



Sonata Enhances Open Source Requirements Management Tool

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The Open Source Requirements Management Tool (OSRMT) v1.5 is a unique Open Source tool that is platform independent and manages a range of software requirements. Developed using Java, OSRMT is available under the Open Source GPL license and can be downloaded from <http://sourceforge.net/projects/osrmt/>

OSRMT can be used by Business Analysts, Developers, Testers and Project Managers to define and trace dependencies between different software artifacts such as Requirements, Design, Implementation and Test Cases. OSRMT offers artifact traceability in two formats -- tree view diagrams and reports.

However, artifact traceability reports produced by OSRMT v1.5 have certain limitations, such as:

- The reports display one artifact, for example Design, as rows and the dependent artifact, for example Requirement, as different columns with an 'X' mark at the intersection of the rows and columns for the two artifacts, which denotes their traceability.
- The reports have a columnar format, which is suitable only for a few entries of software artifacts.

The screenshot shows the OSRMT v1.5 interface. On the left is a tree view of artifacts under 'Example', including Requirement, Design, and Implementation. The main window displays a table of requirements:

Req #	Name	Priority	Status	Version	Description	Created
4	Update User Details	High	Submitted	1.1		06/11/2009 15:29.13
1	Add Users	High	Approved	1.0	req1req1req1	06/03/2009 15:40.36
2	User Login	High	Submitted	1.0	222 req2 User Login	06/03/2009 15:41.10

The 'Columns: Traceability' window is open, showing a traceability matrix. The 'Trace From' is set to 'Design' and 'Trace To' is 'Requirement'. The matrix shows the following traceability:

	Update User Details	Department Login	Add Users	User Login
DDL-User Login	X			
DDL-User Add			X	
HLD-User Add				
HLD-MP				X
HLD-User Login				X
HLD-User Transfer			X	X

However, in real life projects, the number of entries of artifacts such as Requirements or Design may be in hundreds or even thousands, depending on the complexity of the project. In such cases, the use of columnar reports may not be feasible as the users will have to scroll through many pages sideways. Moreover, it will be difficult to generate a hardcopy of such traceability reports.

To overcome these limitations, Sonata Software performed an analysis of traceability feature of the OSRMT. During the analysis, it was found that the artifact traceability reports can be generated in rows instead of columns.

Requirement	Priority	Design
Update User Details	High	DDL-User Login
Department Login	High	HLD-User Add, HLD-User Transfer
Add Users	High	HLD-User Login, HLD-User Transfer
User Login	High	

Hence, as part of its Open Source CoE, Sonata Software took up the task of enhancing the OSRMT tool to produce traceability reports in rows. Consequently, Sonata designed and developed a report format in which the traceability of two artifacts is displayed as records.

For example, if a Design ID is dependent on a particular Requirement ID, then that Design ID and the mapped Requirement ID are displayed in a single row in the traceability report. In this approach, if the number of artifacts in a project increases, then more rows instead of columns will be added to the traceability report. Hence, the limitation of the columnar format of traceability reports is resolved.

As part of another enhancement, Sonata took up the customization of product-wise artifact details report produced by OSRMT. Though OSRMT allows child entries for a particular parent artifact (for example, child requirements for a parent requirement), the reports generated by it do not display the parent artifact information.

Sonata Software has customized OSRMT's product-wise artifact details reports to display the parent artifact information, wherever applicable.

Req#	Requirement	Version	Status	Priority	Parent	Description
1	Add Users	1.0	Approved	High		Adding users
2	User Login	1.0	Submitted	High		User Login
3	Department Login	1.0	Submitted	High	User Login	Department Login
4	Update User Details	1.1	Submitted	High		

To download the source code for OSRMT enhanced by Sonata Software, please [click here](#).