**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

Edited by:

Ferhat Erata <ferhat@unitbilisim.com> (UNIT)

Moharram Challenger <Moharram.challenger@unitbilisim.com> (UNIT)

Serhat Çelik <serhat.celik@unitbilisim.com> (UNIT)

Hasan Emre Kırmızı <emre.kirmizi@unitbilisim.com> (UNIT)

Ümit Anıl Öztürk <anil.ozturk@unitbilisim.com> (UNIT)

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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. 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 organization[[1]](#footnote-1). The information about confirmed requirements and the prioritization of the requirements are programmatically gathered from the public ‘waffle’ scrum board of the “Requirements” repository[[2]](#footnote-2).

* 1. 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. The List of Use Cases

|  |  |
| --- | --- |
| UC Code | Requirements derived from |
| UC-FR-01 | Synchronization between Models and Documentation |
| UC-FR-02 | Enterprise Architecture |
| 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. 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. Structure of the document

This document is organized as follows:

Chapter 1 introduces the document.

Chapter 2 describes each requirements.

* 1. Terms, abbreviations and definitions

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

1. Software Requirements
   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

* 1. 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

* 1. 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

* 1. 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

* 1. 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

* 1. 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

* 1. 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

* 1. 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 highliting 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

* 1. 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

* 1. 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

* 1. 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

* 1. 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

* 1. 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

* 1. 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

* 1. 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

* 1. 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

* 1. 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

* 1. 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

* 1. 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

* 1. 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

* 1. 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

* 1. 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

* 1. 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

* 1. 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

* 1. 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

* 1. 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

* 1. 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

* 1. 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

* 1. 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

1. [https://github.com/ModelWriter/Requirements/issues](https://github.com/ModelWriter/Requirements/issues?q=label:%22User+Requirements+Document+(URD)%22) [↑](#footnote-ref-1)
2. [https://waffle.io/modelwriter/requirements](https://waffle.io/modelwriter/requirements?label=User%20Requirements%20Document%20(URD)) [↑](#footnote-ref-2)