

Using SKOS

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Lessons from a previous project

***FACET - a collaborative project
with Science Museum, MDA, J. Paul Getty Trust***

Aims:

- Integration of thesaurus into search process / interface
- Semantic query expansion
taking advantage of facet structure

<http://www.comp.glam.ac.uk/~FACET/>

FACET Web Demonstrator

- concept (thesaurus) based query expansion
 - Multi-concept faceted search
 - Results ranked by degree of semantic closeness
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- an exploration of FACET research outcomes via dynamically generated Web components rather than a complete final interface

<http://www.comp.glam.ac.uk/~FACET/webdemo/>

<http://journals.tdl.org/jodi/article/view/jodi-124/109>

Semantic Query Expansion in FACET

Times
Agents
Processes
Materials
Objects

Find in Thesaurus
View Hierarchy
View Expansion
Add to Query

Objects...
Furnishings...
furnishings...
 <furnishings by form or function>...
 furniture...
 <furniture by form or function>...
 seating furniture...
 <single seating furniture>...
 chairs...
 <chairs by form>...
 armchairs...
 bergeres
 great chairs...
 elbow chairs...
 ..

armchairs
Term applied to a wide variety of chairs with arms, to distinguish them from side chairs which have no arms.
(Variations: armchair; arm chairs; armed chairs; arming chairs; chairs, arm; chairs, armed;

See also curridles (chairs), porters' chairs, sleeping chairs, lolling chairs, side chairs, Sleepy Hollow chairs, hunting chairs, student chairs, dining chairs, reading chairs, Morris chairs

Query Terms Run Query

brocading, weft patterning, brocade, brocatelle Remove

Term Expansion
Min Max

mahogany, white mahogany, Borneo mahogany, Swietenia, african mahogany, hardwood. Remove

Term Expansion
Min Max

armchairs, elbow chairs, great chairs, bergeres, Sleepy Hollow chairs, student chairs, porters' Remove

Term Expansion
Min Max

25 matching items found.

Match	Reference	Collection	Index Terms	Description
<input type="checkbox"/>	292708	NRM - Railway Furniture	Victorian, oak, crests, ovals, brocade, Carver chairs	Carver chair, oak with oval brocade seat, Prince of Wales crest on back from Royal Saloon of 1876.
<input type="checkbox"/>	292763	NRM - Railway Furniture	Edwardian, mahogany, upholstery, floral	Carver Chair, Great Northern Railway, Mahogany, upholstered in cream, pink &

Reflections on FACET Web Demonstrator

- Results show potential of faceted KOS for
 - Query expansion with semantically ranked results based on semantic expansion
 - Semantic expansion as a browsing tool

But

- *Based on our custom thesaurus representation*
- *Based on our custom thesaurus programmatic access*

How to generalise for other thesauri and for others to use?

Need for

- **Common (SKOS) representation and services acting on them**

Terminology Services

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can be applied at all stages of the search process. Services include resolving search terms to controlled vocabulary, disambiguation services, offering browsing access, offering mapping between vocabularies, query expansion, query reformulation, combined search and browsing. These can be applied as immediate elements of the end-user interface or can underpin services behind the scenes, according to context.

JISC review on Terminology Services and Technologies, 2006

➔ Potential for SKOS-based programmatic services

SKOS Services

We took as starting point a subset of

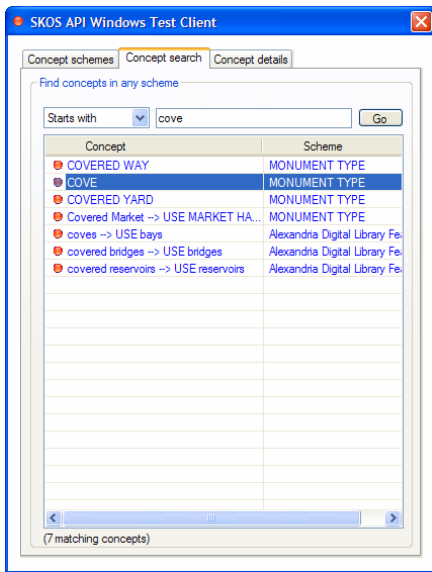
- SKOS API (Application Program Interface)
a deliverable of SWAD-Europe Thesaurus Activity
<http://www.w3.org/2001/sw/Europe/reports/thes>
designed to provide programmatic access to SKOS vocabularies
- Our focus is on the functionality of the services
which could be implemented via various lower level protocols

Eg

SOAP web services
REST web services
Linked Data

Issues

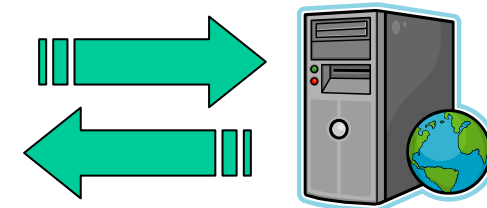
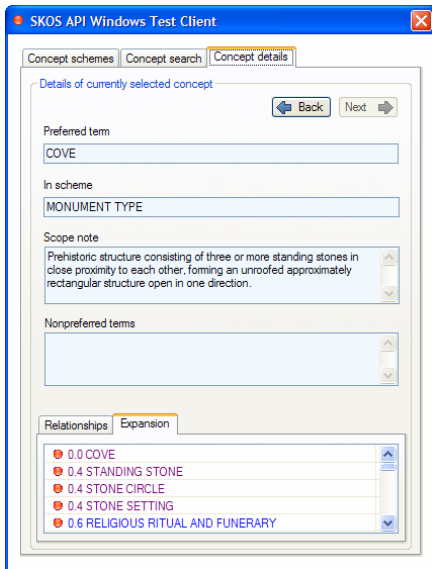
How to package the functionality, what are common patterns of use?
How to implement the services in different lower level protocols?



Given a string (*cove*), *GetConcept* finds matches in the controlled vocabularies of all SKOS concept schemes registered with the server.

Shows an example of a match with the 'entry vocabulary' of effective synonyms (eg *bays*) for different SKOS schemes

Web Service Client



SKOS Services:
possible examples

- GetTopmostConcepts
- GetConceptSchemes
- GetConcept
- GetAllConceptRelatives
- GetAllConceptsByPath
- GetConceptsMatchingKeyword
- ExpandConcept

Display details of selected concept.

Here illustrating the *semantic expansion* service returning 'semantically close' concepts to *cove*

SKOS services in use at Glamorgan

Semantic Tools for Archaeology Resources (STAR) research project

English Heritage thesauri converted to SKOS

SKOS based terminology services

- Browsing
- Query expansion
- others have used in (DELOS and ArcheoTools) research projects

..... Part (2)

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