



# **ISKO UK**

### SCENT for GLAM: a tool for giving meaning to professional controlled vocabularies

Marie-Véronique Leroi Florent André



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### **Terminology?**





### **Recommendations**

### "Your terminology as part of the semantic web"





### Recommendations



### A : Create or adapt an existing terminology

- B : Technical implementation of the created or adapted terminology (in the perspective of the Semantic Web)
- C : Linking of the SKOSified terminology with other resources (in the perspective of Linked Open Data)



### Recommendations







- Conceive a terminology : Create or adapt an existing terminology
  - Definition of domains, expected users, terms and their organisation
  - Multilingualism
  - Technical implementation
- ❑ Make the terminology interoperable : Technical implementation (→ Semantic Web)
  - SKOS and SKOSification
  - Validation of concepts, labels, documentation and general structure
  - Multilingualism
- □ Link the terminology to a network : Linking with other resources (→ Linked Data)
  - Metadata on the terminology
  - Mapping with other resources

### What?

- Introduced in 2001 by Tim Berners-Lee
- Collaborative effort led by W3C
- Evolution of the Web of documents

**Principle?** share and reuse data on the Web (semantic interoperability)

Why? better search results, irrespective of language

**How?** By automatically linking "separate" data on the Web (linked data); by inter-thesauri mapping

**Tools?** Allow machines to understand the meaning, or "semantics", of information on the Web

Thesauri can serve as a basis for developing domain-specific ontologies



### Web of data



Web of Documents

Web of Data



### Linked Open Data Cloud



### **Linked Data Principles**

- 1. Use URIs as names for things
- 2. Use HTTP URIs so that people can look up those names.
- 3. When someone looks up a URI, provide useful information.
- 4. Include links to other URIs. so that they can discover more things.



★ Available on the web (whatever format) but with an open licence, to be Open Data

 $\star$  Available as machine-readable structured data (e.g. excel instead of image scan of a table)

 $\star \star \star$  as (2) plus non-proprietary format (e.g. CSV instead of excel)

 $\star \star \star \star$  All the above plus, Use open standards from W3C (RDF and SPARQL) to identify things, so that people can point at your stuff

 $\star \star \star \star \star$  All the above, plus: Link your data to other people's data to provide context



### **The Semantic Web Stack**





- Keep providing the same quality of service as a public institution and improve it

- Give access to structured and normalised cultural data
- Be part of the Linked Open Data Cloud

- Enhance the semantic interoperability at national and international level

- Enhance the visibility of your collections and professionnal knowledge

- Help the user in getting optimised results to specific requests
- Be a trusted source of cultural data



### SKOS/RDF

### - RdF : Resource Description Framework



- URI = one of the Semantic Web & Linked Data principle



### Licences

License logo	License name	Description
	Attribution CC BY	<ul> <li>Distribution, remix, tweak, and build upon your work, even commercially;</li> <li>Mention of the author as credit for the original creation.</li> </ul>
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Each institution is responsible for the licenses applied to their terminologies

We recommend the use of a Creative Commons licence (CC-BY-SA or CCO) which are compliant with Open Data

CC-BY-SA is the license in use in the Wikipedia model; CC0 in Europeana



- -Simplified Knowledge Organisation System (SKOS)
- Recommendation of the W3C since August 2009
- Interoperable format for thesaurus
- Descriptors became SKOS concepts expressed with labels as preferred terms (non-descriptors = non-preferred terms = alternative labels)
- Ideal compromise between a thesaurus and an ontology





### The concept

- A concept is defined as a unit of thought
- Concepts can often be expressed in a variety of different ways. They exist in the mind as abstract entities independent of terms used to express them.
- There is no notion of language for the concept but only for the terms expressing the concept





### The term

- A term is defined as a word or phrase used to label a concept
- Examples : hops, leaven, pint, ...
- Thesaurus terms can be either preferred terms or non-preferred terms (descriptors/non-descriptors)







- Concept : unit of thought (skos:Concept)
- Concept scheme : groups of concepts, micro-thesaurus (skos:ConceptScheme)
- Collection : thematic groups of concepts (skos:Collection)
- Concepts are expressed with labels :
  - Preferred Label : skos :prefLabel
  - Alternative label : skos:altLabel
  - Hidden Label : skos:hiddenLabel
- Concepts are documented with notes:

skos:note, skos:scopeNote, skos:editorialNote, skos:changeNote, skos:historyNote



- Semantic relations :
  - Hierarchical : skos:broader / skos:narrower
  - Associative : skos:related
- Mapping relations :
  - Equivalence : skos:exactMatch / skos:closeMatch
  - Hierarchical : *skos:broadMatch / skos:narrowMatch*
  - Associative : skos:relatedMatch
- Transitive relations:
  - Hierarchical : skos:broaderTransitive / skos:narrowerTransitive
    - Associative : skos:relatedTransitive



- prefix *skos* to state that these are SKOS/RDF triples
- Distinction between classes and properties thanks to the upper case letter right after the *skos:*
- Only one preferred label per language for one concept
- One concept can have as many preferred labels as required
- Semantic hierarchical relations (*skos:broader /* skos:narrower) are inverse properties
- Distinction between standard properties and transitive properties.



### **SKOS : Relations**



### **SKOS : Relations**



### Question of point of view





### SKOS example

### - Tools

- Hammer
- Saw
- Ax

### - Arm

- Firearm
  - Gun
  - Pistol
- Cold steel
  - Sword
  - **Ax**
  - Crossbow



### **SKOS** example





### **SKOS** example

### machete









### Example : JocondeLab

Français **English** Italiano Español Deutsch Português العرية Русский 简体中文 日本語 Català Euskara Brezhoneg Occitan

### JocondeLab » Home

#### Welcome to JocondeLab

About	World map	Chronology	Index term	Contribute	<b>Creations gallery</b>
Learn more about the JocondeLab experiment.	Discover the world through the collections of national museums of France.	Discover the collections of French national museums over time	Select an artist, a portrayed subject, a field or an era with a single click	Help us describe the subject of an artwork via Wikipedia	Work by students of the Gobelins school.
					Q

#### 298597 works of French museums



### **Example : JocondeLab**

Français English Italiano Español Deutsch Português 地加 Русский 简体中文 日本語 Català Euskara Brezhoneg Occitan JOCONDELAD » Results for: "William Shakespeare" Home About World map Chronology Index term Contribute Creations gallery

William Shakespeare \*

#### About 130 results for 'William Shakespeare'



#### William Shakespeare

#### Source: Wikipedia

William Shakespeare (baptised 26 April 1564; died 23 April 1616) was an English poet and playwright, widely regarded as the greatest writer in the English language and the world's pre-eminent dramatist. He is often called England's national poet and the "Bard of Avon". His surviving works, including some collaborations, consist of about 38 plays,

154 sonnets, two long narrative poems, and several other poems. His plays have been translated into every major living language and are performed more often than those of any other playwright. Shakespeare was born and brought up in Stratford-upon-Avon. At the age of 18, he married Anne Hathaway, with whom he had three children: Susanna, and twins Hamnet...







### Example : JocondeLab

Français **English** Italiano Español Deutsch Português العرية Русский 简体中文 日本語 Català Euskara Brezhoneg Occitan

### JOCONdeLab » Detailed record



Artist(s):	BUSSIERE G ; LAAS Henri (éditeur)			
School:	France			
Title:	ROMEO ET JULIETTE (titre inscrit)			
Field(s):	estampe			
Designation:	carte réclame   chromo			
Portrayed subject:	Balcony Kiss Romeo and Juliet			
Source:	Tragedy William Shakespeare			
Date:	19th century			
Technique:	chromolithographie, emploi d'or, carton			
Dimensions:	H. 10.6, I. 6.5			
Origin:	Paris			
Preserved by:	Paris ; musée des Civilisations de l'Europe et de la Méditerranée			
Copyright notice:	© Paris, musée national des Arts et Traditions Populaires, Direction des musées de France, 2005			
Photo credits:	© Iconothèque MNATP			

Home About World map Chronology Index term Contribute Creations gallery

#### This work on the Joconde portal

Add new keywords The terms displayed are from Wikipedia.

### **SKOS** preview

</skos:Concept> <skos:Concept rdf:about="http://partage.vocnet.org/part00370"> <skos:inScheme rdf:resource="http://partage.vocnet.org/StylesAndPeriods"/> <skos:prefLabel xml:lang="en">Modern Style</skos:prefLabel> <skos:altLabel xml:lang="en">Style moderne</skos:altLabel> <skos:prefLabel xml:lang="cs">Modern Style</skos:prefLabel> <skos:prefLabel xml:lang="nl">Modern Style</skos:prefLabel> <skos:prefLabel xml:lang="hr">Modern Style</skos:prefLabel> <skos:prefLabel xml:lang="de">Modern Style</skos:prefLabel> <skos:prefLabel xml:lang="es">Modern Style</skos:prefLabel> <skos:prefLabel xml:lang="sl">Moderen stil</skos:prefLabel> <skos:prefLabel xml:lang="sv">Jugend (Modern stil)</skos:prefLabel> <skos:prefLabel xml:lang="pt">Modern Style</skos:prefLabel> <skos:prefLabel xml:lang="pl">Modern Style</skos:prefLabel> <skos:prefLabel xml:lang="no">Modern Style</skos:prefLabel> <skos:prefLabel xml:lang="ca">Modern Style</skos:prefLabel> <skos:prefLabel xml:lang="it">Modern Style</skos:prefLabel> <skos:prefLabel xml:lang="fr">Modern Style</skos:prefLabel> <skos:altLabel xml:lang="fi">Modernismi (Modern Style)</skos:altLabel> <skos:prefLabel xml:lang="fi">Modern Style</skos:prefLabel> <skos:prefLabel xml:lang="hu">Szecesszió (Modern Style)</skos:prefLabel> <skos:altLabel xml:lang="ca">Estil Modern</skos:altLabel> <skos:broader rdf:resource="http://partage.vocnet.org/part00353"/> <skos:broader rdf:resource="http://partage.vocnet.org/part00349"/> <skos:exactMatch rdf:resource="http://vocab.getty.edu/aat/300375743"/> <skos:editorialNote xml:lang="en">PPArtNouveauStyle</skos:editorialNote> </skos:Concept>

### An organisation that want a thesaurus...





### Put some happy few "experts" in a room...

0 0





### And get THE thesaurus...



-This was done one first time...

-And updated some few times later...

- And for a long while the domain knowledge changes and evolves without updating the KOS

-And most of the time the thesaurus is done in a « non actionable format » (Excel file, text file,...)



### Local / on the ground experts







Map them together and create a cool global thesaurus



- Semantic and Collaborative Environment for a network of terminologies for the GLAM sector

- Developed and maintained by the Michael Culture Association
- http://www.scent-glam.eu
- Open source (available on Github)
- -Key features :
  - SKOS/RDF registry
  - SKOSification
  - Mapping
  - Export
  - Visualization
  - Collaboration and control throw suggestions



#### SCENT for GLAM

Semantic and Collaborative Environment for a Network of Terminologies for the Galeries, Librairies, Archives and Museums



About SCENT

SCENT is a toolset for creating and managing your terminologies in SKOS format. SCENT has been developed within the eContentPlus AthenaPlus Project. SPARQL Endpoint Help FAQ

Disclaimer







Learn More

### **SCENT Create an account**

SCENT for GLAM	Create yo	our account!		EN FR
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	Lastname*	LastName		Some Figures
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color transparencies black-and-white transparencies

### **SCENT Create an organisation**

	our account	Email*	Email	
fouto your docount.		Firstname*	FirstName	
		Lastname*	LastName	
nail*	Email	Password*	Password	
iame*	FirstName	Confirm password*	Confirm password	
ame*	LastName	Institution*	Create a new organisation	•
		Country		
sword*	Password	English name*		
onfirm	Confirm password	Name		
sword*		Organisation acronym		
itution*	Select an organisation	т		
		Address		
		Organisation url		
	OK	Cancel Organisation		



### **SCENT Import**





### **SCENT Import**





### **SCENT SKOSification**



### **SCENT Metadata**

### SCENT for GLAM

EN FR

Semantic and Collaborative Environment for a Network of Terminologies for the Galeries, Librairies, Archives and Museums

Home					🍐 mvleroi.culture@gmail.com 🙏 🗩	(
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+ 👁 📥	Title *					
188	Subject *	Select a valu				
	Languages *	Select language(s	)			
Administration >	Edition *					
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	Publisher *					
	Rights *	Attribution (CC B	Y)		¥	
		Create Terminology	4			

### **SCENT Editing**





### **SCENT Mapping**



### **SCENT Export**



Liber - Epilie - Francisc République Française Moralia Culture Communication

### **SCENT** Visualisation





### **SCENT** Visualisation





### **SCENT** Visualisation





-Really few tools manage RDF from back-end to user interface

-SKOS ontology is pretty well defined but some constraints are not formalized (for example : only one prefLabel by language)

-GLAM sector (Galleries, Libraries, Archives and Museums) have their own professional practices for organizing and managing their objects and collections and so different needs in term of ontology

- SKOSXL tends to supersede SKOS
- Not all knowledge description can be express in SKOS…

-Knowledge based organisation need users to write RDF without knowing they actually do it



### Roadmap for the next version



Liberd - Egalit - Praternité RÉPUBLIQUE FRANÇAISE Mritistre Culture -Improve the user experience

-Improve collaboration and modification control throw suggestions

-Make available an history of modification management and a workflow for managing versions

-Manage access and modification rights on a atomic (RDF's triples) level

-Improve genericity of libraries for allow editing of any kind of RDF



-RDF is actually the better framework to formalize data, group them into pieces of information and create links between this information in order to create a knowledge graph.

-But this format is actually pretty hard to edit and manage by non technical people

-This is why Scent for Glam wants to achieve the goal to make RDF editing as easy as a tweet for anyone.

-Beside this goal, the next version of the software will act as a domain independent and collaborative referential server in order to manage and maintain a common knowledge base.



## Contact

# Thank you for your attention !

### Marie-Véronique Leroi (MCC)

marie-veronique.leroi@culture.gouv.fr

Florent André (Ooffee)

florent@ooffee.eu

