Seventh Framework Programme
ICT-2009-6.4
Information and Communication Technology

Tagging Tool based on a Semantic Discovery Framework

Project ID: 247893

Deliverable D3.1.3b

Version 1.1

TaToo Component Specification Template V3

Annex of D3.1.3 – Semantic Service Environment and Framework Architecture V3

Document Control Page

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Editor	Pascal Dihé
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Publisher	TaToo Consortium
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0.1	19/04/2010	PDi	1st draft version
0.2	06/05/2010	PDi	updates
0.3	04/08/2010	PDi	Renamed and some updates
0.4	27/08/2010	PDi	Some minor updates
0.5	13/09/2010	PDi	- implementation specific details
0.5.1	21/09/2010	PDi	Formatting according to deliverables template.
0.5.1	21/09/2010	GSc	PMO accepted
1.0	15/06/2011	PDi	Update for V2
1.0	08/08/2011	GSc	QA
1.1	02/04/2012	PDi	Update for V3
1.1.1	01/06/2012	PDi	Final Version for QA

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1.   Management summary

a) About this document

This document is both a template and a guide for writing and formatting the functional specifications of TaToo components and is based on the Template for the Specification of TaToo Services. This document is an annex to the TaToo deliverable D3.1.3 - Semantic Service Environment and Framework Architecture V3. No changes to the specification template developed in V1 were necessary for V3.

In general, the Component Specification shall be used for Tools (User Component) with graphical user interface or any other components that are not realised as services.

b) Intended audience

The target readers of this specification template are members of the specification work package of the TaToo project as well as people interested in the specification and development of TaToo Components.

2.   Structure of this document

This document consists of two parts:

1. The first part provides information related to the template itself plus general rules and guidelines how a functional specification shall be created.

2. The second part is an outline for a TaToo component specification and provides detailed instructions for the preparation of such.

The specification outline is again divided into four parts:

1. The first part consists of a general description of the context of the component including a mapping to TaToo technical requirements.

2. The second part contains a prose description of the objectives, target users, functional, non-functional and technological requirements of the component plus an optional description of a Mock-up and the detailed description of interaction of the component with other TaToo components.

3. Annex 1: UML diagrams (optional) contains optional detailed structure and activity UML diagrams.

All chapters that are not explicitly marked as optional are mandatory.

c) Conventions used in this document

To assure a consistent layout of the specifications we have adopted the notation rules provided by Open Geospatial Consortium (OGC). The following text passage has been copied from the OGC implementation template [OGC-Impl-Template]:

"*Most text displayed in Black is mandatory and must be provided in every document as is. That text has the font colour "Auto". Just fill in the "blanks". The Red text is also mandatory but must be modified to reflect proper usage and content. For example, the Black text for Date is followed by red text showing the proper format for entering the date. Please make sure that after replacing the red text that the font colour is set to "Auto" (displayed and printed in black). Text coloured in red is a placeholder for a special data and is to replace with the correspondent such (e.g. the component name, a date, ...).*"

Text coloured in green is a description of the designated content and may not appear in the resulting specification but shall be replaced with the requested information when applicable.

3. Guidelines and rules

3.1. Naming conventions

The following naming conventions are based on the "*Code Conventions for the Java™ Programming Language*" by Sun. They have been adapted to comply with requirements of a TaToo component specification.

Naming conventions make specifications more understandable. They can also give information about the behaviour of an operation, which can be helpful in understanding the service specification. For example the prefixes "get", "update" and "delete" shall indicate whether an operation retrieves, manipulates or deletes data.

- Class name
  Class names should be nouns with the first letter of each word capitalized. Try to keep your class names simple and descriptive. Acronyms and abbreviations should be avoided, unless the abbreviation is the common form, such as URL or HTML. If "meta information" is part of such a name use "MetaInformation".

- Interface name
  Interface names should be capitalized like class names.

- Operation name
  Operation names should start with a verb, each following word should start with an uppercase letter. The choice of an operation name should be mnemonic - that is, designed to indicate to the casual observer the intent of its use. The following rules shall be applied to all access-operations:

  - use a getXXX operation to express the read access to (feature) attributes

  - use a setXXX operation to express the write access to (feature) attributes

  - use a createXXX to express the creation of a (feature or object) instance

  - use a deleteXXX to express the deletion of a (feature or object) instance

  - use an addXXX to express the addition of a (feature or object) instance to a list

  - use a removeXXX to express the removal of a (feature or object) instance from a list
  Parameter names are treated like variables (see below).

- Variable name
  Variable names start with a lowercase letter; names should not start with an underscore "_" or dollar sign "$". Variable names should be short yet meaningful.

3.2. Diagram formatting

To ensure a consist look of all component specifications it is necessary to define the following simple rules for the formatting of UML diagrams:

- The background colour of a diagram (page) shall be White
- The background of an element (class, …) shall be White
- The foreground colour of an element shall be Black.
- The text colour shall be Black.

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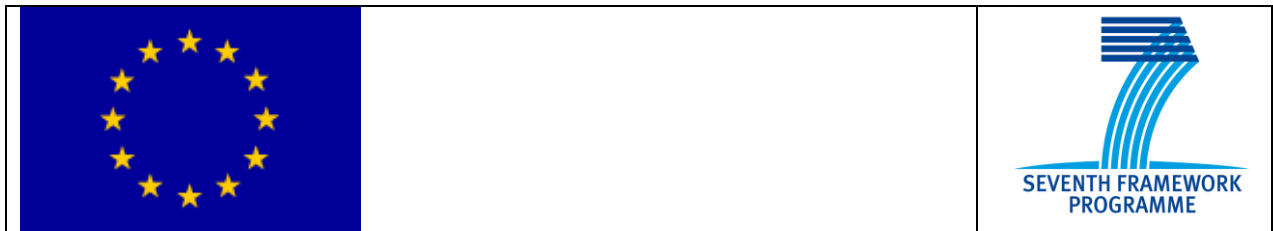
Tagging Component based on a Semantic Discovery Framework

Project ID: 247893

Deliverable D3.1.3

TaToo Component Specification Template V3

Document Control Page		
Title	TaToo Component Specification Template V3	
Creator	Last name, First name	name of organisation
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Description	This document defines an abstract and platform independent formal specification of the XXX Component.	
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Action requested	☒ to be revised by Partners involved in the preparation of the Project Deliverable ☐ to be revised by all TaToo Partners ☐ for approval of the WP Leader ☐ for approval of the PCO (Quality Manager) ☐ for approval of the Project Co-ordinator ☐ for approval of the General Assembly	
Requested deadline		

Revision history			
Version	**Date**	**Modified by**	**Comments**

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4. Management summary

4.1. Purpose of this document

This document is a functional specification of the XXX component and is based on the Template for the Specification of TaToo Components version 1.1. It replaces/updates/refines/… the specification version x.x. A replacement/update/refinement/… of chapters was required due to …. A few words about changes and updates to the last revision of this document shall be provided.

Improvements in this document are desirable to …. Describe what is planned in the next version of the specification or any limitations of the current specification that should be resolved in the future.

4.2. Intended audience

The target readers of this specification are members of the implementation work package of the TaToo project as well as people interested in the development of TaToo Public Services and User Components.

5.   Conventions

5.1.   Abbreviations and acronyms

Enter in the table below the abbreviations and acronyms used in this specification.

5.2.   Terms and definitions

Shall include a list of terms and definitions that are not already defined in the common TaToo glossary.

Terms and definitions necessary for understanding this document are defined in the common TaToo glossary, except for the following terms.

- Term name
  Definition

5.3.   UML notation

All diagrams that appear in this specification are presented using the Unified Modelling Language (UML) version 2.0 as the conceptual schema language.

5.4.   Used parts of other documents (optional)

If significant parts of other documents are copied into this document, those parts can be highlighted with a grey background, and this chapter can be included to indicate that this marking is used.

This document uses significant parts of document XXX. To reduce the need to refer to that document, this document copies some of those parts with small modifications. To indicate those parts to readers of this document, the largely copied parts are shown with a light grey background.

6. Overview and outline

The intention of this chapter is to provide a brief overview on the component's subject, capabilities and architecture without going to much into details. This overview per se is in general not sufficient for the implementation of the component, but it shall provide an interested reader with a short and precise description of the component without the need to read the whole component specification document.

6.1. Nature of the Component

In this chapter the nature of the component and the category in relation to the TaToo Framework Architecture shall be described. Categories to choose from are User Components and Core Components.

Different types of components may be possible, for example

- Stand-alone Applications

- Web Applications

- Plug-Ins or extensions to existing Applications

- Application Programming Interfaces (API)

- Portals or Portlets

- etc.

A brief description of the type shall be given.

6.2. Role and scope of the Component

Starts with a description of the component and shall be on a level of detail which makes sure to fully understand the role and behaviour of the component. In addition to that it should be discussed what is within and beyond the scope of this component, e.g. by indicating the limits of applicability of this component.

7. Context

In this chapter, the relations of this specification to TaToo technical requirements, international standards and other related (TaToo) service specifications and information models shall be explicated.

7.1. Relation to technical requirements

Please describe which technical requirements are addressed by this specification and provide the mapping to the concrete functional requirements described in chapter "Functional requirements". You should also list implementation / technological requirements that are not considered on specification level (e.g. encryption of communication channels).

Note: How and to which degree the technical requirements are fulfilled in the current specification shall be described chapter "Functional requirements".

The XXX Component addresses the following technical requirements as specified in D2.3.1 – "Requirements Document". The technical requirements are mapped to the concrete functional requirements specified in chapter "Functional requirements".

Requirements ID and Name	Scope	Functional Requirement	Comments
TR.CATEGORY.NNN Name of Requirement	S/I	…	…
…		…	…

- Requirements ID
  The unique id of the requirement as defined in D2.3.x.
- Scope
  Scope of the requirement: Specification or Implementation
- Functional Requirement
  Provide references (numbers) to the respective functional requirements specified in chapter Functional requirements whenever possible, otherwise write "n/a".
- Comments
  Additional comments, e.g. if the requirement is mapped to a non-functional or technological requirement.

7.2. Relations to standards

An overview about related standards and how this component will make use of them. References to standard specifications and, if appropriate, a very short description of relevant standards in the context of this component should be included.

Please describe also as precise but as short as possible for all standard references provided in this section which elements of the standard have been used and whether and why there is a deviation from this standard necessary.

This section should give answers to the following questions:

- What are the standards are available? Description of type (de facto, de jure, …), maturity, adaptability, etc.

- How can these standards be adopted?

- Are there any modifications of existing standards necessary? Why?

- What are the consequences if there are no standards available?

If no information about standards can be provided, use one of the following sentences:

The XXX Component does not have any relations to standards. No standard could be found that is applicable to the specification of the XXX Service.

7.3. Relations to other Components

A brief overview on possible dependencies of this component on TaToo components and services and how interaction with these could take place. This is especially interesting for TaToo Components which act as client to TaToo Services in order to achieve certain functionality.

Note that the detailed description of the interaction with other TaToo Services and Components shall be provided in chapter "Interaction with other TaToo Components". The focus of this overview is on dependencies only.

7.4. Relations to information models

Any relation to information models and application schemas specified outside this document should be mentioned here.

8. Specification of the XXX Component

8.1. Objectives

Describe the objectives of this component.

8.2. Target users

Name and possibly describe the target users of this component along with a very brief statement how the user is supposed to use the component. Example: The target users of the administration web client are TaToo system administrator that what to administrate users, tags and resources.

The target users of this Component are ….

8.3. Functional requirements

Provide an ordered list of concrete functional requirements that shall be supported by this component. Add a short and meaningful description.

1. Function Requirement #1
   Description of function requirement #1

2. Function Requirement #2
   Description of function requirement #3

3. …

Note: The mapping of the TaToo technical requirements to the above described functional requirements has to be described in the table in chapter Relation to technical requirements.

8.4. Technological and non-functional requirements (optional)

Provide an ordered list of technological and non-functional requirements that shall be supported by this component. Add a short and meaningful description.

8.5. Mock-Up (optional)

Optional Mock-Up (e.g. Screenshots) of the components graphical user interface (if available).

8.6. Interaction with other TaToo Components

A detailed description on how interaction with other TaToo components (especially services) shall take place in order to provide the desired functionality of the Component.

9. Acknowledgements

10. References

11. Annex 1: UML diagrams (optional)

Provide optional structure (e.g. class) and activity (e.g. sequence) UML diagrams.