

D1.6.2 Software Requirements Document (SRD)

ModelWriter

Text & Model-Synchronized Document Engineering Platform

Project number: ITEA 2 13028

Work Package: WP1

Task: T1.6 – Consolidated Software Requirements and Review

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Apart from the deliverables which are defined as public information in the Project Cooperation Agreement (PCA), unless otherwise specified by the consortium, this document will be treated as strictly confidential.

Document History

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1. Introduction

1.1. Role of the deliverable

A common **Software Requirements Document** (SRD, alias D1.6.2) derived from the previous User Requirements Document will identify and prioritize the functional and non-functional requirements for the ModelWriter IDE, addressing the selected User Requirements. This SRD will also include the technical environment necessary e.g. for Task T6.7 from OBEO.

A progress meeting chaired by UNIT (but hosted by SOGETI) was organized for the technology developers (represented by WP2 to WP4 leaders) to share and explain to all participating project partners what are the ModelWriter platform features and non-functional requirements which are proposed for research and implementation

This document is the first version of the software requirements collected from technical work packages. It may be up-dated depending on the further details and requirements.

The **Software Requirements Document** (SRD) (D1.6.2) is automatically compiled from the issue list of the public “Requirements” repository of ModelWriter’s GitHub organization¹. The information about confirmed requirements and the prioritization of the requirements are programmatically gathered from the public ‘waffle’ scrum board of the “Requirements” repository².

1.2. The List of Technical Work Packages

UC Code	Requirements derived from
WP2	Semantic Parsing and Generation of Documents and Documents Components
WP3	Model to/from Knowledge Base (synchronization mechanism)
WP4	Knowledge Base Design and Implementation
WP6	Architecture, Integration and Evaluation

1.3. The List of Use Cases

UC Code	Requirements derived from
UC-FR-01	Synchronization between Models and Documentation
UC-FR-02	Enterprise Architecture

¹ <https://github.com/ModelWriter/Requirements/issues>

² <https://waffle.io/modelwriter/requirements>

UC Code	Requirements derived from
UC-FR-03	Synchronization of regulation documentation with a design rule repository
UC-FR-04	Production of a context specific design document
UC-TR-01	Production of a proposal in response to an IPA Invitation To Tender
UC-TR-02	Collaborative production of a proposal for an IPA project
UC-TR-03	Synchronization of ReqIF/Clafer models with requirement specifications
UC-TR-04	Requirement Engineering for System Modelling
UC-TR-05	Synchronous Business Process Design with Use Cases
UC-BE-01	Requirements IT
UC-BE-02	Automated Test Generation

1.4. Conventions

The requirements are prefixed by “REQ-SR-WPz-xxx”, and are written in a roman typeface, where “REQ” stands for “Requirement”, “SR” indicates “Software Requirements”, “z” stands for the number of work package where the requirement is originated and “xxx” is the positive integer identifier of the requirement. You can add this id (xxx) which is unique entire ‘requirements’ repository, at the end of <https://github.com/ModelWriter/Requirements/issues/> to access the latest version of the requirement.

1.5. Structure of the document

This document is organized as follows:

- Chapter 1 introduces the document.
- Chapter 2 describes each requirements.

1.6. Terms, abbreviations and definitions

Abbreviation	Definition
RDF	Resource Description Framework
WP	Work Package
UC	Use Case
BPMN	Business Process Model & Notation
ReqIF	Requirements Interchange Format
RMF	Requirements Modeling Framework
SBVR	Semantics Of Business Vocabulary And Rules

2. Software Requirements

2.1. REQ-UR-67

System transforms synchronization links, models and instances to RDF triples.

Description:

URI: <https://github.com/ModelWriter/Requirements/issues/67>

Created: 10.07.2015

Created By: ferhaterata

Assignee: N/A

2.2. REQ-UR-66

System provides several ways for the user to select text/model elements.

Description:

URI: <https://github.com/ModelWriter/Requirements/issues/66>

Created: 10.07.2015

Created By: ferhaterata

Assignee: N/A

2.3. REQ-UR-65

System provides several ways for the user to create links between the model and text elements.

Description:

URI: <https://github.com/ModelWriter/Requirements/issues/65>

Created: 10.07.2015

Created By: ferhaterata

Assignee: N/A

2.4. REQ-UR-64

Consistency Check of the synchronization links should be performed based on the Knowledge Base.

Description:

URI: <https://github.com/ModelWriter/Requirements/issues/64>

Created: 10.07.2015

Created By: ferhaterata

Assignee: N/A

2.5. REQ-UR-63

System should suggest corresponding text-model mapping.

Description:

Model means concepts, individuals and relations in knowledge base.

URI: <https://github.com/ModelWriter/Requirements/issues/63>

Created: 10.07.2015

Created By: ferhaterata

Assignee: N/A

2.6. REQ-UR-62 [Mandatory]

The system shall be a standalone

Description:

This is related to #29

Related to:

<https://github.com/ModelWriter/Requirements/issues/29>

URI: <https://github.com/ModelWriter/Requirements/issues/62>

Created: 28.05.2015

Created By: mrostren

Assignee: N/A

2.7. REQ-UR-61 [Mandatory]

The notification system shall indicate the desynchronization and the reconciliation failures

Description:

This requirement is related to the #28

All mappings desynchronization and all reconciliation failures must be indicated by displaying markers notification in the editor.

Related to:

<https://github.com/ModelWriter/Requirements/issues/28>

URI: <https://github.com/ModelWriter/Requirements/issues/61>

Created: 28.05.2015

Created By: mrostren

Assignee: N/A

2.8. REQ-UR-60 [Optional]

The system shall provide an additional glossary view

Description:

This software requirement is related to #40 and to #59

The glossary shall display the list of all concepts used to map text parts of a document.

The selection of one or more concept in this view must display by highlighting the related text parts.

Related to:

<https://github.com/ModelWriter/Requirements/issues/40>

<https://github.com/ModelWriter/Requirements/issues/59>

URI: <https://github.com/ModelWriter/Requirements/issues/60>

Created: 28.05.2015

Created By: mrostren

Assignee: N/A

2.9. REQ-UR-59 [Mandatory]

The system shall provide an optional highlighting action to show mapped text parts in the editor

Description:

This software requirement is related to #40 and to #47.

This requirement is mandatory to indicate all the text parts already mapped in the document.

Related to:

<https://github.com/ModelWriter/Requirements/issues/40>

<https://github.com/ModelWriter/Requirements/issues/47>

URI: <https://github.com/ModelWriter/Requirements/issues/59>

Created: 28.05.2015

Created By: mrostren

Assignee: N/A

2.10. REQ-UR-57 [Mandatory]

The system shall store the mapping (text - concept) in the knowledge base

Description:

This software requirement is related to #47

The mapping must be resilient enough to localize correctly the text part and/or the concerned concept even after change. The changes will be defined later.

Related to:

<https://github.com/ModelWriter/Requirements/issues/47>

URI: <https://github.com/ModelWriter/Requirements/issues/57>

Created: 28.05.2015

Created By: mrostren

Assignee: N/A

2.11. REQ-UR-56 [Mandatory]

The system shall provide a new keyboard shortcut to weave concepts and make mappings

Description:

This Software Requirement is related to the #48.

It is also related to the mapping processing: #20.

Related to:

<https://github.com/ModelWriter/Requirements/issues/48>

<https://github.com/ModelWriter/Requirements/issues/20>

URI: <https://github.com/ModelWriter/Requirements/issues/56>

Created: 28.05.2015
Created By: mrostren
Assignee: N/A

2.12. REQ-UR-55 [Desirable]

The concepts proposal shall be provided in acceptable time for human being

Description:

This Software Requirement is related to the #48.

This requirement is related to the Editor and to the Knowledge base response time as well.

Related to:

<https://github.com/ModelWriter/Requirements/issues/48>

URI: <https://github.com/ModelWriter/Requirements/issues/55>

Created: 28.05.2015
Created By: mrostren
Assignee: N/A

2.13. REQ-UR-54 [Mandatory]

The Editor shall be able to display choices to facilitate the selection of concepts

Description:

This Software Requirement is related to the #48.

Related to:

<https://github.com/ModelWriter/Requirements/issues/48>

URI: <https://github.com/ModelWriter/Requirements/issues/54>

Created: 28.05.2015
Created By: mrostren
Assignee: N/A

2.14. REQ-UR-WP6-44

Text Connector should support Textile (textile) and/or Markdown (mw) standards.

Description:

URI: <https://github.com/ModelWriter/Requirements/issues/44>

Created: 07.04.2015
Created By: ferhaterata
Assignee: N/A

2.15. REQ-UR-WP6-43

Text Connector should support Office Open XML (docx) standard.

Description:

Traces ModelWriter/WP6#10.

Related to:

<https://github.com/ModelWriter/WP6/issues/10>

URI: <https://github.com/ModelWriter/Requirements/issues/43>

Created: 07.04.2015

Created By: ferhaterata

Assignee: N/A

2.16. REQ-UR-24 [Mandatory]

The Documentation Editor shall not display explicitly links to the model

Description:

This software requirement is related to #47.

Since the explicit links in documents make the documentation unreadable, Modelwriter editor MUST NOT display explicit links to the model(s) in the documentation(s).

Related to:

<https://github.com/ModelWriter/Requirements/issues/47>

URI: <https://github.com/ModelWriter/Requirements/issues/24>

Created: 20.01.2015

Created By: mrostren

Assignee: N/A

2.17. REQ-UR-WP3-14

The TRAM will be able to compose transformations.

Description:

The TRAM will be able to compose transformations. For this purpose, a transformations chain is defined and the output of a transformation is the input for the subsequent ones in the transformation chain. This mechanism not only improves the extension of the ModelWriter transformation catalogue but it also facilitates the execution of complex batch transformation processes.

URI: <https://github.com/ModelWriter/Requirements/issues/14>

Created: 20.11.2014

Created By: ferhaterata

Assignee: N/A

2.18. REQ-UR-WP3-13

The TRAM validates such parameters and also the input models before a transformation takes place.

Description:

The TRAM validates such parameters and also the input models before a transformation takes place. Also, the TRAM informs the users (persons or processes) about the progress of the transformation and which has been the result of it (e.g. degree of success, errors, warnings).

URI: <https://github.com/ModelWriter/Requirements/issues/13>

Created: 20.11.2014

Created By: ferhaterata

Assignee: N/A

2.19. REQ-UR-WP3-12

A mechanism is needed to register the available transformations in ModelWriter

Description:

The Transformations Manager (TRAM) will be responsible for providing the infrastructure to launch each transformation included in its transformation registry. Thus a unique and homogeneous interface is provided for all them. The TRAM intends to facilitate the extension of ModelWriter because it will allow including new transformations or new versions of the existing ones in a simple way. The registry for each transformation contains the type of the transformation (model-to-model, model-to-text) and its parameters (which are the input models, the name of the output model, etc.).

URI: <https://github.com/ModelWriter/Requirements/issues/12>

Created: 20.11.2014

Created By: ferhaterata

Assignee: N/A

2.20. REQ-UR-WP3-11

M2M Transformation Framework must synchronize the output models after its input models or configurations have been modified.

Description:

URI: <https://github.com/ModelWriter/Requirements/issues/11>

Created: 20.11.2014

Created By: ferhaterata

Assignee: N/A

2.21. REQ-UR-WP3-10

M2M Transformation Framework must keep traces between transformed models and its source models.

Description:

URI: <https://github.com/ModelWriter/Requirements/issues/10>

Created: 20.11.2014

Created By: ferhaterata

Assignee: N/A

2.22. REQ-UR-WP3-9

M2M Transformation Framework should compose simple transformations to obtain more complex ones.

Description:

URI: <https://github.com/ModelWriter/Requirements/issues/9>

Created: 20.11.2014

Created By: ferhaterata

Assignee: N/A

2.23. REQ-UR-WP3-8

M2M Transformation Framework should configure the transformations to be able to produce different outputs using the same inputs.

Description:

URI: <https://github.com/ModelWriter/Requirements/issues/8>

Created: 20.11.2014

Created By: ferhaterata

Assignee: N/A

2.24. REQ-UR-WP3-7

Transformation Manager shall obtain one or several output models from one or several input models.

Description:

URI: <https://github.com/ModelWriter/Requirements/issues/7>

Created: 20.11.2014

Created By: ferhaterata

Assignee: N/A

2.25. REQ-UR-WP3-6

The Transformation Framework must be built on top of the Eclipse Modelling Framework (EMF)

Description:

The framework will be built on top of the Eclipse Modelling Framework (EMF) ecosystem in order to provide a standard technological infrastructure.

URI: <https://github.com/ModelWriter/Requirements/issues/6>

Created: 20.11.2014

Created By: ferhaterata

Assignee: ferhaterata

2.26. REQ-UR-WP3-5

Synchronization Manager Plug-in must be a component in the M2M Transformation Framework

Description:

Synchronization Manager Plug-in should trigger transformations when synchronization is needed.

URI: <https://github.com/ModelWriter/Requirements/issues/5>

Created: 20.11.2014

Created By: ferhaterata

Assignee: N/A

2.27. REQ-UR-WP3-4

Traceability Manager (TRAM) Plug-in must be a component in the M2M Transformation Framework

Description:

Traceability Manager plug-in keeps links between elements of user-visible models and elements of the KB.

This task defines a mapping mechanism to link the elements of the input and output models. These links will allow the processes (transformations and synchronizations) to navigate among the related models. The proposed technologies for this task are the following: EMF for DSL definition, FEFEM for form-based editors, Epsilon.

URI: <https://github.com/ModelWriter/Requirements/issues/4>

Created: 20.11.2014

Created By: ferhaterata

Assignee: N/A

2.28. REQ-UR-WP3-3

Configuration Manager Plug-in must be a component in the M2M Transformation Framework

Description:

Configuration Manager plug-in should personalize the behaviour of the framework to meet the needs of a specific standard / organization / project / individual.

URI: <https://github.com/ModelWriter/Requirements/issues/3>

Created: 20.11.2014

Created By: ferhaterata

Assignee: N/A

2.29. REQ-UR-WP3-2

Transformation Manager Plug-in must be a component in the M2M Transformation Framework

Description:

Transformation Manager Plug-in provides the infrastructure to register and launch transformations.

URI: <https://github.com/ModelWriter/Requirements/issues/2>

Created: 20.11.2014

Created By: ferhaterata

Assignee: N/A

References

N/A

Appendixes

N/A