figure 40.

The results of running the Script are shown in Figure 41.

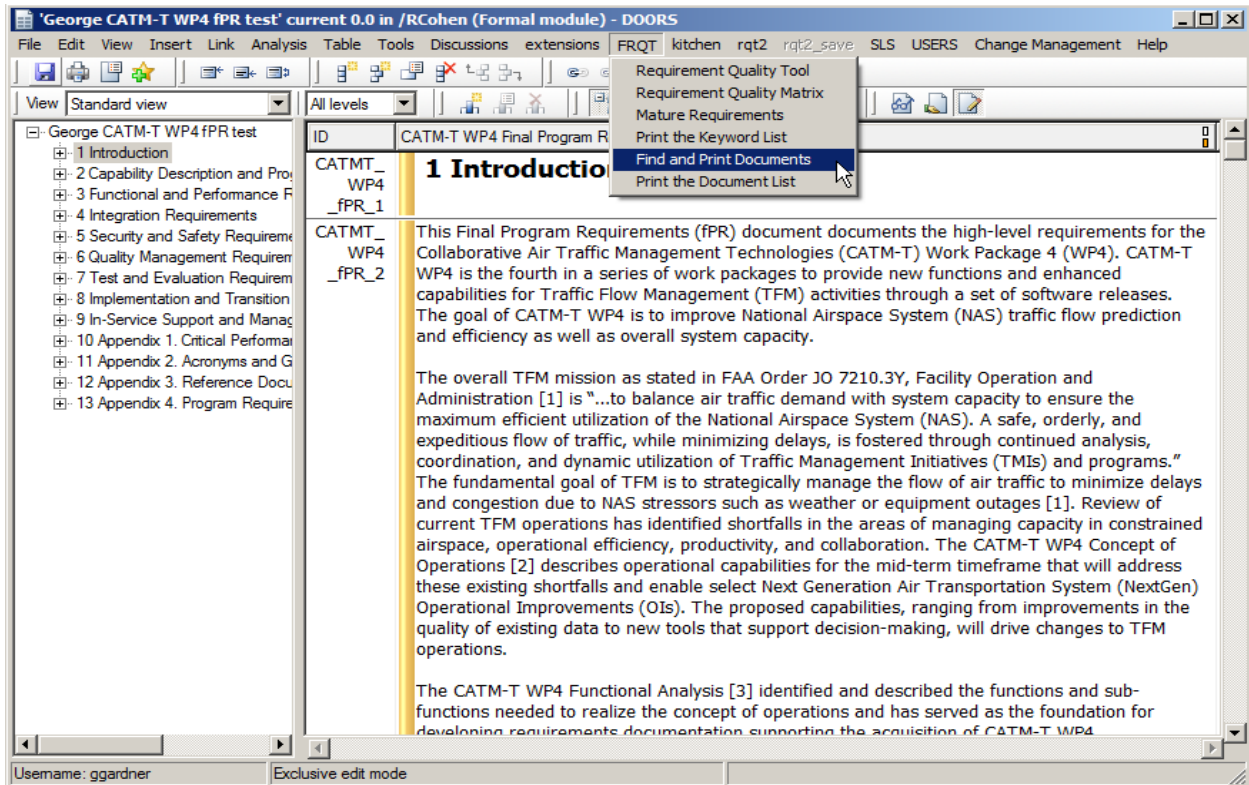


Figure 40: the FRQT dropdown menu with Find and Print Documents selected

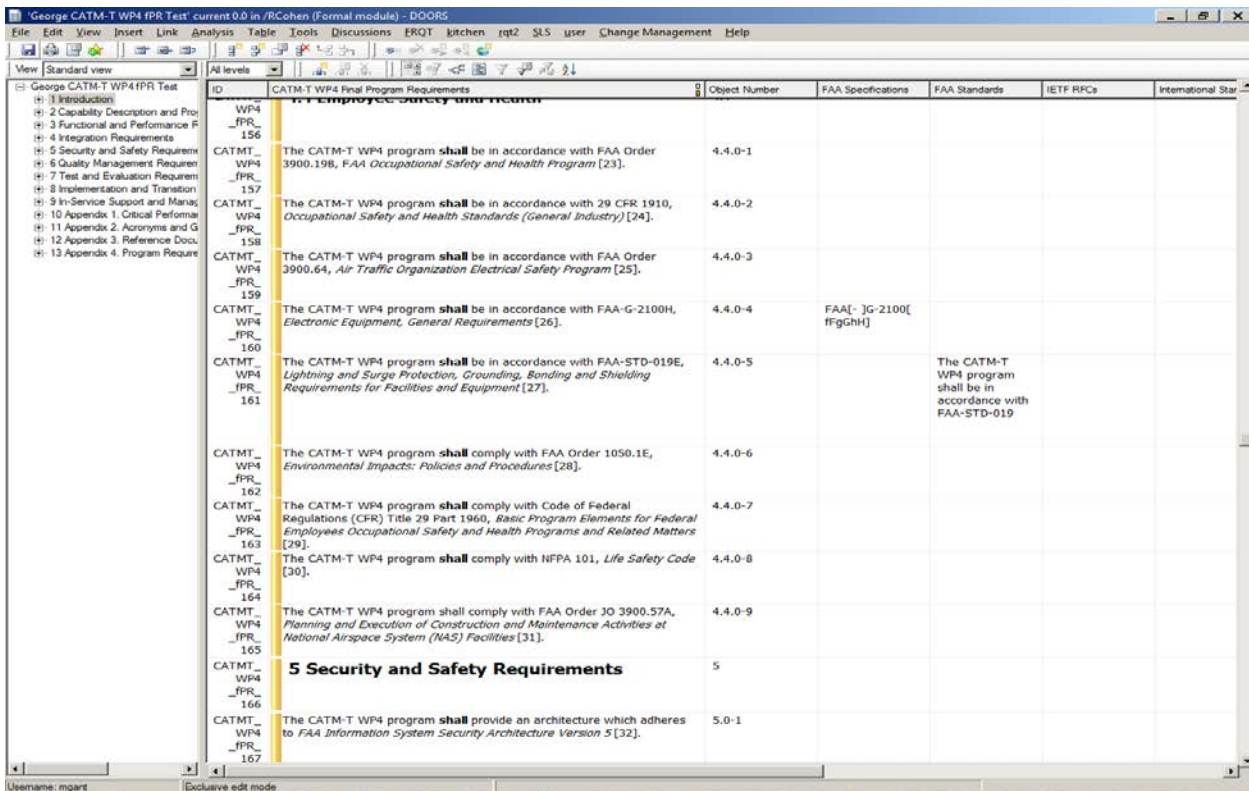


Figure 41: Find and Print Document Results

Developing the Tool Output for Find and Print Document List

The following package of commands allows a user to create an MS Word file containing the results of the “Find and Print Document” tool. This output can be used to support the requirements analysis activities of non-DOORS users.

How to Save the Find and Print Document Results in MS Word:

1. Open the module of interest.
2. Run “Find and Print Document”. (See “How to Find and Print Document”)
3. Export the result of running the Find and Print Document. See Figure 42.
 - a. Click File
 - b. Select Export
 - c. Select Rich Text Format

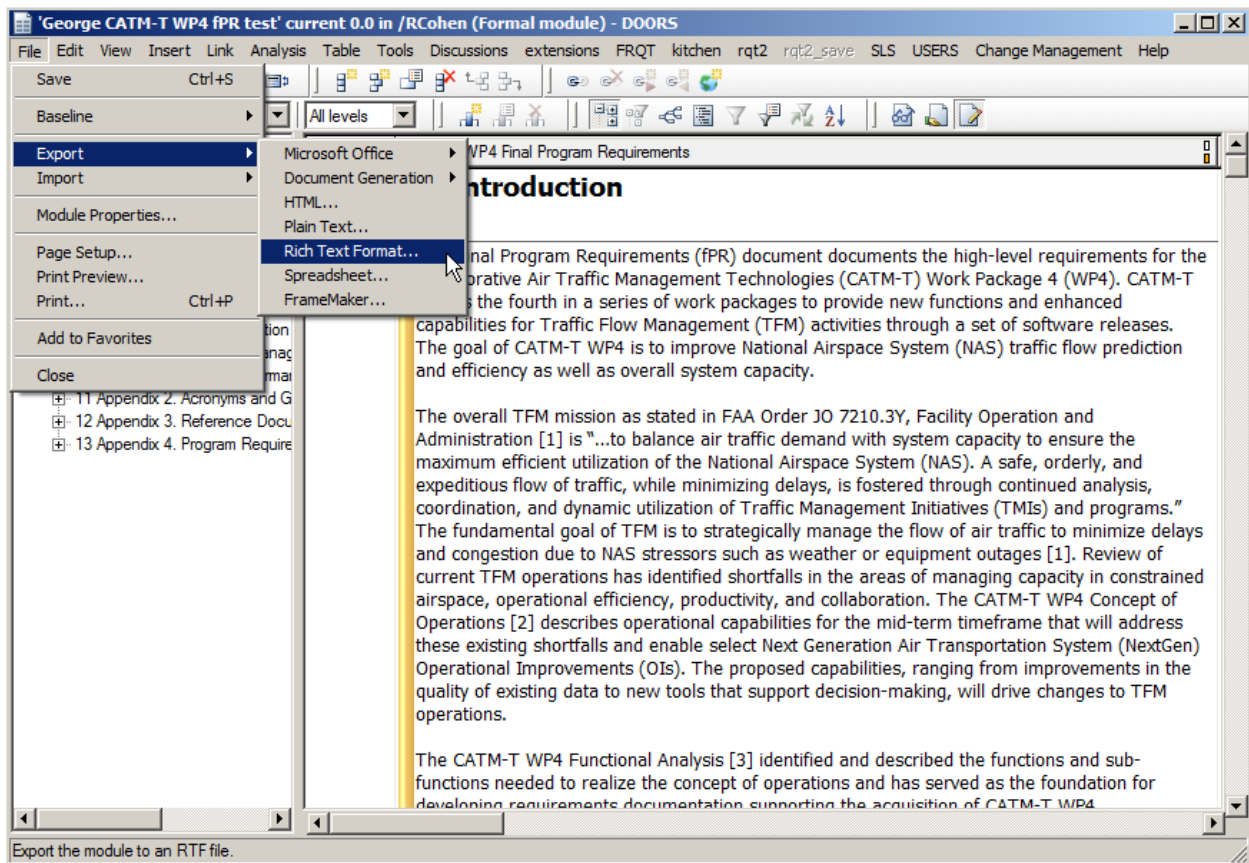


Figure 42: File Export Cascading Menu

4. When the Export RTF dialog Box appears See Figure 43:
 - a. Unclick “include DOORS Heading Numbers”
 - b. Select Table from the drop down menu
 - c. Select the appropriate file name
 - d. Click “export”.

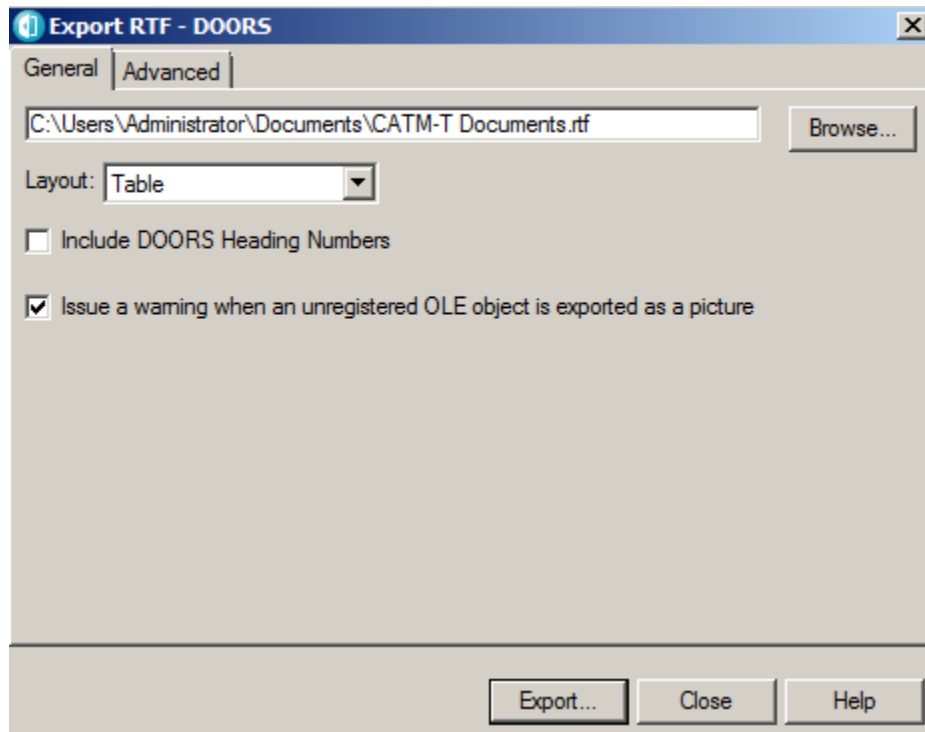


Figure 43: Export RTF Dialog Box

5. Open the RTF file just created. It should open in MS Word
6. Rearrange Layout.
 - a. Go to Page Layout _> Orientation and change to “landscape”
7. Go to View tab
8. Pick Draft
9. Set Zoom to 70%. This allows all the columns to fit in one window.
10. Scroll through the document and determine if there are any unused columns. If so, delete them.
11. Then print the document adjusting the Zoom for full page usage.

Sample output is at Appendix E.

Printing The Document List

The Document list contains the full list of references used by the other scripts under the FRQT drop menu to perform their respective functions. This list should be reviewed regularly to ensure its relevance and updated as needed.

The “Print the Document List” tool displays the current document list.

How To Generate The Document List:

1. Open the module of interest
2. Select “Print the Document List” from the *FRQT* drop down menu. See Figure 37.

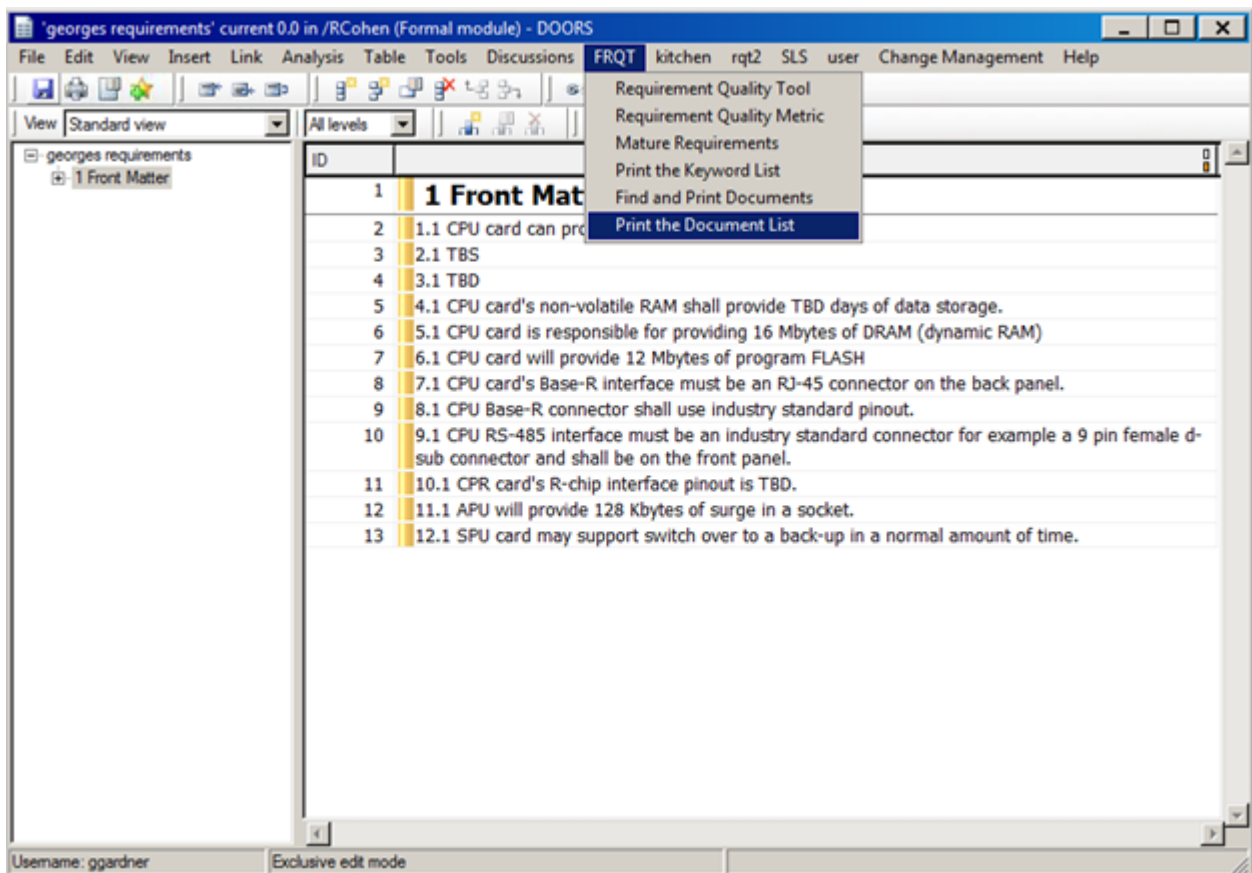


Figure 44: FRQT Dropdown Menu with Print the Document List selected

After running the “Print the Document List” tool, the DXL Interaction window appears with the document list in the DXL output box. See Figure 45 below.

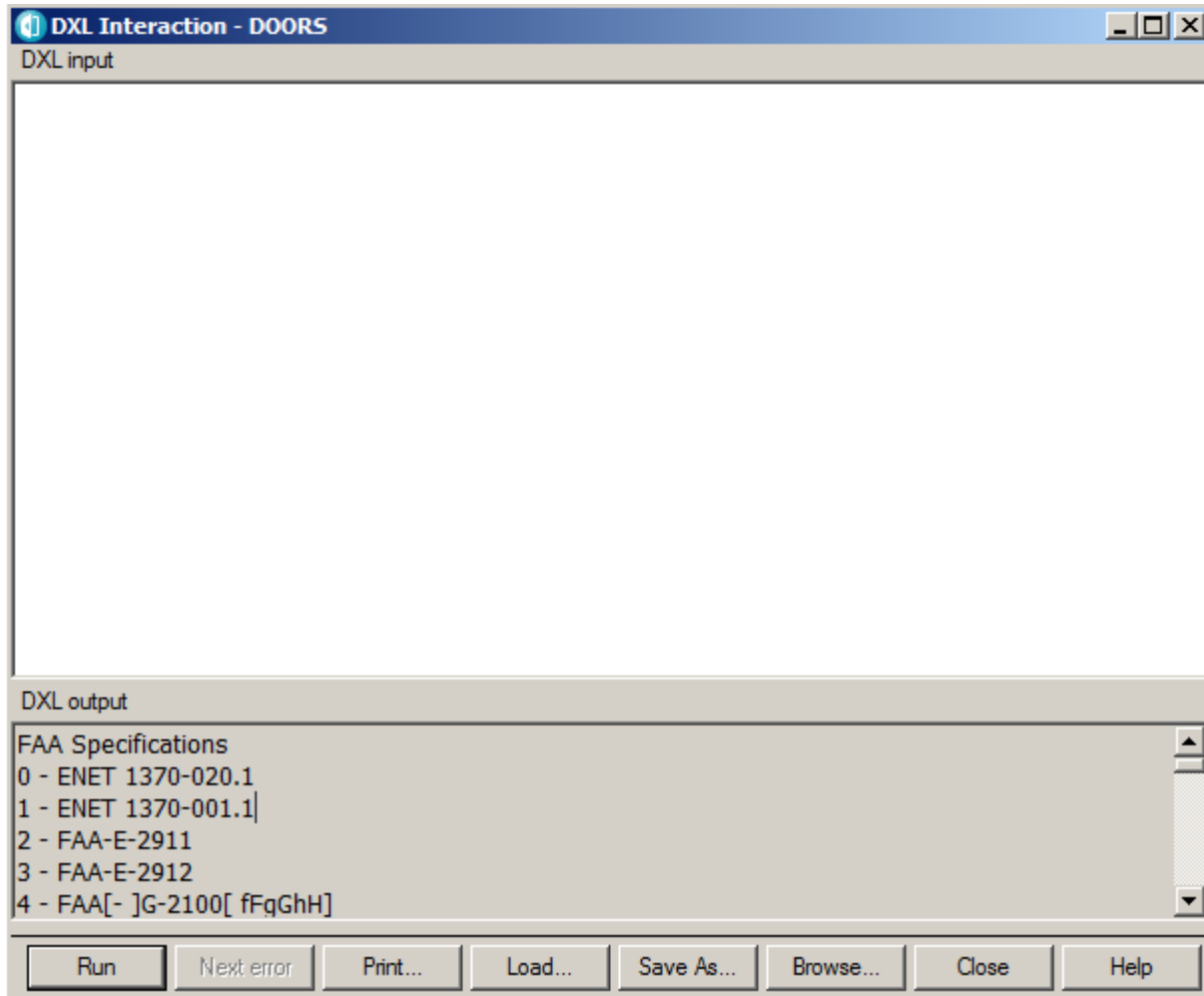


Figure 45: The DXL Interaction output the Document List

Developing the Tool Output for a Document List

The following package of commands allows a user to create a text file containing the complete Document List. This output can be used to support the requirements analysis activities of non-DOORS users.

How to Save the Document List as a Text File:

1. Save the Document List from the DXL interaction dialog box. See Figure 46.
 - a. Click <ctrl-a> in the DXL output box to select all of the document outputs.
 - b. Right click in the grey area of the output box
 - c. Pick file
 - d. Save As

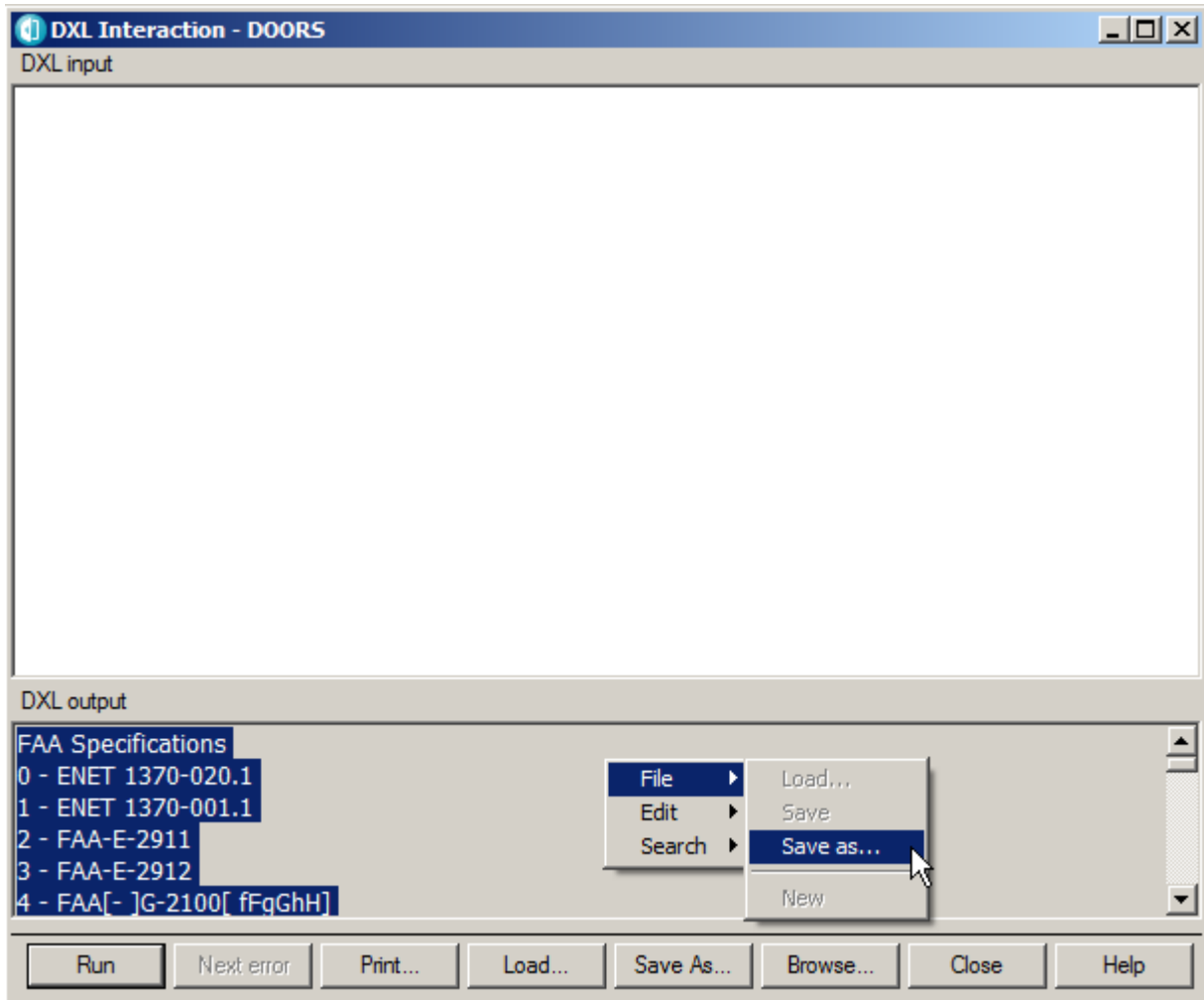


Figure 46: Highlighted top of document list and File -> Save as menu

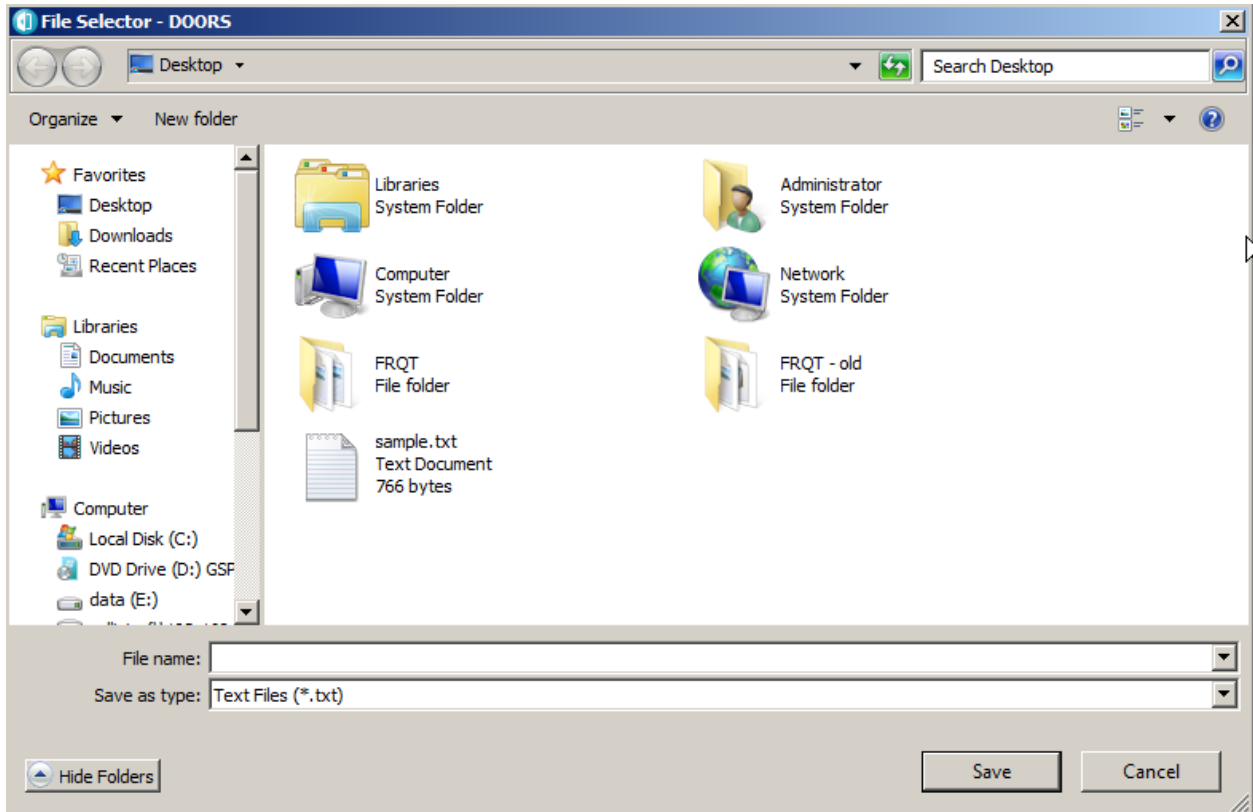


Figure 47: DOORS File Selector window

2. Enter the appropriate filename and select the appropriate directory when the File Selector Window appears. Figure 47.
3. Click the “save” button to save the file.

The document list output is attached as Appendix F.

INSTALLATION:

Installation instructions are at Appendix G and a file listing is at Appendix H.

REFERENCES:

FAA, NAS Systems Engineering and Integration Office, NAS Requirements Service Division. *DOORS Familiarization, Version 1.2.*

IBM Corporation. 2016. *IBM Rational DOORS DXL Reference Manual, Release 9.6.1.*

Michael Caldwell. 1999. *Requirement Quality Tool* (version 1.1). National Security Agency.
NASA, Software Assurance Technology Center. 2015. *Automated Requirements Measurement (ARM) Tool* (version 2.1). http://www.pilhokim.com/images/5/54/ARM_V2-1.zip.

Theodore F. Hammer, Lenore L. Huffman, and Linda H. Rosenberg. 1998. "Doing Requirements Right The First Time." *Crosstalk*, December.

William W. Wilson. 1999. "Writing Natural Language Requirements Specifications." *Crosstalk*, Feb 1999 (February).

APPENDIX A—

Keyword List Sample Output

Keyword List

Requirement and Imperative Words

- 0 - [Ss]hall
- 1 - [Mm]ust
- 2 - [Aa]re to
- 3 - [Mm]ay
- 4 - [Rr]equired
- 5 - [Aa]re applicable
- 6 - [Ss]hould
- 7 - [Ww]ill
- 8 - [Ww]ould

Weak Words and Reason for the Words

- 0 - [Aa]dequate - Not a verifiable requirement
- 1 - [Aa]re applicable - Not a verifiable requirement
- 2 - [Aa]s a minimum - Requirement should be at minimum or maximum limit
- 3 - [Aa]s applicable - How will a system know what is applicable
- 4 - [Aa]s appropriate - What is appropriate to the task
- 5 - [Aa]t a minimum - Requirement should be at minimum or maximum limit
- 6 - [Bb]le able to - The system is not required to do this task
- 7 - [Bb]le capable - The system is not required to do this task
- 8 - [Bb]ut - The system may or may not do the requirement
- 9 - [Cc]an - The system may or may not do the requirement
- 10 - [Cc]apability for - The system may or may not do the requirement
- 11 - [Cc]apability of - The system may or may not do the requirement
- 12 - [Cc]apability to - The system may or may not do the requirement
- 13 - [Cc]learly - Not a verifiable requirement
- 14 - [Cc]onsidered - What is the requirement
- 15 - [Cc]onsistent - Not a verifiable requirement
- 16 - [Cc]ould - This is not a requirement
- 17 - [Cc]riticality - Not a verifiable requirement
- 18 - [Cc]ritically - Not a verifiable requirement
- 19 - [Dd]egradation - Not a verifiable requirement
- 20 - [Dd]esigned - The system is not liable for the design
- 21 - [Ee]asy - What is the requirement
- 22 - [Ee]ffective - What is the requirement
- 23 - [Ee]xceptions - This is a negative requirement

24 -	[Ff]last -	What is the requirement
25 -	[Ff]easible -	What is the requirement
26 -	[Ff]lexible -	What is the requirement
27 -	[Ii]f required to -	The system may or may not do the requirement
28 -	[Ll]ight-weight -	Not a verifiable requirement
29 -	[Ll]imited to -	The system is not liable for the design
30 -	[Mm]ay -	Denote permission or an option which is not oliigatory
31 -	[Nn]ormal -	Can be use used in conjunction with a formal Name
32 -	[Nn]ot -	This is a negative requirement
33 -	[Oo]ption -	Not a verifiable requirement
34 -	[Oo]ptionally -	Not a verifiable requirement
35 -	[Pp]eriodically -	Not a verifiable requirement
36 -	[Pp]ortable -	What is the requirement
37 -	[Pp]rovide for -	This is an SOW Statement
38 -	[Qq]uickly -	What is the requirement
39 -	[Rr]esponsible for -	This is an SOW Statement
40 -	[Ss]ufficient -	Not a verifiable requirement
41 -	[Ss]hould -	Denote action which is recommended but not obligatory
42 -	[Ss]ometimes -	The system may or may not do the requirement
43 -	[Ss]tandard -	Can be use used in conjunction with a formal Name
44 -	[Tt]imely -	What is the requirement
45 -	[Uu]seable -	Not a verifiable requirement
46 -	[Uu]ser friendly -	Not a verifiable requirement
47 -	[Ww]aiver -	If a waiver is ok why have a requirement
48 -	[Ww]hen required -	Not a verifiable requirement
49 -	[Ww]ill -	Denote a declaration of purpose on the part of the Goverment
50 -	[Ww]ould -	This is not a requirement
51 -	[Aa]ccurate -	Not a verifiable requirement
52 -	[Rr]equired -	Not shall or must
53 -	[Aa]re to -	Not shall or must

Directive Words

0 -	[Ff]or example
1 -	e\.g\.
2 -	i\.e\.

Option Words

0 -	[Oo]r
-----	-------

- 1 - [Aa]nd/or
- 2 - [Cc]an
- 3 - [Cc]ould
- 4 - [Mm]ay
- 5 - [Oo]ptionally
- 6 - [Ss]hould

Incomplete Words

- 0 - [Aa]s a minimum
- 1 - [Aa]t a minimum
- 2 - [Bb]ut not limited to
- 3 - [Nn]ot defined
- 4 - [Nn]ot determined
- 5 - TBD
- 6 - TBS

APPENDIX B—

Detailed Operation and Verification of the Stability Calculation

Appendix B - Detailed operation and verification of the stability calculation:

For the demonstration and verification of the operation of the stability calculator, we will use a module created from file “Sample Requirements.RTF. It creates a formal module with 13 objects. See figure A-1.

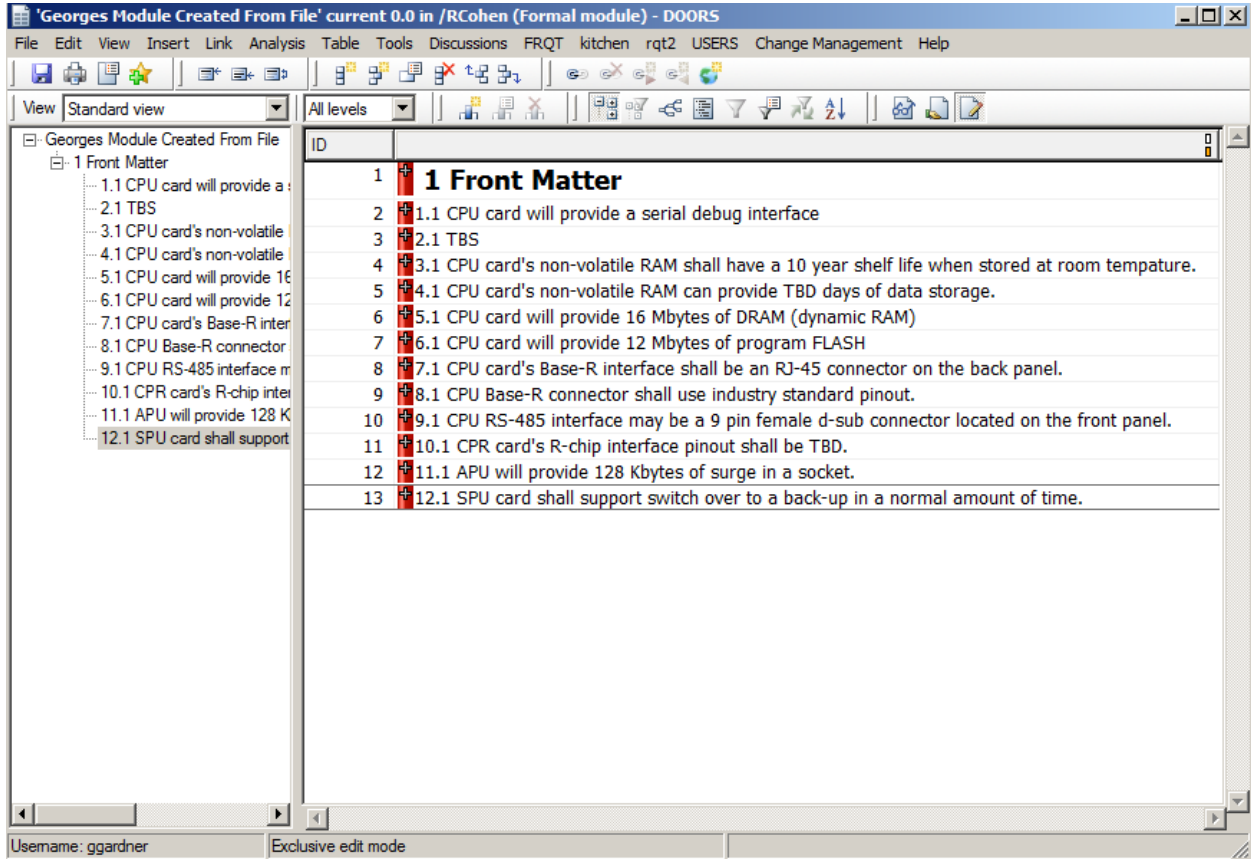


Figure B-1: Formal Module Created From Sample Requirements.RTF

Select “Requirements Quality Tool” from the FRQT dropdown menu. See Figure B-2.

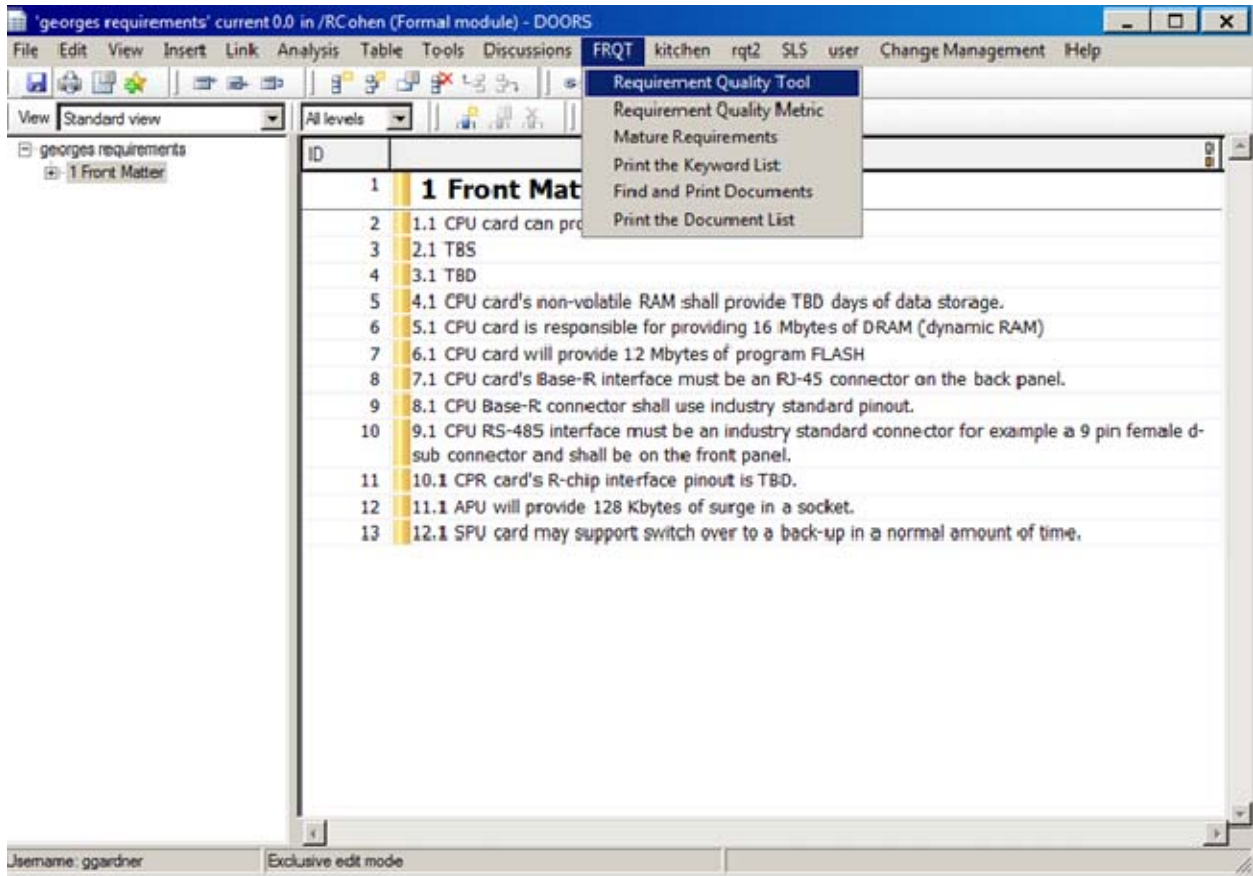


Figure B-2: FRQT Dropdown Menu with Requirements Quality Tool Selected

Initialized the requirement attribute with imperatives. See Figure B-3.

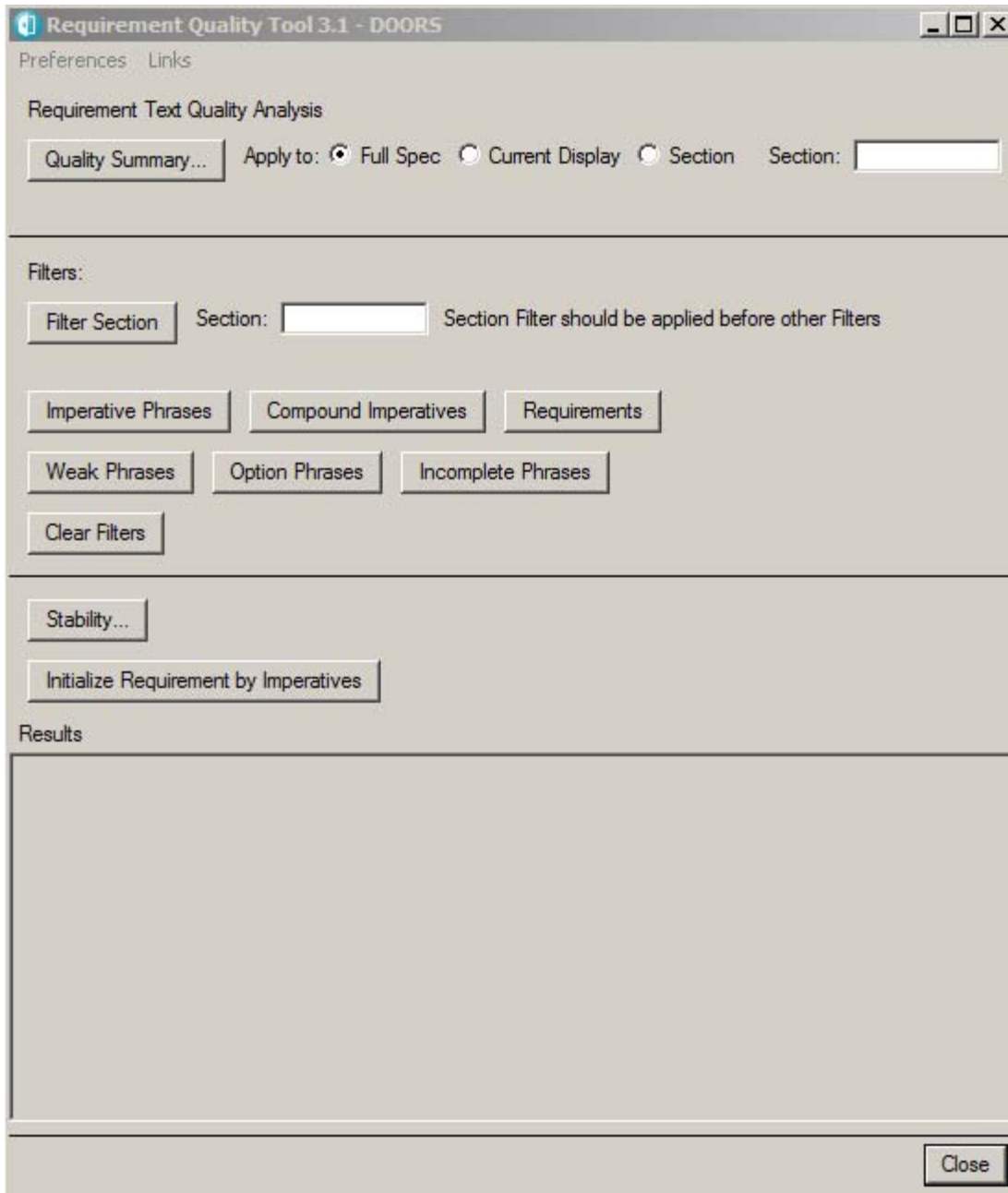


Figure B-3: Requirements Quality Tool Window

The system asks if you want to create the Requirements attribute. See Figure B-4.

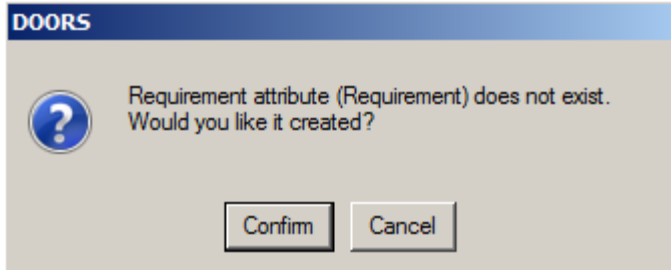


Figure B-4: Dialog Box Authorizing Creation of Requirements Attribute

Click "Confirm"; the system says that the requirement attribute was created. See Figure B-5.

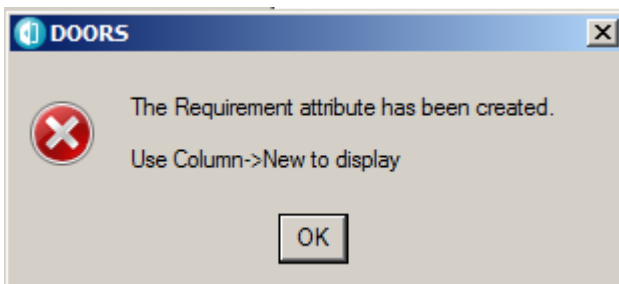


Figure B-5: Dialog Box reporting the creation of the Requirement Attribute

Click "OK" and there will be 10 potential requirements found and flagged to "True". See Figure B-6.



Figure B-6: Requirements Quality Tool Reports 10 Requirements Found and Attribute Set To True

Display the new attributes by doing Insert -> Column. See Figure B-7.

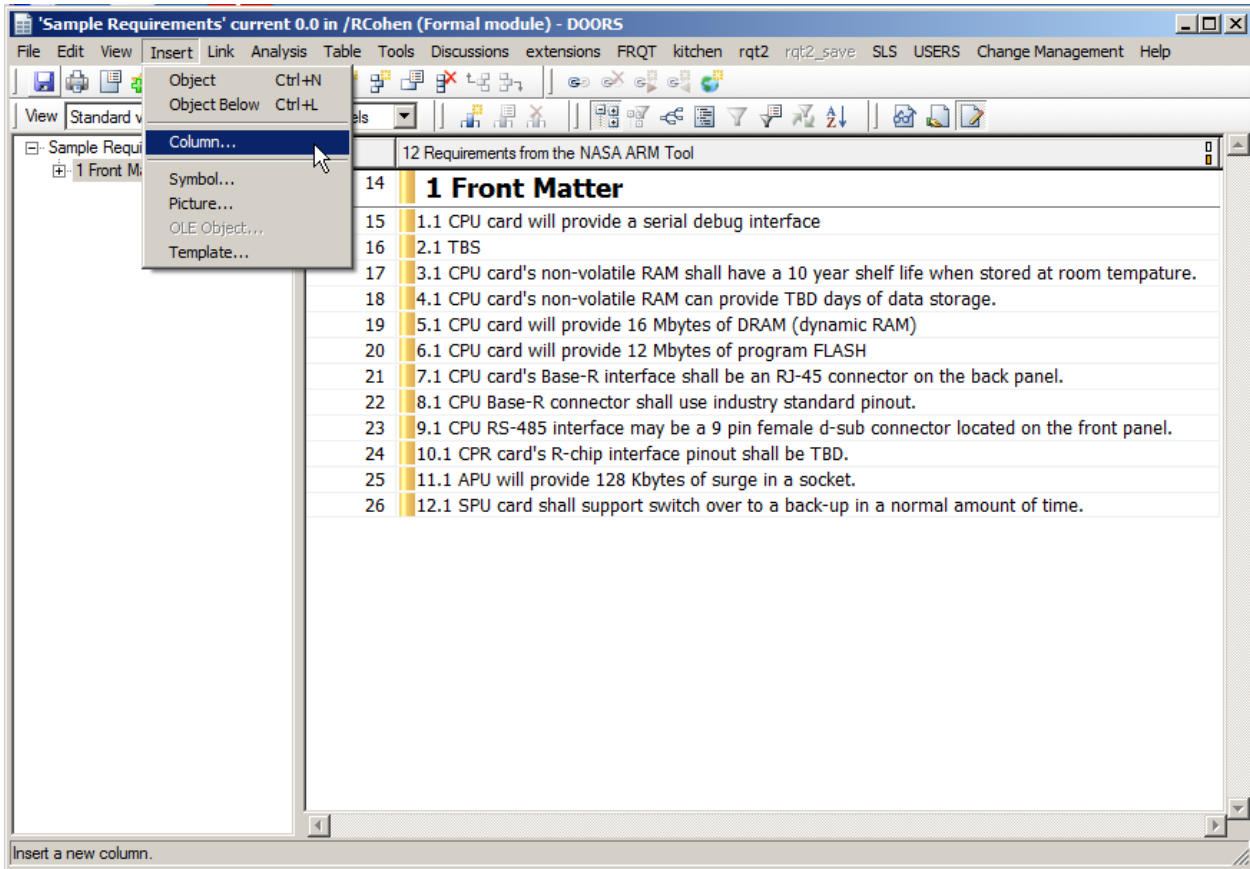


Figure B-7: Insert Dropdown Menu with Column Selected

New column dialog box appears. Select "Requirement" from the dropdown menu and click "Insert" than click "Close". See Figure B-7.

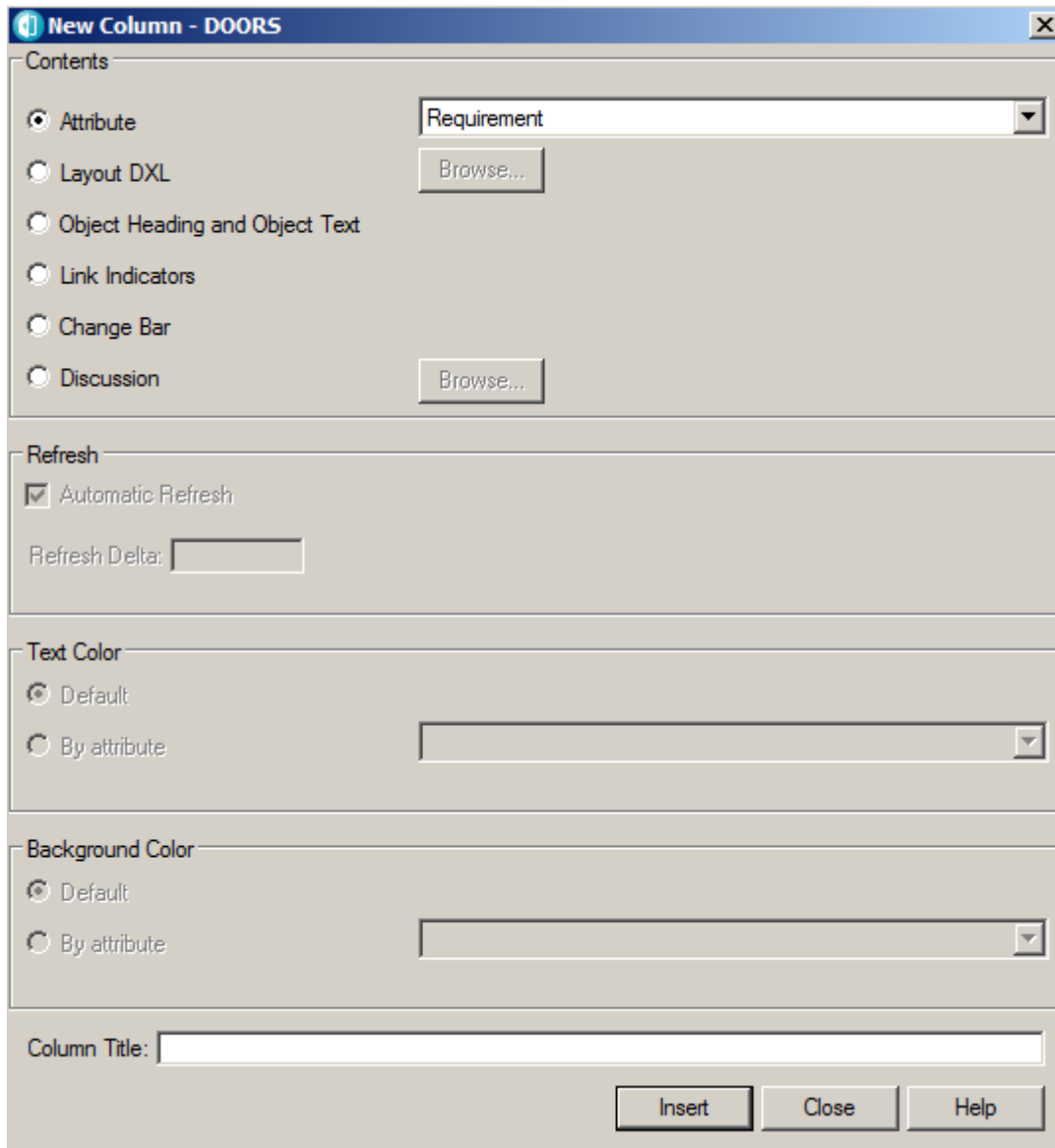


Figure B-8: Insert Column Dialog Box with Requirement Attribute Selected

Expand the window to the right to expose the Requirement attribute column. See Figure B-9.

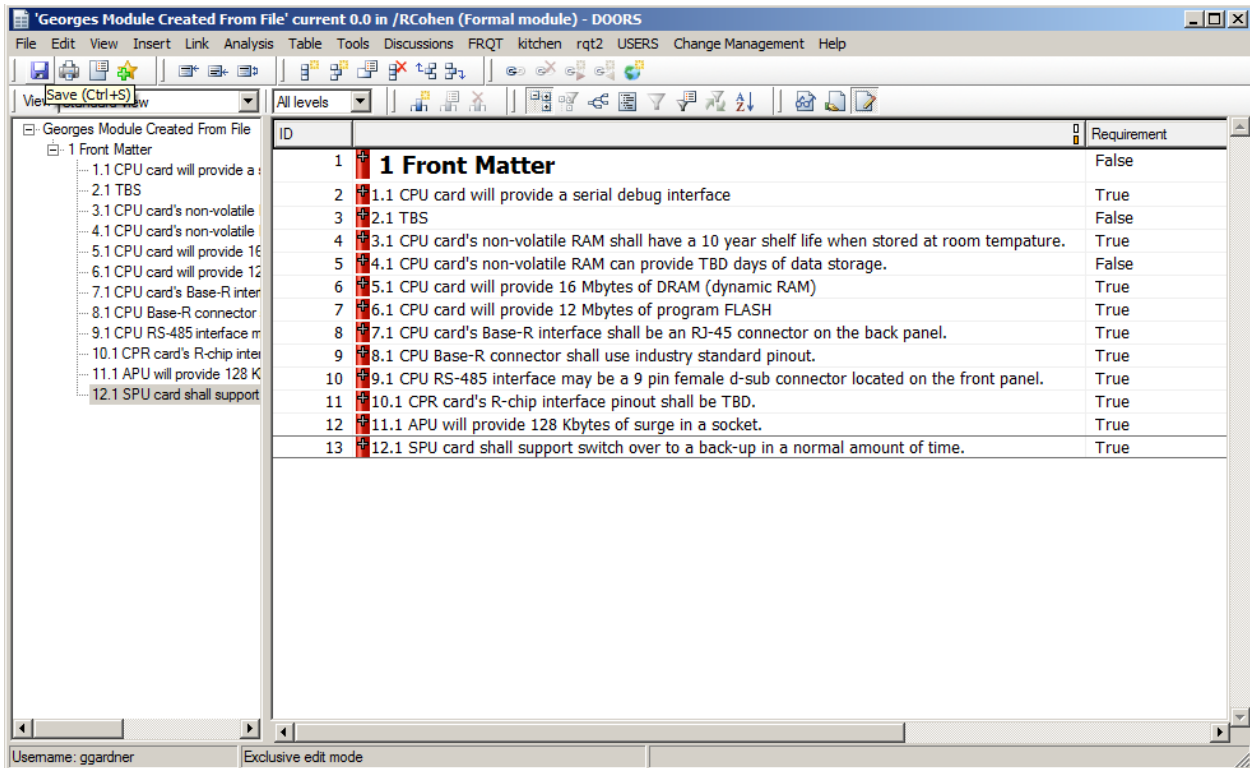


Figure B-9: Sample Requirements Formal Module with Requirement Attribute Displayed

Open the requirements quality tool again. Click on the stability button on the Requirements Quality Tool. See Figure B-10.

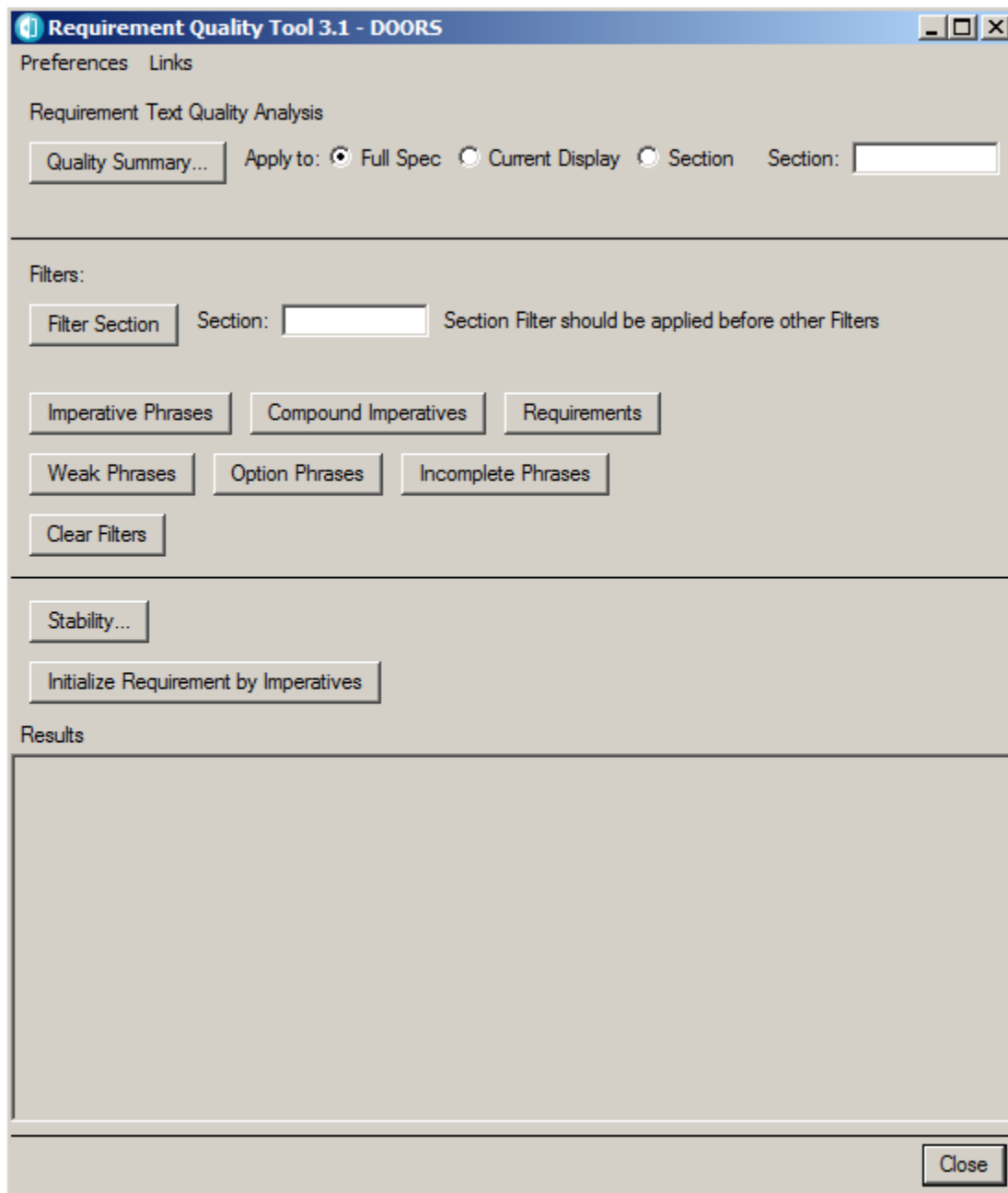


Figure B-10: Requirement Quality Tool with Green Arrow Showing Stability Button

The tool saves the number of requirements for subsequent changes in requirements based on this set of 10 requirements. See Figure B-11.

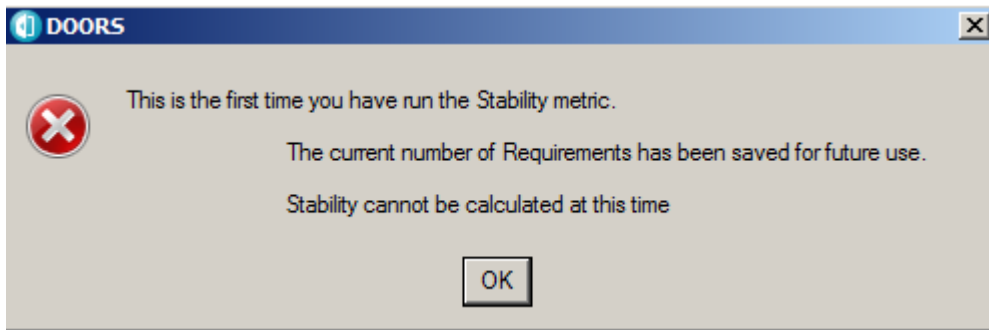


Figure B-11: Stability Dialog Box The First Time You Run the Stability Metric

The number of requirements is saved for the formal module. This number will be used to calculate requirement stability as the formal module changes. Click "OK".

Close the Requirements Quality Tool window.

Save the Formal Module by pressing File -> Save

Change object 4 from "shall" to "will"; change object 6 from "will" to "shall".

Then save the formal module. Figure B-12 shows the new formal module.

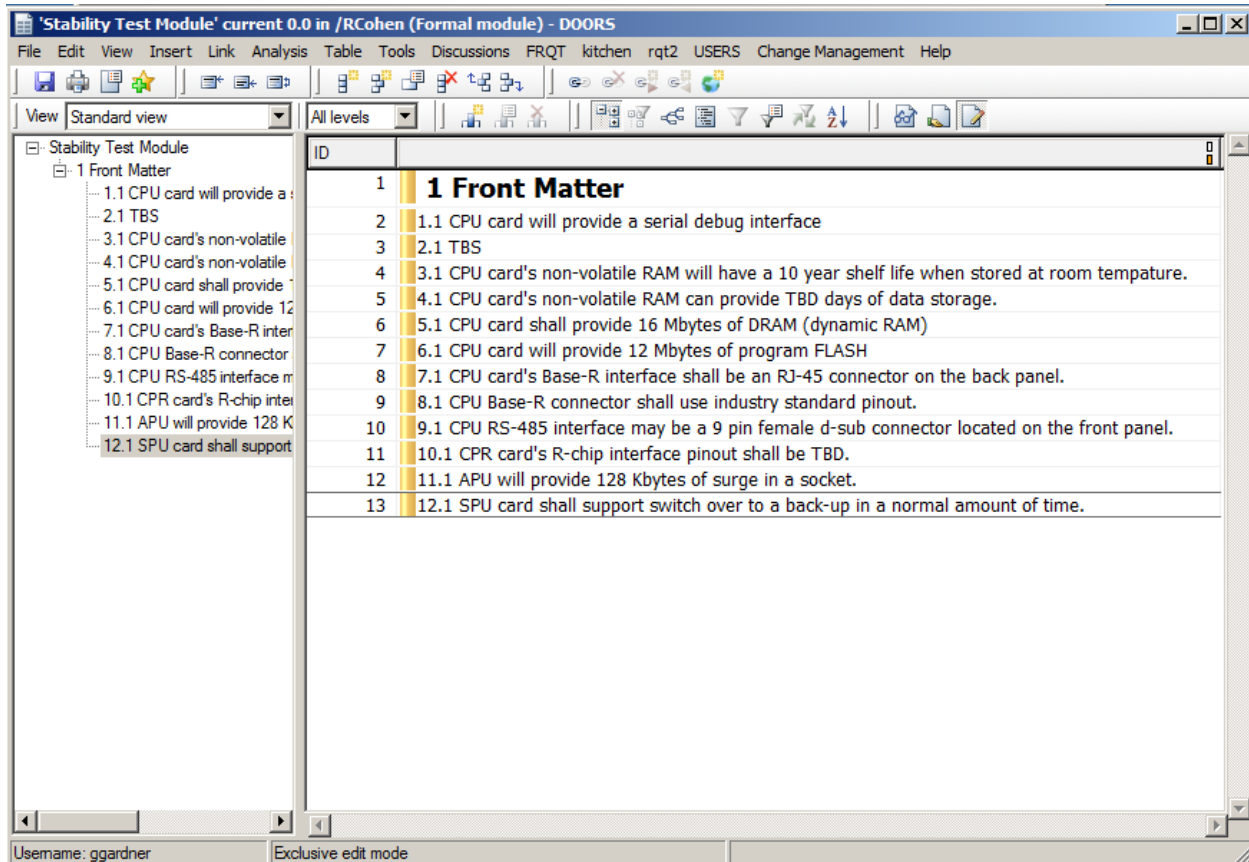


Figure B-12: Formal Module with Objects 4 and 6 changed and saved

Run the Requirements Quality Tool and press the Stability button. The result is shown in Figure 13.

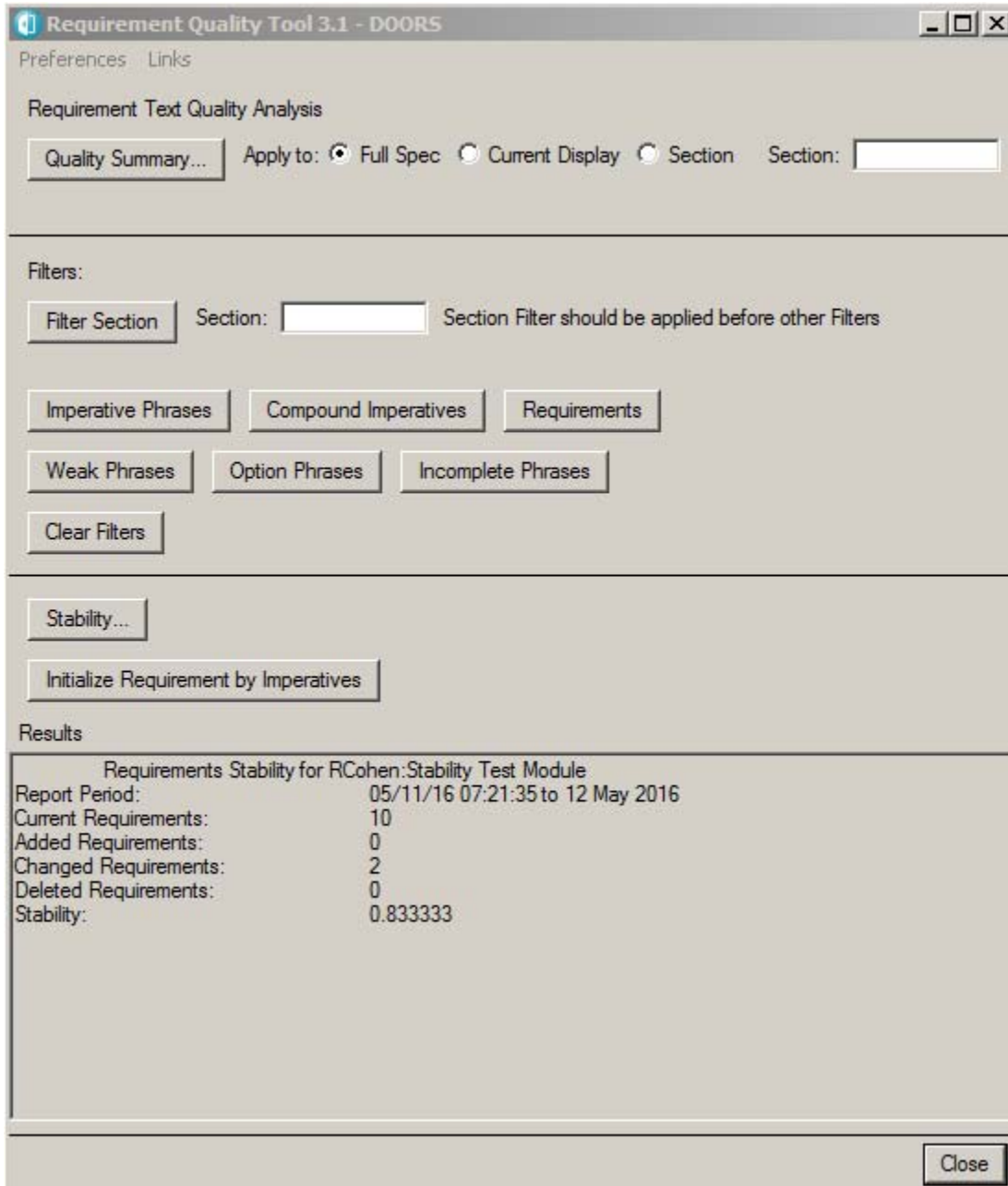


Figure B-13 Requirements Stability Reported in Results Window

R_o , the original number of requirements is 10

R_n , the current number of requirements is 10

R_a , the number of added requirements is 0

R_d , the number of deleted requirements is 0

R_c , the number of changed requirements is 2

Stability is $R_c / [2(R_o + R_a) + R_c - R_n]$

Stability = $10/12 = 8.3333$

The system asks: "Save current Requirements count for future Stability calculation? See Figure B-14.

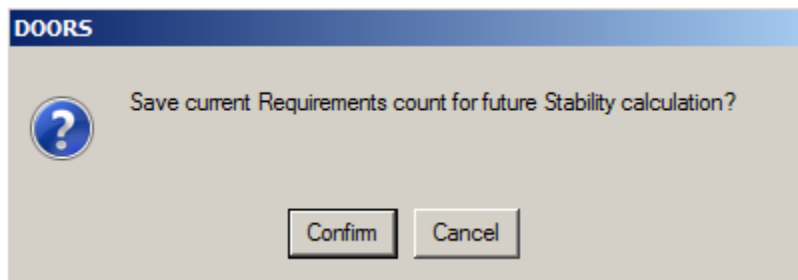


Figure B-14: Dialog Box Asking If You Want to Save Current Requirement for Future Stability Calculation

Press "Cancel". And close the Requirement Quality Tool window.

Now delete object 12 and save the Formal Module. Recalculate stability. See Figure B-15.

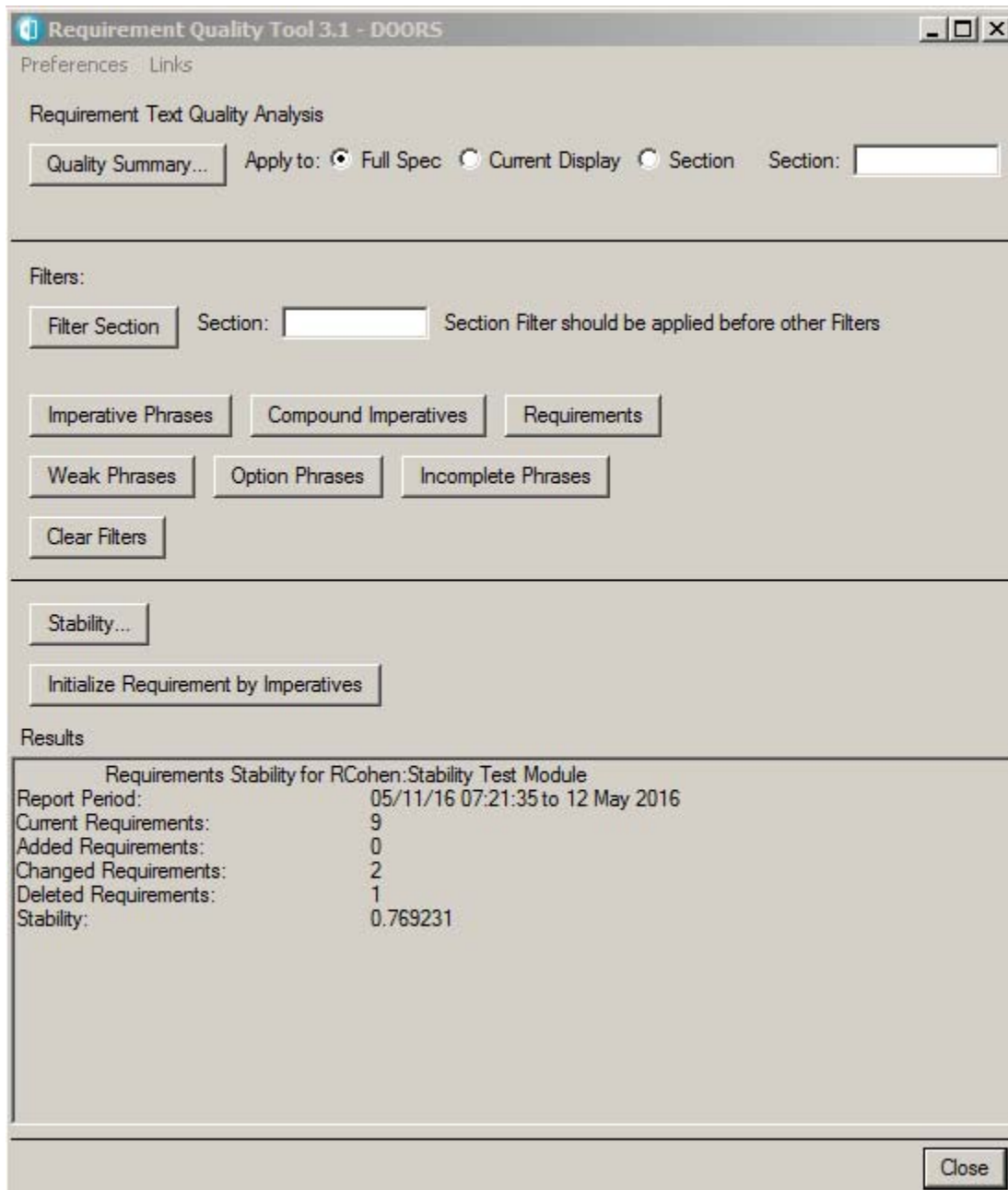


Figure B-15: Requirements Stability After A Requirement is Deleted

R_0 , the original number of requirements is 10

R_n , the current number of requirements is 9

R_a , the number of added requirements is 0

R_d the number of deleted requirements is 1

R_c the number of changed requirements is 2

Stability is $R_c / [2(R_0 + R_a) + R_c - R_n]$

Stability = $10 / 13 = .7692$

The system asks: "Save current Requirements count for future Stability calculation? Press "Cancel". And close the Requirements Quality Tool window.

Insert a new object below Object 13. Modify the objects text to be: "13.1 The system shall have a redundant power supply".

Note that the new requirement has a false Requirement attribute when created. See Figure B-16.

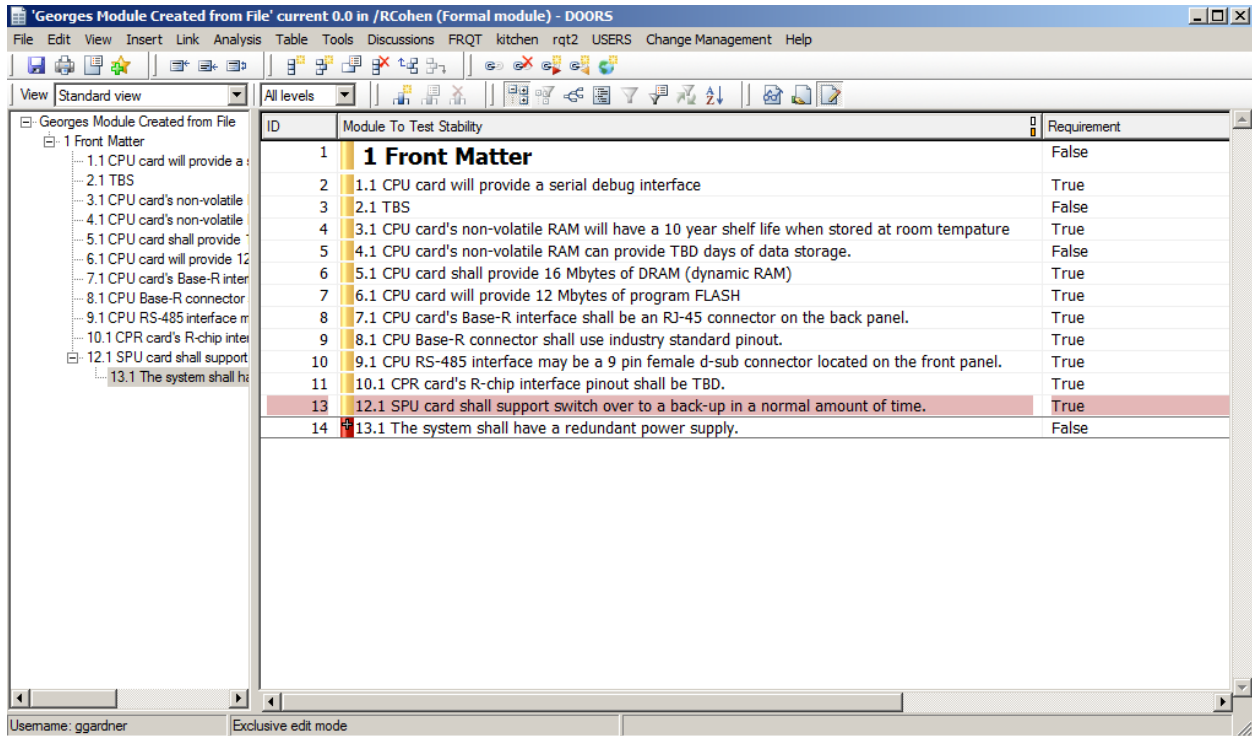


Figure B-16: Formal Module After The New Requirement Is Added

Open the Requirements Quality Tool. Initialize the requirement attribute with imperatives to change object 14's Requirement attribute to True, so that the new requirement count will be correct. The total number of requirements is back to 10 with the added requirement. See Figure B-17.

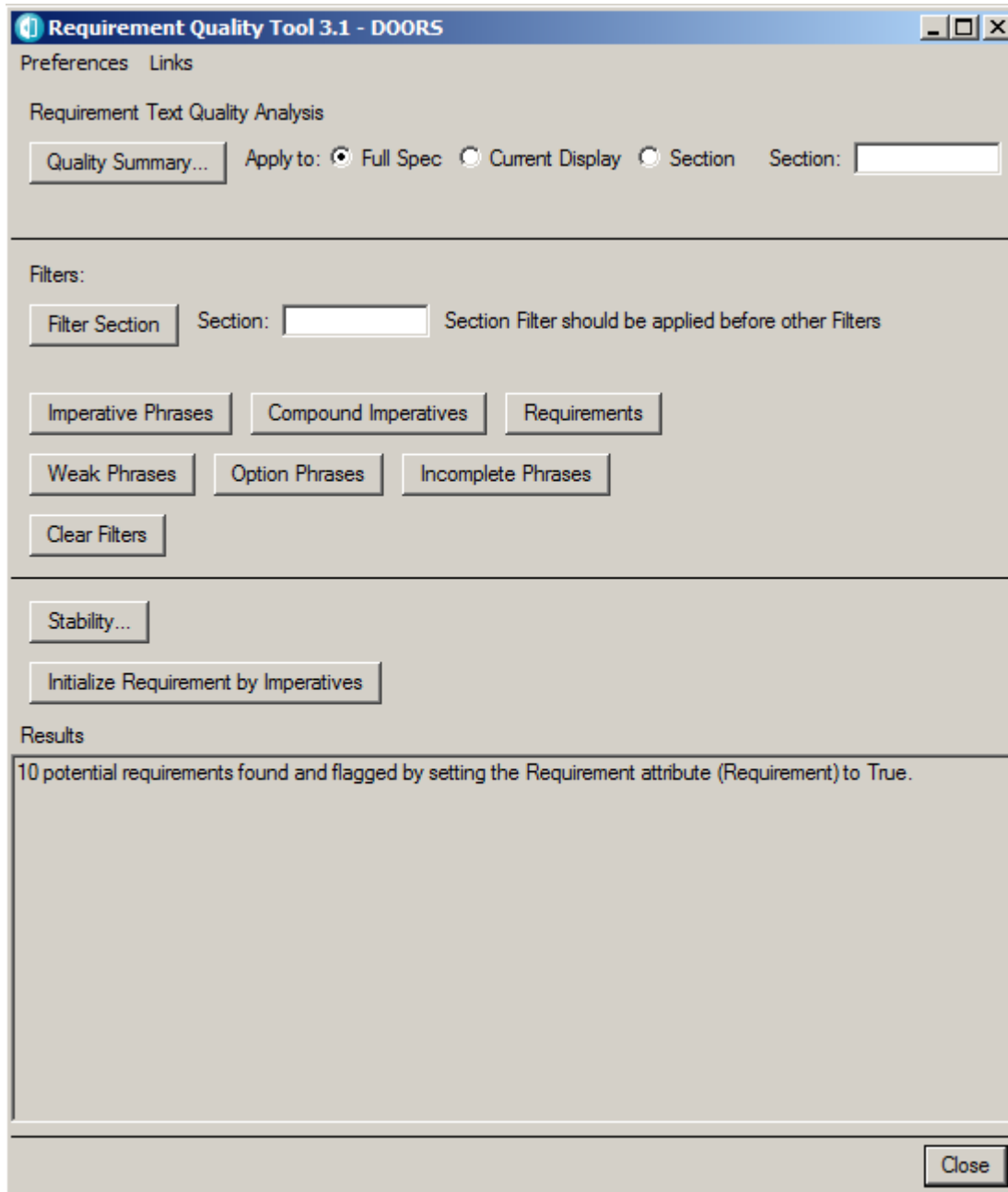


Figure B-17: Results of Initializing Requirements By Imperatives After the Addition of a Requirement

Then save the formal module.

Open the Requirements Quality Tool. Then calculate the stability. See Figure B-18.

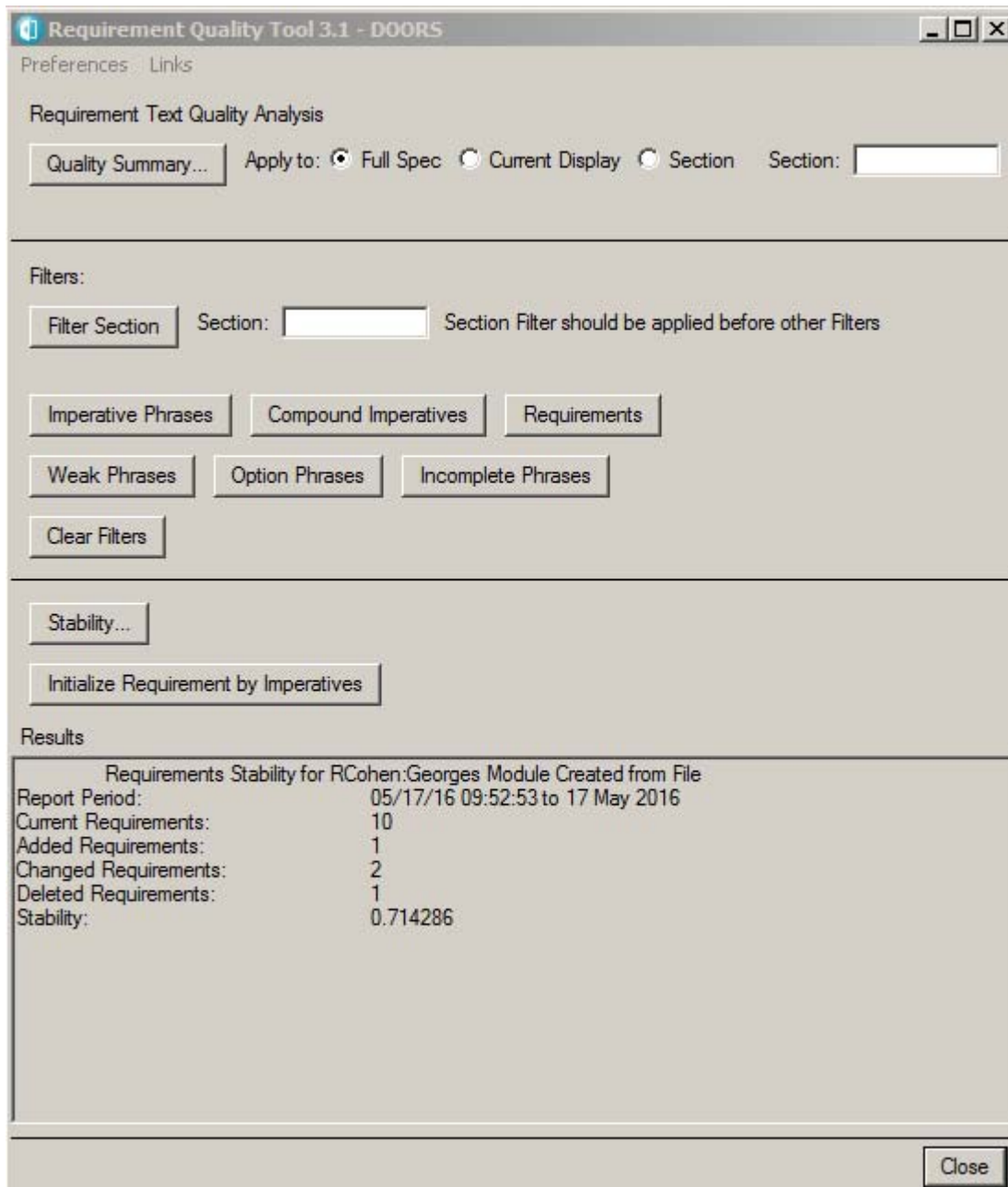


Figure B-18: Stability Calculation After The Addition of a New Requirement

R_0 , the original number of requirements is 10

R_n , the current number of requirements is 10

R_a , the number of added requirements is 1

R_d the number of deleted requirements is 1

R_c the number of changed requirements is 2

Stability is $R_c / [2(R_0 + R_a) + R_c - R_n]$

Stability = $10/14 = .714286$

The system asks: "Save current Requirements count for future Stability calculation? Press "Confirm".

Since we are viewing this version of the formal module as a new requirements set, we have just re-established the stability baseline. Subsequent stability calculations will be done from this newly established requirements set. Changes will be counted from today and additions will be counted from today. We now close the Requirements Quality Tool window.

APPENDIX C—

Requirements Quality Tool Sample Output

Requirement Quality Tool 3.1 - DOORS

Preferences Links

Requirement Text Quality Analysis

Quality Summary... Apply to: Full Spec Current Display Section Section:

Filters:

Filter Section Section: Section Filter should be applied before other Filters

Imperative Phrases Compound Imperatives Requirements

Weak Phrases Option Phrases Incomplete Phrases

Clear Filters

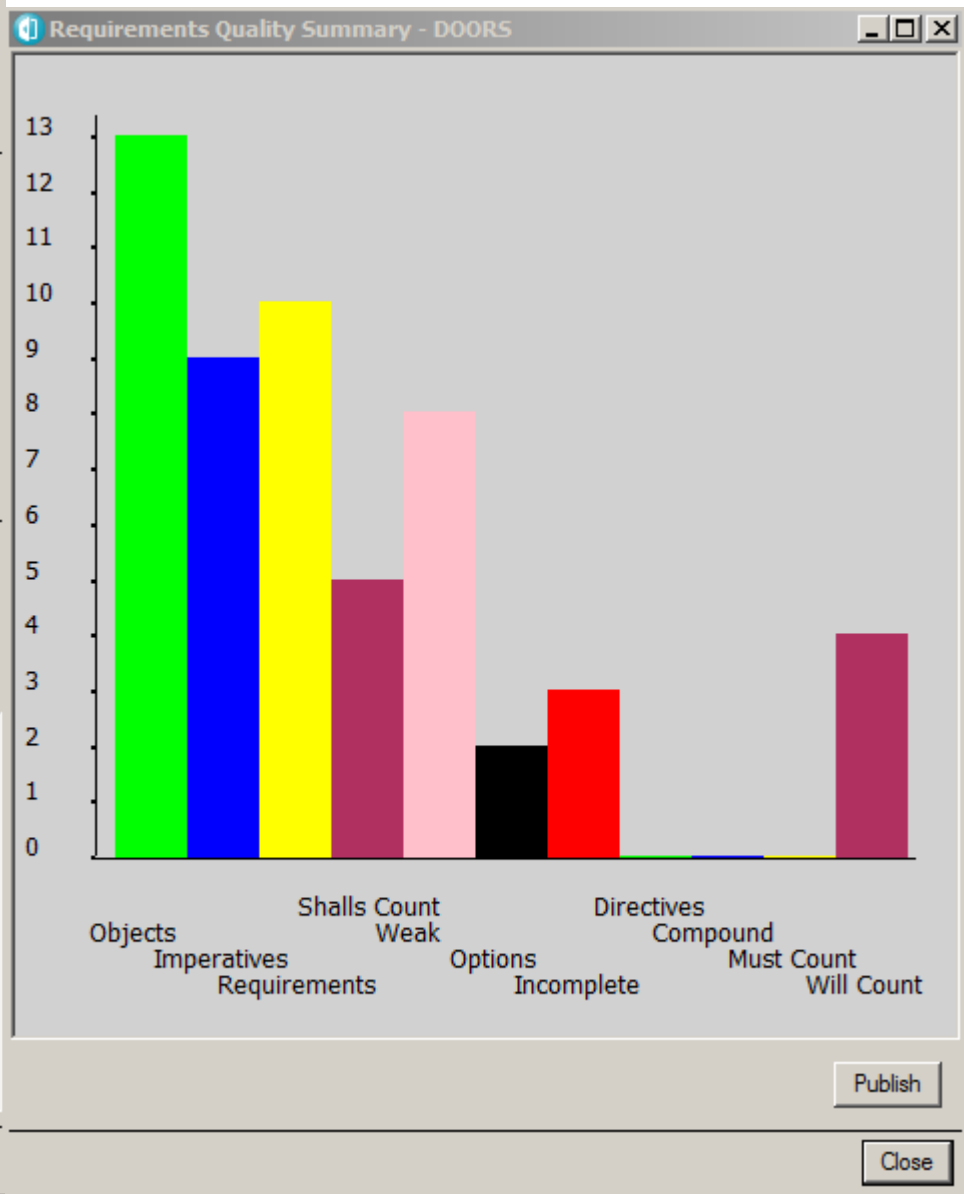
Stability...

Initialize Requirement by Imperatives

Results

Summary Statistics	
Objects	13
Imperatives	9
Requirements	10
Shalls Count	5
Weak	8
Options	2
Incomplete	3
Directives	0
Compound	0
Must Count	0
Will Count	4

Close



IMPERATIVES are those words and phrases that command that something must be provided.

"SHALL" normally dictates the provision of a functional capability.

"MUST" or "MUST NOT" normally establish performance requirements or constraints.

"WILL" normally indicates that something will be provided from outside the capability being specified.

An explicit specification will have most of its counts high in the IMPERATIVE list (i.e. shall, must, required).

NUMBER OF REQUIREMENTS - as determined by the Requirement attribute

WEAK PHRASES are clauses that are apt to cause uncertainty and leave room for multiple interpretations.

Use of phrases such as "adequate" and "as appropriate" indicate that what is required is either defined elsewhere or worst, the requirement is open to subjective interpretation.

Phrases such as "but not limited to" and "as a minimum" provide the basis for expanding requirements that have been identified or adding future requirements.

WEAK PHRASE total is indication of the extent that the specification is ambiguous and incomplete.

OPTIONS are those words that give the developer latitude in the implementation of the specification that contains them. This type of statement loosens the specification, reduces the acquirer's control over the final product, and establishes a basis for possible cost and schedule risks.

INCOMPLETE is the category of words and phrases that indicate that the specification of requirements is not fully developed or provides a basis for expansion or addition of new requirements at a later date.

"TBD" indicates that necessary information has yet TO BE DETERMINED. "TBS" indicates that a required event has yet TO BE SCHEDULED.

"not defined" and "not determined" are phrases that explicitly declare that a specification statement is incomplete.

"but not limited to" and "as a minimum" are phrases that open the requirements specifications to future modifications or additions.

DIRECTIVES are words or phrases that indicate that the document contains examples or other illustrative information. DIRECTIVES point to information that makes the specified requirements more understandable. The

implication is the higher the number of Total DIRECTIVES the more precisely the requirements are defined.

COMPOUND - number of objects containing compound/multiple imperatives

For more information see the articles that inspired this work:

<http://www.stsc.hill.af.mil/Crosstalk/crosstalk.html>

Dec 1998 "Doing Requirements Right the First Time"

Feb 1999 "Writing Effective Natural Language Requirements Specifications"

<http://satc.gsfc.nasa.gov>

Other published versions of the above papers and the Automated Requirements Measurement (ARM) tool for analyzing ASCII text on Windows platform

Requirement and Imperative Words

- 0 - [Ss]hall
- 1 - [Aa]re to
- 2 - [Mm]ay
- 3 - [Mm]ust
- 4 - [Rr]equired
- 5 - [Aa]re applicable
- 6 - [Ss]hould
- 7 - [Ww]ill
- 8 - [Ww]ould

Weak Words and Reason for the Words

- 0 - [Aa]dequate - Not a verifiable requirement
- 1 - [Aa]re applicable - Not a verifiable requirement
- 2 - [Aa]s a minimum - Requirement should be at minimum or maximum limit
- 3 - [Aa]s applicable - How will a system know what is applicable?
- 4 - [Aa]s appropriate - What is appropriate to the task?
- 5 - [Aa]t a minimum - Requirement should be at minimum or maximum limit
- 6 - [Bb]e able to - The system is not required to do this task
- 7 - [Bb]e capable - The system is not required to do this task
- 8 - [Bb]ut - The system may or may not do the requirement
- 9 - [Cc]an - The system may or may not do the requirement
- 10 - [Cc]apability for - The system may or may not do the requirement
- 11 - [Cc]apability of - The system may or may not do the requirement
- 12 - [Cc]apability to - The system may or may not do the requirement
- 13 - [Cc]learly - Not a verifiable requirement
- 14 - [Cc]onsidered - What is the requirement?
- 15 - [Cc]onsistent - Not a verifiable requirement
- 16 - [Cc]ould - This is not a requirement
- 17 - [Cc]riticality - Not a verifiable requirement
- 18 - [Cc]ritically - Not a verifiable requirement
- 19 - [Dd]egradation - Not a verifiable requirement
- 20 - [Dd]esigned - The system is not liable for the design
- 21 - [Ee]asy - What is the requirement?
- 22 - [Ee]ffective - What is the requirement?
- 23 - [Ee]xceptions - This is a negative requirement
- 24 - [Ff]ast - What is the requirement?
- 25 - [Ff]easible - What is the requirement?
- 26 - [Ff]lexible - What is the requirement?
- 27 - [Ii]f required to - The system may or may not do the requirement
- 28 - [Ll]ight-weight - Not a verifiable requirement
- 29 - [Ll]imited to - The system is not liable for the design
- 30 - [Mm]ay - Denote permission or an option which is not obligatory
- 31 - [Nn]ormal - Can be used in conjunction with a formal Name
- 32 - [Nn]ot - This is a negative requirement
- 33 - [Oo]ption - Not a verifiable requirement
- 34 - [Oo]ptionally - Not a verifiable requirement
- 35 - [Pp]eriodically - Not a verifiable requirement
- 36 - [Pp]ortable - What is the requirement?
- 37 - [Pp]rovide for - This is an SOW Statement
- 38 - [Qq]uickly - What is the requirement?

- 39 - [Rr]esponsible for - This is an SOW Statement
- 40 - [Sd]ufficient - Not a verifiable requirement
- 41 - [Ss]hould - Denote action which is recommended but not obligatory
- 42 - [Ss]ometimes - The system may or may not do the requirement
- 43 - [Ss]tandard - Can be used in conjunction with a formal Name
- 44 - [Tt]imely - What is the requirement?
- 45 - [Uu]seable - Not a verifiable requirement
- 46 - [Uu]ser friendly - Not a verifiable requirement
- 47 - [Ww]aiver - If a waiver is ok why have a requirement
- 48 - [Ww]hen required - Not a verifiable requirement
- 49 - [Ww]ill - Denote a declaration of purpose on the part of the Government
- 50 - [Ww]ould - This is not a requirement
- 51 - [Aa]ccurate - Not a verifiable requirement
- 52 - [Rr]equired - Should be Shall or Must
- 53 - [Aa]re to - Should be Shall or Must

Directive Words

- 0 - [Ff]or example
- 1 - e.g.
- 2 - i.e.

Option Words

- 0 - [Aa]nd/or
- 1 - [Cc]an
- 2 - [Cc]ould
- 3 - [Mm]ay
- 4 - [Oo]ptionally
- 5 - [Ss]hould

Incomplete Words

- 0 - [Aa]s a minimum
- 1 - [Aa]t a minimum
- 2 - [Bb]ut not limited to
- 3 - [Nn]ot defined
- 4 - [Nn]ot determined
- 5 - TBD
- 6 - TBS

Information on the requirement quality tool output.

1. This is a scan of possible problem areas. Not all weak words should be changed. This scan marks the phases for review.
2. In contracts, section 1 and 2 are normally the place to use of weak words. Section 3 and above should be reviewed with a critical eye.
3. If a weak phase is need, so be it! The author was warned and is taking on the risk.
4. The tool is used to inform and point out problems with the text. The author is the final authority.

	Requirement	Imperative Phrases	Weak Phrases	Reason for Weak Phrases	Option Phrases	Incomplete Phrases	Weak Phrases replacement
1.1 CPU card will provide a serial debug interface	True	1.1 CPU card will	1.1 CPU card will	[Ww]ill - Denote a declaration of purpose on the part of the Government			1.1 CPU card ""shall"" provide a serial debug interface
2.1 TBS	False					2.1 TBS	
3.1 CPU card's non-volatile RAM shall have a 10 year shelf life when stored at room tempature.	True	3.1 CPU card's non-volatile RAM shall					
4.1 CPU card's non-volatile RAM can provide TBD days of data storage.	False		4.1 CPU card's non-volatile RAM can	[Cc]an - The system may or may not do the requirement	4.1 CPU card's non-volatile RAM can	4.1 CPU card's non-volatile RAM can provide TBD	4.1 CPU card's non-volatile RAM ""shall"" provide TBD days of data storage.
5.1 CPU card will provide 16 Mbytes of DRAM (dynamic RAM)	True	5.1 CPU card will	5.1 CPU card will	[Ww]ill - Denote a declaration of purpose on the part of the Government			5.1 CPU card ""shall"" provide 16 Mbytes of DRAM (dynamic RAM)
6.1 CPU card will provide 12 Mbytes of program FLASH	True	6.1 CPU card will	6.1 CPU card will	[Ww]ill - Denote a declaration of purpose on the part of the Government			6.1 CPU card ""shall"" provide 12 Mbytes of program FLASH
7.1 CPU card's Base-R interface shall be an RJ-45 connector on the back panel.	True	7.1 CPU card's Base-R interface shall					
8.1 CPU Base-R connector shall use industry standard pinout.	True	8.1 CPU Base-R connector shall	8.1 CPU Base-R connector shall use industry standard	[Ss]tandard - Can be use used in conjunction with a formal Name			8.1 CPU Base-R connector shall use industry ""Can be use used in conjunction with a formal Name"" pinout.
9.1 CPU RS-485 interface may be a 9 pin female d-sub connector located on the front panel.	True	9.1 CPU RS-485 interface may	9.1 CPU RS-485 interface may	[Mm]ay - Denote permission or an option which is not oliigatory	9.1 CPU RS-485 interface may		9.1 CPU RS-485 interface ""shall""

	Requirement	Imperative Phrases	Weak Phrases	Reason for Weak Phrases	Option Phrases	Incomplete Phrases	Weak Phrases replacement
							be a 9 pin female d-sub connector located on the front panel.
10.1 CPR card's R-chip interface pinout shall be TBD.	True	10.1 CPR card's R-chip interface pinout shall				10.1 CPR card's R-chip interface pinout shall be TBD	
11.1 APU will provide 128 Kbytes of surge in a socket.	True	11.1 APU will	11.1 APU will	[Ww]ill - Denote a declaration of purpose on the part of the Government			11.1 APU ""shall"" provide 128 Kbytes of surge in a socket.
12.1 SPU card shall support switch over to a back-up in a normal amount of time.	True	12.1 SPU card shall	12.1 SPU card shall support switch over to a back-up in a normal	[Nn]ormal - Can be use used in conjunction with a formal Name			12.1 SPU card shall support switch over to a back-up in a ""[Nn]ormal "" amount of time.

APPENDIX D—

Mature Requirements Specification Sample Output

	Subject of Requirements	Directive Verb of Requirement	Explanatory Information of Requirements
1.1 CPU card can provide a serial debug interface			
2.1 TBS			
3.1 CPU card's non-volatile RAM shall have a 12 year shelf life when stored at room temperature.'	3.1 CPU card's non-volatile RAM	shall	have a 12 year shelf life when stored at room temperature.'
4.1 CPU card's non-volatile RAM shall provide TBD days of data storage.	4.1 CPU card's non-volatile RAM	shall	provide TBD days of data storage.
5.1 CPU card is responsible for providing 16 Mbytes of DRAM (dynamic RAM)	5.1 CPU car	d is	esponsible for providing 16 Mbytes of DRAM (dynamic RAM)
6.1 CPU card will provide 12 Mbytes of program FLASH	6.1 CPU card	will	provide 12 Mbytes of program FLASH
7.1 CPU card's Base-R interface must be an RJ-45 connector on the back panel.	7.1 CPU card's Base-R interface	must	be an RJ-45 connector on the back panel.
8.1 CPU Base-R connector shall use industry standard pinout.	8.1 CPU Base-R connector	shall	use industry standard pinout.
9.1 CPU RS-485 interface must be an industry standard connector for example a 9 pin female d-sub connector and shall be on the front panel.	9.1 CPU RS-485 interface must be an industry standard connector for example a 9 pin female d-sub connector and 9.1 CPU RS-485 interface	shall must	be on the front panel. be an industry standard connector for example a 9 pin female d-sub connector and shall be on the front panel.
10.1 CPR card's R-chip interface pinout is TBD.	10.1 CPR card's R-chip interface pinou	t is	BD.

	Subject of Requirements	Directive Verb of Requirement	Explanatory Information of Requirements
11.1 APU will provide 128 Kbytes of surge in a socket.	11.1 APU	will	provide 128 Kbytes of surge in a socket.
12.1 SPU card may support switch over to a back-up in a normal amount of time.	12.1 SPU card	may	support switch over to a back-up in a normal amount of time.

APPENDIX E—

Document Search Sample Output

Go to ID	CATM-T WP4 Final Program Requirements	Object Number	FAA Specification	FAA Standards	FAA Orders	Other Documents
CATMT-WP4_IP R_252	The CATM-T WP4 program shall undergo installation and checkout without disrupting existing services or the enterprise operational network.	8.0-5				
CATMT-WP4_IP R_253	The CATM-T WP4 program shall enable site personnel to use it in an operational environment to become familiar with the system operation and maintenance.	8.0-6				
CATMT-WP4_IP R_254	The CATM-T WP4 program shall undergo an In-Service Review in accordance with agency policy in order to obtain the in-service decision.	8.0-7				
CATMT-WP4_IP R_255	The CATM-T WP4 program shall undergo an assessment of its operational suitability and readiness for deployment using the In-Service Review Checklist.	8.0-8				In-Service Review Checklist
CATMT-WP4_IP R_256	The CATM-T WP4 program shall follow Order 2500.8B <i>Funding Criteria for Operations, Facilities and Equipment, Research, Engineering and Development, and Grants-In-Aid for Airports Accounts</i> [45].	8.0-9				
CATMT-WP4_IP R_257	In-Service Support and Management Requirements	9				
CATMT-WP4_IP R_258	The CATM-T WP4 program shall complete an Integrated Logistics Support (ILS) plan in accordance with <i>FAA Acquisition Management Policy (A/M-P)</i> , Section 4.3 <i>Integrated Logistics Support</i> [46].	9.0-1				
CATMT-WP4_IP R_259	Hardware Maintenance	9.1				
CATMT-WP4_IP R_260	The CATM-T WP4 program shall undergo depot-level support and engineering operational support in accordance with the ILS plan.	9.1.0-1				
CATMT-WP4_IP R_261	The CATM-T WP4 program shall complete and provide manuals and technical instructions in accordance with FAA Order FAA-D-2494, <i>Technical Instructions Book Manuscript: Electronic, Electrical and Mechanical Equipment</i> [47].	9.1.0-2	FAA-D-2494			
CATMT-WP4_IP R_262	The CATM-T WP4 program shall provide drawings and specification in accordance with MIL-STD-31000 <i>Department of Defense Standard Practice Technical Data Packages</i> [48].	9.1.0-2.0-1				
CATMT-WP4_IP R_263	The CATM-T WP4 program shall provide a baseline data escrow package consisting of technical manuals, drawings, specifications and source code and related software documentation.	9.1.0-2.0-2				
CATMT-WP4_IP R_264	The CATM-T WP4 program shall be maintained in accordance with FAA Order 6000.30, <i>National Airspace System Maintenance Policy</i> [49].	9.1.0-2.0-3			FAA Order 6000.30	
CATMT-WP4_IP R_265	The CATM-T WP4 program shall conduct on-site maintenance in accordance with FAA Order 6000.15G, <i>General Maintenance Handbook for National Airspace System (NASS) Facilities</i> [50].	9.1.0-2.0-4			FAA Order 6000.15	
CATMT-WP4_IP R_266	The CATM-T WP4 program shall provide hardware and software engineering support in accordance with FAA Order 1100.157A, <i>National Systems Engineering Divisions Maintenance, Program Procedure, Operational Support (AOS)</i> [51].	9.1.0-2.0-5			FAA Order 1100.157	
CATMT-WP4_IP R_267	The CATM-T WP4 program shall provide depot-level repair support for all Line-Replaceable Units (LRUs).	9.1.0-2.0-6				

Go to ID	CATM-T WP4 Final Program Requirements	Object Number	FAA Specification	FAA Standards	FAA Orders	Other Documents
R_302	<p>Term Definition</p> <p>Archive This term means to retain data for future use, separate from the operational system.</p> <p>Degraded Mode This term means all parts of the system (e.g., equipment, personnel) are not fully operational.</p> <p>Disseminate This term means to provide a restriction or TMI to NTML for distribution within the FAA and externally to stakeholders. This makes a restriction or TMI "official" and reportable.</p> <p>Local This term means to keep the data available only at the facility where it was created.</p> <p>Log This term means provided to NTML.</p> <p>Private This term means to keep the data available only to the person who created it.</p> <p>Publish This term means to provide information, through SWIM, to all those entities that subscribe to the SWIM feed. This could include, but is not limited to, TMIs in other facilities.</p> <p>Share This term means to provide information about restriction or modeling to other TMIs for coordination and consideration.</p> <p>Store This term means information is retained for operational use for some period of time. Time being specified or delimited by some event.</p> <p>Track This term means to maintain the status of an element (e.g., pre-departure reroute).</p>	12				
CATM-T WP4_FP R_303	<p>Appendix 3. Reference Documents</p> <p>CATM-T WP4 capabilities will be deployed as part of TFMS, a legacy system. The version of document listed is reflective of TFMS compliance at the time of development.</p>					
CATM-T WP4_FP R_304	[1] FAA, 2012, <i>FAA Order JO 7210.3Y, Facility Operation and Administration</i> , Washington, DC.	12.0-2	FAA(-)G-2100[IFgGhH]	[1] FAA, 2012, <i>FAA Order JO 7210.3Y, Facility Operation and Administration</i> , Washington, DC.	FAA Order 1100.157	29 CFR 1910
CATM-T WP4_FP R_305	[2] Federal Aviation Administration (FAA), May 2013, <i>Collaborative Air Traffic Management Technologies (CATM-T) Work Package 4 Concept of Operations</i> , Washington, DC.		FAA-C-1217	Administration, Washington, DC.	FAA Order 1380.40	29 CFR 1960
	[3] FAA, August 2013, <i>Functional Analysis Report for Collaborative Air Traffic Management Technologies (CATM-T) Work Package 4</i> , Washington, DC.		FAA-D-2494		FAA Order 1600.1	
	[4] FAA, July 2012, <i>Requirements Document Template: Program Requirements Templates</i> IAS Requirements Services Division, FAA-ANG-B1, Washington, DC.		NAS-SR-1000	[2] Federal Aviation Administration (FAA), May 2013, <i>Collaborative Air Traffic Management Technologies</i>	FAA Order 1800.66	
	[5] FAA, "IAS Enterprise Architecture Roadmaps, Version 7.0," December 18, 2012, https://nasea.faa.gov/products/ir/irmail/ .				FAA Order 3900.19	
	[6] FAA, 2014, <i>Final Sportellis Analysis Report for Collaborative Air Traffic Management Technologies</i>				FAA Order 4250.9	
					FAA Order 6000.15	
					FAA Order 6000.30	

Go to ID	CATM-T WP4 Final Program Requirements	Object Number	FAA Specifications	FAA Standards	FAA Orders	Other Documents
	<p>(CATM-T) Work Package 4. Washington, DC.</p> <p>[7] FAA, January 29, 2015, <i>Improving Demand Prediction Concept of Operations</i>. Version 3.3, Washington, DC.</p> <p>[8] Askey, et al., December 2014, <i>Concept of Operations for Integrated Departure Route Planning (IDRP) Capabilities for Collaborative Air Traffic Management Technologies (CATM-T) Work Package 4</i>. MITR120238R1, The MITRE Corporation, McLean, VA.</p> <p>[9] Howard, K., R. Sharick, April 2014, <i>TFMS Work Package 4: Functional Analysis for Improving Demand Prediction</i> Version 2 Report no. VNTSC-ATM-13-4, Volpe National Transportation Systems Center, Cambridge, MA.</p> <p>[10] Taber, N., J. Bernard, S. Janssen, April 2013, <i>Functional Analysis of Integrated Departure Route Planning (IDRP) Capabilities for Collaborative Air Traffic Management Technologies (CATM-T) Work Package 4</i>. MITRE Technical Report 130071, The MITRE Corporation, McLean, VA.</p> <p>[11] Howard, K., November 2014, <i>TFMS Work Package 4: Preliminary System Requirements for Improving Demand Prediction</i>. Volpe National Transportation Systems Center, Cambridge, MA.</p> <p>[12] Taber, N., J., November 2014, <i>Functional Requirements for Integrated Departure Route Planning (IDRP) Capabilities for Collaborative Air Traffic Management Technologies (CATM-T) Work Package 4</i>. The MITRE Corporation, McLean, VA.</p> <p>[13] FAA, December 4, 2012, <i>NAS-RD-2012, National Airspace System Requirements Document</i>. Washington, DC.</p> <p>[14] FAA, January 8, 2007, <i>FAA-HDBK-006A, Federal Aviation Administration (FAA) Reliability, Maintainability, and Availability (RMAA) Handbook</i>. Washington, DC.</p> <p>[15] FAA, April 8, 2013, <i>Order 1053-1B, Energy and Water Management Program for FAA Buildings and Facilities</i>. Washington, DC.</p> <p>[16] FAA, October 1993, <i>FAA Order 9550.8, FAA Human Factors Policy</i>. Washington, DC.</p> <p>[17] FAA, December 2003, <i>FAA Human Factors Acquisition Job Aid</i>. Washington, DC.</p> <p>[18] 29 USC 794D, <i>The Rehabilitation Act Amendments</i> (Section 508), October 2014, Washington, DC.</p> <p>[19] DOT/FAA/CT-03/05, May 2003, <i>The FAA Human Factors Design Standard (HFDS)</i>, Ahlstrom, V, Longo, K., HF-STD-001.</p> <p>[20] FAA Human Factors Homepage, http://hf.tc.faa.gov/hfids/.</p> <p>[21] International Standard - Human-centered design processes for interactive systems, ISO 13407, June 1, 1999.</p> <p>[22] FAA, ASD-100-SSE-1, <i>NAS Modernization System Safety Management Program</i>. Washington, DC.</p> <p>[23] FAA, 29 April 1999, <i>FAA Order 3900.19B, FAA Occupational Safety and Health Program</i>. Washington, DC.</p>			<p>(CATM-T) Work Package 4 Concept of Operations, Washington, DC.</p> <p>[3] FAA, August 2013, <i>Functional Analysis Report for Collaborative Air Traffic Management Technologies (CATM-T) Work Package 4</i>. Washington, DC.</p> <p>[4] FAA, July 2012, <i>Requirements Document Template: Program Requirements Template, NAS Requirements Services Division, FAA-ANG-B1</i>. Washington, DC.</p> <p>[5] FAA, "NAS Enterprise Architecture Roadmaps, Version 7.0," December 18, 2012. https://nasea.faa.gov/products/ir/m ain.</p> <p>[6] FAA, 2014, <i>Final Shortfalls Analysis Report for Collaborative Air Traffic Management Technologies (CATM-T) Work</i></p>	<p>FAA Order 9550.8</p> <p>FAA Order 2500.8</p>	

APPENDIX F—

Document List Sample Output

Document List.txt

FAA Specifications

- 0 - ENET 1370-020.1
- 1 - ENET 1370-001.1
- 2 - FAA-E-2911
- 3 - FAA-E-2912
- 4 - FAA[-]G-2100[fFgGhH]
- 5 - NAS 1370.500.4
- 6 - NAS-IC-51070000-1
- 7 - NAS-IR-8237001
- 8 - FAA-C-1217
- 9 - FAA-D-2494
- 10 - FAA-D-2706
- 11 - FAA-D-2781
- 12 - NAS-SR-1000
- 13 - NAS-SS-1000

FAA Standards

- 0 - FAA-STD-025
- 1 - FAA-STD-047
- 2 - FAA-STD-039
- 3 - FAA-STD-042
- 4 - FAA-STD-020
- 5 - FAA-STD-045
- 6 - FAA-STD-048
- 7 - FAA-STD-019
- 8 - FAA-STD-028
- 9 - FAA-STD-029
- 10 - FAA-STD-032
- 11 - FAA-STD-036

IETF RFC Documents

- 0 - IETF RFC 768
- 1 - IETF RFC 791
- 2 - IETF RFC 792
- 3 - IETF RFC 793
- 4 - IETF RFC 796
- 5 - IETF RFC 822
- 6 - IETF RFC 826
- 7 - IETF RFC 854
- 8 - IETF RFC 862
- 9 - IETF RFC 894
- 10 - IETF RFC 903
- 11 - IETF RFC 950
- 12 - IETF RFC 959
- 13 - IETF RFC 1042
- 14 - IETF RFC 1055
- 15 - IETF RFC 1058
- 16 - IETF RFC 1108
- 17 - IETF RFC 1112
- 18 - IETF RFC 1122
- 19 - IETF RFC 1123
- 20 - IETF RFC 1142
- 21 - IETF RFC 1155
- 22 - IETF RFC 1157
- 23 - IETF RFC 1191
- 24 - IETF RFC 1195
- 25 - IETF RFC 1212
- 26 - IETF RFC 1213
- 27 - IETF RFC 1321
- 28 - IETF RFC 1332
- 29 - IETF RFC 1349
- 30 - IETF RFC 1350
- 31 - IETF RFC 1356

Document List.txt

32 - IETF RFC 1390
33 - IETF RFC 1510
34 - IETF RFC 1518
35 - IETF RFC 1519
36 - IETF RFC 1591
37 - IETF RFC 1661
38 - IETF RFC 1706
39 - IETF RFC 1771
40 - IETF RFC 1825
41 - IETF RFC 1887
42 - IETF RFC 1888
43 - IETF RFC 1918
44 - IETF RFC 1928
45 - IETF RFC 1929
46 - IETF RFC 1961
47 - IETF RFC 2011
48 - IETF RFC 2050
49 - IETF RFC 2080
50 - IETF RFC 2104
51 - IETF RFC 2131
52 - IETF RFC 2153
53 - IETF RFC 2156
54 - IETF RFC 2225
55 - IETF RFC 2236
56 - IETF RFC 2246
57 - IETF RFC 2328
58 - IETF RFC 2331
59 - IETF RFC 2347
60 - IETF RFC 2348
61 - IETF RFC 2349
62 - IETF RFC 2373
63 - IETF RFC 2375
64 - IETF RFC 2401
65 - IETF RFC 2402
66 - IETF RFC 2403
67 - IETF RFC 2404
68 - IETF RFC 2405
69 - IETF RFC 2406
70 - IETF RFC 2407
71 - IETF RFC 2408
72 - IETF RFC 2409
73 - IETF RFC 2412
74 - IETF RFC 2427
75 - IETF RFC 2440
76 - IETF RFC 2450
77 - IETF RFC 2453
78 - IETF RFC 2460
79 - IETF RFC 2461
80 - IETF RFC 2462
81 - IETF RFC 2463
82 - IETF RFC 2464
83 - IETF RFC 2467
84 - IETF RFC 2472
85 - IETF RFC 2473
86 - IETF RFC 2474
87 - IETF RFC 2492
88 - IETF RFC 2510
89 - IETF RFC 2526
90 - IETF RFC 2545
91 - IETF RFC 2578
92 - IETF RFC 2579
93 - IETF RFC 2580
94 - IETF RFC 2590

Document List.txt

- 95 - IETF RFC 2732
- 96 - IETF RFC 2863
- 97 - IETF RFC 2631
- 98 - IETF RFC 2632
- 99 - IETF RFC 2633
- 100 - IETF RFC 2634
- 101 - IETF RFC 2640
- 102 - IETF RFC 2661
- 103 - IETF RFC 2732
- 104 - IETF RFC 2740
- 105 - IETF RFC 2784
- 106 - IETF RFC 2817
- 107 - IETF RFC 2821
- 108 - IETF RFC 2858
- 109 - IETF RFC 2893
- 110 - IETF RFC 2928
- 111 - IETF RFC 3022
- 112 - IETF RFC 3031
- 113 - IETF RFC 3041
- 114 - IETF RFC 3056
- 115 - IETF RFC 3168
- 116 - IETF RFC 3177
- 117 - IETF RFC 3260
- 118 - IETF RFC 3268
- 119 - IETF RFC 3315
- 120 - IETF RFC 3363
- 121 - IETF RFC 3369
- 122 - IETF RFC 3370
- 123 - IETF RFC 3376
- 124 - IETF RFC 3410
- 125 - IETF RFC 3411
- 126 - IETF RFC 3412
- 127 - IETF RFC 3413
- 128 - IETF RFC 3414
- 129 - IETF RFC 3415
- 130 - IETF RFC 3416
- 131 - IETF RFC 3417
- 132 - IETF RFC 3418
- 133 - IETF RFC 3437
- 134 - IETF RFC 3484
- 135 - IETF RFC 3513
- 136 - IETF RFC 3546
- 137 - IETF RFC 3584
- 138 - IETF RFC 3596
- 139 - IETF RFC 4022
- 140 - IETF RFC 4113
- 141 - RFC

International Standards

- 0 - ISO 7498
- 1 - ISO 8824
- 2 - ISO 9542
- 3 - ISO 10589
- 4 - ISO 10747
- 5 - EIA-530
- 6 - American Society of Heating
- 7 - American National Standards Institute (ANSI)/ASQCC-Q09001
- 8 - ANSI/ASQC Q 9001
- 9 - ANSI/EIA 649
- 10 - ANSI/IEEE C95.1-1991 (R-97)
- 11 - ASTM-D-3951
- 12 - American Society of Heating
- 13 - IEEE STD 1100-1999

Document List.txt

- 14 - IEEE-C62. 41-1995
- 15 - IEEE-C62. 45-1997
- 16 - International Civil Aviation Organization (ICAO)
- 17 - International Standards Organization (ISO) 9000-3
- 18 - In-Service Review Checklist
- 19 - National Environmental Policy Act (NEPA) of 1969
- 20 - National Fire Protection Association (NFPA)
- 21 - NFPA Standard for the Installation of Lightning Protection Systems
- 22 - Office of Management and Budget (OMB) Circular A-130
- 23 - National Electric Code (NEC)
- 24 - Society of Automotive Engineers (SAE) Aerospace Recommended Protocol (ARP)-4754
- 25 - RTCA DO-178
- 26 - RTCA DO-254
- 27 - RTCA DO-264
- 28 - RTCA DO-278

FAA Publications

- 0 - NAS Architecture Version 6.0
- 1 - FAA Asset Identification Contract Data Requirements List and Data Item Description (CDRL/DID)
- 2 - FAA Asset Identification Specification
- 3 - FAA ASU-200-03
- 4 - FAA Document Template for Preparation of Product Integration Plans
- 5 - FAA Human Factors Job Aid (HFJA)
- 6 - FAA Acquisition Management System (AMS)
- 7 - FAA Operational Services and Environment Definition (OSED) Document for the NAVAID Control
- 8 - FAA Personnel Management Directive
- 9 - FAA System Safety Management Program

FAA Orders

- 0 - FAA Order 1050. 9
- 1 - FAA Order 1050. 10
- 2 - FAA Order 1050. 14
- 3 - FAA Order 1050. 20
- 4 - FAA Order 1053. 1
- 5 - FAA Order 1100. 157
- 6 - FAA Order 1320. 58
- 7 - FAA Order 1380. 40
- 8 - FAA Order 1600. 1
- 9 - FAA Order 1600. 6
- 10 - FAA Order 1800. 58
- 11 - FAA Order 1800. 66
- 12 - FAA Order 3000. 10
- 13 - FAA Order 3000. 22
- 14 - FAA Order 3120. 4
- 15 - FAA Order 3400. 3
- 16 - FAA Order 3900. 19
- 17 - FAA Order 3900. 57
- 18 - FAA Order 4250. 9
- 19 - FAA Order 4441. 16
- 20 - FAA Order 4630. 9
- 21 - FAA Order 4650. 3[,]
- 22 - FAA Order 4650. 19
- 23 - FAA Order 4650. 30
- 24 - FAA Order 4650. 31
- 25 - FAA Order 4770. 3
- 26 - FAA Order 4800. 2
- 27 - FAA Order 6000. 15
- 28 - FAA Order 6000. 30
- 29 - FAA Order 6000. 38
- 30 - FAA Order 6000. 53
- 31 - FAA Order 6030. 20

Document List.txt

- 32 - FAA Order 6040.15
- 33 - FAA Order 6090.1
- 34 - FAA Order 6750.16
- 35 - FAA Order 6750.24
- 36 - FAA Order 6750.49
- 37 - FAA Order 6950.19
- 38 - FAA Order 6950.2
- 39 - FAA Order 6950.20
- 40 - FAA Order 6970.3
- 41 - FAA Order 8040.4
- 42 - FAA Order 9550.8
- 43 - FAA Order 4500.3
- 44 - FAA Order 4630.1
- 45 - FAA Order 3910.3
- 46 - FAA Order 4140.1
- 47 - FAA Order 4633.1
- 48 - FAA Order 2220.1
- 49 - FAA Order 2500.8
- 50 - FAA Order 2700.31
- 51 - FAA Order 1050.1[,]
- 52 - FAA Order 1370.82
- 53 - FAA Order 1600.54B
- 54 - FAA Order 1050.17
- 55 - FAA Order 1050.19
- 56 - FAA Order 4630.6
- 57 - FAA Order 6000.27
- 58 - FAA Order 6480.7C
- 59 - FAA Order 7110.65J
- 60 - FAA Order 7210.3K

Other Documents

- 0 - MUI L HDBK 61A
- 1 - MI L STD 810
- 2 - MI L DTL 3100D
- 3 - DOT/FAA/AR-99/52
- 4 - DOT VNTSC FAA 95 3
- 5 - DOT/FAA/CT 02 05
- 6 - Executive Order 12699
- 7 - Executive Order 12873
- 8 - Executive Order 12941
- 9 - Executive Order 13123
- 10 - Executive Order 12088
- 11 - Presidential Directive 63
- 12 - 10 Code of Federal Regulations (CFR) Part 435
- 13 - 29 CFR 1910
- 14 - 29 CFR 1926
- 15 - 29 CFR 1960
- 16 - 40 CFR
- 17 - 40 CFR 61
- 18 - 40 CFR 247
- 19 - 40 CFR 260
- 20 - 29 CFR 1910.1200
- 21 - FEMA 74
- 22 - FEMA Publication 302
- 23 - ICAO SARPS
- 24 - International Standards Organization (ISO) 9000-3
- 25 - In-Service Review Checklist
- 26 - National Environmental Policy Act (NEPA) of 1969
- 27 - National Fire Protection Association (NFPA)
- 28 - NFPA Standard for the installation of Lightning Protection Systems
- 29 - Office of Management and Budget (OMB) Circular A-130
- 30 - National Electric Code (NEC)
- 31 - SAE Aerospace Recommended Protocol (ARP)-4754

APPENDIX G—

FAA Requirement Quality Tool (FRQT) Installation Instructions

FAA Requirements Quality Tool (FRQT) Installation Instructions

1. Create a folder called temp on the desktop of the DOORS server
2. Extract all the files from “FRQT Distribution v1.zip” archive to the temp folder.
3. Move the FRQT folder under the “addins” folder of the DOORS distribution.
(For example: C:\Program Files\IBM\Rational\DOORS\9.6\Lib\dxl\addins\)
4. Move the printing template into the Documents folder of the DOORS user.
5. Move the Documentation and Sample Requirements Sets folders to the Documents folder of the DOORS user.

APPENDIX H—

List of Files

Index of H:\Removable Disk (K)\DOORS Requirements Screener\FRQT Distribution 1.0\

Name	Size	Date Modified
[parent directory]		
Documentation/		2/9/17, 2:15:14 PM
FRQT/		2/9/17, 1:34:30 PM
Sample Requirement Sets/		2/9/17, 2:16:12 PM
Printing Template 012317.doc	141 kB	1/23/17, 4:52:54 PM

Index of H:\Removable Disk (K)\DOORS Requirements Screener\FRQT Distribution 1.0\Documentation\

Name	Size	Date Modified
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DOORS Familiarization modified.pptx	1.8 MB	4/29/14, 2:43:40 PM
FRQT help file.rtf	45.7 kB	2/9/17, 1:59:12 PM

Index of H:\Removable Disk (K)\DOORS Requirements Screener\FRQT Distribution 1.0\FRQT

Name	Size	Date Modified
[parent directory]		
includes/		5/23/16, 8:04:59 AM
layout/		5/23/16, 8:04:59 AM
docfinder.dxl	4.6 kB	10/18/08, 8:06:50 AM
FRQT - Shortcut.lnk	1.1 kB	8/10/16, 8:26:13 AM
FRQT.hlp	0 B	9/17/02, 8:44:40 AM
FRQT.idx	582 B	1/4/17, 3:59:49 PM
MatureReq.dxl	5.9 kB	4/5/16, 7:05:51 AM
metrics.dxl	7.0 kB	4/5/16, 7:10:17 AM
pdoculist.dxl	1.7 kB	5/18/16, 12:04:35 PM
pkeywords.dxl	2.0 kB	4/5/16, 7:11:36 AM
rqt.dxl	10.6 kB	4/5/16, 7:16:32 AM

Index of H:\Removable Disk (K)\DOORS Requirements Screener\FRQT Distribution 1.0\FRQT\includes

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attrsel.inc	2.8 kB	9/17/02, 8:44:40 AM
Documentlist.inc	30.5 kB	5/31/16, 10:28:20 AM
keywords.inc	17.1 kB	1/19/17, 3:37:12 PM
linksmenu.inc	304 B	4/5/16, 7:29:36 AM
lstofvio.inc	19.7 kB	5/9/11, 2:57:52 PM
multmtch.inc	2.7 kB	9/17/02, 8:44:40 AM
nulllinks.inc	5.8 kB	9/17/02, 8:44:40 AM
PrefsMenu.inc	286 B	4/5/16, 7:31:47 AM
publish_old.inc	6.0 kB	2/25/09, 11:56:12 AM
reqmntquality.inc	8.8 kB	6/30/15, 1:05:02 PM
selectsection.inc	1.2 kB	9/17/02, 8:44:40 AM
setreqmnt.inc	1.9 kB	5/9/16, 1:20:57 PM
stability.bac	6.8 kB	9/17/02, 8:44:40 AM
stability.inc	7.0 kB	5/17/16, 9:05:13 AM
summary.inc	12.0 kB	4/13/16, 12:47:40 PM
textcomp.inc	3.0 kB	9/17/02, 8:44:40 AM
utils.inc	1.7 kB	9/17/02, 8:44:40 AM

Index of H:\Removable Disk (K)\DOORS Requirements Screener\FRQT Distribution 1.0\FRQT\layout

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numofdirectiveverb.dxl	3.7 kB	4/5/16, 7:37:30 AM
numofdocument.dxl	3.3 kB	4/5/16, 7:37:55 AM
numofexplanatroyInformation.dxl	3.6 kB	4/5/16, 7:38:16 AM
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numofinc.dxl	3.1 kB	4/5/16, 7:39:03 AM
numofObjectNum.dxl	2.7 kB	4/5/16, 7:39:30 AM
numofopt.dxl	2.9 kB	4/5/16, 7:39:52 AM
numofreq.dxl	3.0 kB	4/5/16, 7:40:13 AM
numOfRplmntwek.dxl	3.8 kB	4/5/16, 7:40:35 AM
numofsubject.dxl	3.8 kB	4/5/16, 7:40:58 AM
numofwek.dxl	3.0 kB	4/5/16, 7:41:19 AM
ReqDisp.dxl	4.6 kB	10/17/11, 2:25:26 PM
rsnforwek.dxl	3.1 kB	4/5/16, 7:41:56 AM

Index of H:\Removable Disk (K)\DOORS Requirements Screener\FRQT Distribution 1.0\Sample Requirement Sets\

Name	Size	Date Modified
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CATM-T WP4 fPR.rtf	93.0 kB	2/24/16, 3:50:31 PM
Sample Requirements.rtf	32.3 kB	2/9/17, 2:11:26 PM