# New Functions of LOD KOS Beyond "Value Vocabularies" and Barriers in the Current Practices of Using Them

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PPT will be at available at NKOS website http://nkos.slis.kent.edu/

# TREND: PUBLISHING KOS AS LOD



# LOD KOS USAGES (1)

### 1. As the resources of

- creating,
- maintaining,
- enriching,
- extending, and
- translating a controlled vocabulary

### Obtaining

- established entries,
- relationships,
- multilingual labels,
- •

. . .

# efficient accurate

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http://aims.fag	o.org/aos/agrovoc/c_6599				
rice					
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rdf:type	skos:Concept		ເຂົ້າ		lo
skos:broader	http://aims.fao.org/aos/agrovoc/c_1474 http://aims.fao.org/aos/agrovoc/c_1474		rice	paddy	en
skos:narrower	http://aims.fao.org/aos/agrovoc/c_330606		рис (зерно)	рис	ru
	http://www.eiopet.europa.eu/gemet/conce	nt/7214	चावल	धान	hi
	ValueprefLabelaltLabelLanskos:Concept(٤)(٤)(٤)(٥)http://aims.fao.org/aos/agrovoc/c_1474(२)(२)(२)http://aims.fao.org/aos/agrovoc/c_330606(२)(२)(२)http://aims.fao.org/aos/agrovoc/c_330607(२)(२)(२)http://aims.fao.org/aos/agrovoc/c_330606(२)(२)(२)http://aims.fao.org/aos/agrovoc/c_330607(२)(२)(२)http://aims.fao.org/aos/agrovoc/c_330607(२)(२)(२)http://aims.fao.org/aos/agrovoc/c_330607(२)(२)(२)http://aims.fao.org/aos/agrovoc/c_330607(२)(२)(२)http://aims.fao.org/aos/agrovoc/c_330607(२)(२)(२)http://aims.fao.org/aos/agrovoc/c_330607(२)(२)(२)http://aims.fao.org/aos/agrovoc/c_330607(२)(२)(२)http://aims.fao.org/aos/agrovoc/c_330607(२)(२)(२)http://ol.nal.usda.gov/nalt/56293(२)(२)(२)http://do.nal.usda.gov/nalt/56293(२)(२)(२)http://do.nal.usda.gov/authorities/sh85113862#concept(२)(२)(२)http://www.caas.net.cn/caas/cat/c_7599(२)(२)(२)http://dbpedia.org/resource/Rice(२)(२)(२)(२)http://dbpedia.org/resource/Rice(२)(२)(२)(२)2011-11-20T20:36:28Z(२)(२)(२)(२)(२)d2014-07-03T18:42:47Z(२)(२)(२)(२)				
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skos:inScheme	http://aims.fao.org/aos/agrovoc		rvža	rvža siata	sk
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			pirinç	çeltik	tr
				Beras	ms

# USAGES (1)

### 1. As the resources of

- creating,
- maintaining,
- enriching,
- extending, and
- translating a controlled vocabulary

Constructing a micro-thesaurus dataset in a second

efficient accurate

	Top of the AAT hierarchies	
	Objects Facet	
	Object Genres (Hierarchy Name)	
		ations)
*		>
	accessories	
	aids to navigation	aat:300
	beacons [N]	aat:300
	buoys [N]	
		aat:300
	light stations [N]	aat:300
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at:300264447	agere Ifa@en
at:300262796	aids to navigation@en
at:300210466	aigrettes (plumes)@en
at:300181617	airport beacons@en
at:300181651	airway beacons@en
at:300263682	akonkromfi@en
at:300210415	albs@en
at:300198819	alms dishes@en
at:300210416	almuces (hoods)@en
at:300263075	aloalo@en
at:300391092	altar bells@en
at:300391083	altar candlesticks@en
at:300262580	altar crosses@en
at:300198805	altar cruets@en
at:300075940	altarpieces@en
at:300264259	alusi@en
at:300210417	amices@en
at:300198899	ampullae@en
at:300266585	amulets@en

# LOD KOS USAGES (2)

2. As the vocabulary management facility in data-driven editing and publishing workflow

# • rich management data http://aims.fao.org/aos/agrovoc/c\_6599

- administrative,
- provenance, and
- use metadata

Property	Value
rdf:type	skos:Concept
skos:broader	http://aims.fao.org/aos/agrovoc/c_1474 http://aims.fao.org/aos/agrovoc/c_1474
skos:narrower	http://aims.fao.org/aos/agrovoc/c_330606 http://aims.fao.org/aos/agrovoc/c_330653
skos:exactMatch	<pre>http://www.eionet.europa.eu/gemet/concept/7214 http://lod.nal.usda.gov/nalt/56293 http://eurovoc.europa.eu/3732 http://d-nb.info/gnd/4049271-0 http://id.loc.gov/authorities/sh85113862#concept http://www.caas.net.cn/caas/cat/c_7599 http://www.caas.net.cn/caas/cat/c_8549 http://zbw.eu/stw/descriptor/14095-0</pre>
skos:closeMatch	http://dbpedia.org/resource/Rice
dcterms:created	2011-11-20T20:36:28Z
dcterms:modified	2014-07-03T18:42:47Z
void:inDataset	http://aims.fao.org/aos/agrovoc/void.ttl#Agrovoc
skos:inScheme	http://aims.fao.org/aos/agrovoc
vocbench:hasStatus	Published

LOD KOS

# USAGES (3)

3. As the source of http URIs/IRIs used in data-transformation

- LOD KOS
  - enable owners of structured data to convert and publish their metadata under the LOD principles
    - i.e., use HTTP URIs/IRIs as names of things
  - enhance semantic consistency and interoperability
  - Increase the findability of their data.



# LOD KOS USAGES (4)

### 4. As components and plug-ins

- in editing and publishing workflows, or
- for website products
- be integrated into editors
- Visualize concepts + complicated networks

# LOD KOS USAGES (5)

5. As web services and middleware➢ for resource discovery in the Web of Things

- E.g., embedded into a discovery system
  - Agrovoc of the UN FAO
    - Uses KOS as a backbone of linked datasets
    - live mashups in the AGRIS web portal
  - Europeana and others...
    - uses KOS for its semantic enrichment procedure
    - and for multilingual and trans-lingual search.



Thunnus

Pacific ocean

Indian ocean

Atlantic ocean

http:

search

Atlantic

Ocean

o?recordID

Lenezuela

Lib







# DOES A LOD KOS HAVE NEW FUNCTIONS BEYOND "VALUE VOCABULARIES"?

- Could a LOD KOS dataset be considered
  - as a knowledge base?
  - as the foundation of a network analysis?
  - as the building blocks of a framework for cultural history?

# USAGES (6)

6. As knowledge bases of research

- LOD KOS can be used for
  - obtaining special graphs or datasets for very complicated questions, and
  - revealing unknown relationships
  - e.g.,
    - associative relations of agent (people or organization),
    - places by type within a geo-bounding box,
    - scientific names not in English or Latin,
    - preferred gene name and disease annotation of all human Universal Protein Resource (UniProt) entries that are known to be involved in a disease,

• ...

### Getty Vocabularies: LOD Sample Queries

obtaining special graphs or datasets for very complicated questions, and revealing unknown relationships

<u>4</u>	TGN	I-Specific Queries
	<u>4.1</u>	<u>Places by Type</u>
	4.2	<u>Places, with English or GVP Label</u>
	<u>4.3</u>	Places by Direct and Hierarchical Type
	4.4	Breakdown of Sovereign States by Type
	<u>4.5</u>	Inhabited Places That Were Sovereign States
	<u>4.6</u>	Places by Type and Parent Place
	<u>4.7</u>	<u>Places by Type, with placeTypePreferred</u>
	<u>4.8</u>	<u>Places by Triple FTS</u>
	<u>4.9</u>	Places by FTS Parents
	<u>4.10</u>	Capitals by Association
	<u>4.11</u>	Members of the European Union
	<u>4.12</u>	Members of the United Nations
	<u>4.13</u>	Geo Chart with sgvizler
	<u>4.14</u>	Column Chart with sgvizler
	<u>4.15</u>	Countries and Capitals By Type and
	<u>Contair</u>	iment
	<u>4.16</u>	Places by Coordinate Bounding Box
	<u>4.17</u>	Places Within Bounding Box
	<u>4.18</u>	Places by Type Within Bounding Box
	<u>4.19</u>	Places Outside Bounding Box (Overseas
	Posses	<u>sions)</u>
	<u>4.20</u>	Places Nearby Each Other



ULA	N-Specific Queries
5.1	Agents by Type
5.2	Associative Relations of Agent
5.3	Female Artists
5.4	Female Artists as a Hobby
5.5	Native American Painters
5.6	Names of Native American Painters
5.7	Architects Born in the 14th or 15th Century
5.8	Indian and Pakistani Architectural Groups
5.9	Non-Italians Who Worked in Italy
5.10	Artists Associated to a Given Patron or His
Family	
5.11	German, Dutch, Flemish printmakers, listed with
their tea	achers
5.12	Artists Whose Identity May be Associated or
Confus	ed With Another
5.13	Ordered Hierarchy of Given Subject
5.14	Ancient Artists or Groups by Nationality
5.15	Art Repositories in the USA by State
5.16	Popes and Their Reigns
5.17	Pope Reign Durations

http://vocab.getty.edu/queries#Top-level\_Subjects

#### Teacher-student relationship among French artists born between 1800 and 1950.

#### Foreword

This is a small test to explain the process following an emailed request after this tweet by Antoine Courtin (@seeksanusername)

#### Legend:

✓ student\_of/apprentice of ⊖ occurences Count



#### How ?

 - 1st step: In SPARQLEndpoint at <u>vocab.getty.edu</u>, use a query like this <u>example</u> and download json.
 - 2nd step: insert the json file in OpenRefine and extract data (nationality, date, etc.) using split function and regex if needed.
 - 3nd step: Export csv data with comma- separated value and use <u>table2net</u> to create a.gexf file (use bipartite Network).

 - 4nd step: Open .gexf file in <u>Gephi</u> and play with classement and partition to adjust
 edges before using Force atlas 2 as spatialisation.

 - 5nd step: In the preview, change the settings as you like
 - 6nd step: After downloading the plugin sigma.js, export your project and put it on a local server to try.

This example is based on requests by Vladimir Alexiev, available on the Getty's website. Thanks.

#### Search:

Search by name





Teacher-student relationship among French artists born between 1800 and 1950. query http://vocab.getty.edu/ queries#German\_Dutch\_Flemish\_printmakers\_listed\_with\_their\_ teachers



### http://sparql.uniprot.org/

# Examp 1. Selec

rot taxonomy:

#### (sho SPARQL Downloads

2. Select all bacterial taxa, and their scientific

- nivranse francine UniPretstaxonoray: (show)
- J3; Eclect all E-Coli K12 (including strains) UniProt entries and their amino acid sequence: (show)
- 4. Select the UniProt entry with the mnemonic 'A4\_HUMAN': (show)
- 5. Select a mapping of UniProt to PDB entries using the UniProt cross-references to the PDB database: (show)
- Select all cross-references to external databases of the category '3D structure databases' of UniProt entries that are classified with the keyword '3Fe-4S': (show)
- Select all UniProt entries, and their recommended protein name, that have a preferred gene name that contains the text 'DNA': (show)
- Select the preferred gene name and disease annotation of all human UniProt entries that are known to be involved in a disease (show)

- Select all human UniProt entries with a sequence variant that leads to a 'loss of function': (show)
- O. Select all human UniProt entries with a sequence variant that leads to a tyrosine to phenylalanine substitution: (show)
- 11. Select all UniProt entries with annotated transmembrane regions and the regions' begin and end coordinates on the canonical sequence: (show)
- 12. Select all UniProt entries that were integrated on the 30th of November 2010: (show)
- 13. Was any UniProt entry integrated on the 9th of January 2013? (show)
- 14. Construct new triples of the type 'HumanProtein' from all human UniProt entries: (show)
- 15. Select all triples that relate to the EMBL CDS entry AA089367.1: (show)
- 16. Select all triples that relate to the taxon that describes *Homo sapiens*: (show)
- 17. Select the average number of crossreferences to the PDB database of UniProt entries that have at least one crossreference to the PDB database: (show)
- Select the number of UniProt entries for each of the EC (Enzyme Commission) second level categories: (show)

Getty Voc	abularie			
SPARQL Qu	eries	AAT -	Search	Find scientific names
Results: (200 of 1126)				not in English or Latin
С	la	0		
aat:300310571	M	uridae (fami	lie)@nl	<pre>select ?c ?lab {</pre>
aat:300310572	Cr	icetidae (far	milie)@nl	?t gvp:termKind <http: <="" td=""></http:>
aat:300310585	Су	vprinidae (fa	milie)@nl	ScientificOrTechnical>;
aat:300374935	Ca	asearia (gen	us)@nl	filter (lang(?lab) not in ("en", "la"))}
aat:300374950	Ca	arya lacinios	sa (soort)@nl	
aat:300374950	Ca	arya lacinios	a (species)@es	
aat:300374953	Ca	arya texana	(soort)@nl	
aat:300374959	Pł	ioebe (genu	s)@nl	
aat:300310437	Tri	chechidae (	familie)@nl	

# Great! – KOS as knowledge bases of research

# However

- This is a function needs to be explored based on the understanding of
  - RDF data model and
  - SPARQL query
    - AND
  - specific KOS structures.

-- crossing the datasets from multi-dimensional views --

Virtuoso SPARQ	L Query Editor		
Default Data Set Name	(Graph IRI)	<u>About   Namespace Prefixes</u>	<u>Inference rules</u>
Query Text select * where {?s	?p ?o} LIMIT 100	What is the data model behind thi dataset?	s
		How can I construct a usefu SPARQL query?	
(Security restrictions of this se Results Format: Execution timeout: Options:	erver do not allow you to retrie HTML ‡ 0 Strict checking of void	ve remote RDF data, see <u>details</u> .) milliseconds (values less than 1000 are ign <b>variables</b>	ored)
(The result can only be sent b Run Query Reset	back to browser, not saved on	he server, see <u>details</u> )	

Linked Data Vocabularies for What is the data model behind this dataset?	
Scheme ListConcept SearchSPARQL QueryHow can I construct a u SPARQL+ Endpoint (v2011-12-01)ARC SPARQL+ Endpoint (v2011-12-01)How can I construct a u SPARQL query?	useful
This interface implements SPARQL and SPARQL+ via HTTP Bindings.	
Enabled operations: select, construct, ask, describe, load, inserted te, dump	
Max. number of results : 250	
<pre>SELECT * WHERE {     GRAPH ?g { ?s ?p ?o . } } LIMIT 10</pre>	<b>Options</b> Output format (if supported by query type):
	default 🗘
	jsonp/callback (for JSON results)
	API key (if required)
	Show results inline:
Change HTTP method: GET POST	
Send Query Reset	

### SPARQLer - General purpose processor, for dataset

General SPARQL query : input query, set any options and press "Get Results"



o party	
Thesaurus	
SPARQL Endpoint PREFIX skos: <http: 02="" 2004="" <br="" skos="" www.w3.org="">SELECT ?prefLabel ?altLabel ?scopeNote WHERE { ?s skos:prefLabel ?prefLabel . ?s skos:altLabel ?altLabel . ?s skos:scopeNote ?scopeNote . } LIMIT 50 OFFSET 0</http:>	core#> OK. better. I got
	but
Query valid!	
	Run Quer
<ul> <li>SKOS</li> <li>DC</li> <li>DCTERMS</li> <li>OWL</li> <li>RDF</li> <li>RDFS</li> <li>SWC</li> </ul>	Sample Query 1 Returns all URIs and preferred labels of concepts that start with the letter "A" and sorts them alphabetically. A maximum of 50 concepts are displayed. Sample Query 2 Returns 50 Triples of any kind. Sample Query 3 Returns preferred and alternative label and the definition of a maximum of 50 concepts where these values are defined.

#### Ferminesp SPARQL Endpoint | Ontology Engineering Group

This SPARQL endpoint makes available a set of lexica in RD transformed into RDF following Linked Data best practic

Terminesp is a terminological database in Spanish create data from the UNE documents produced by AENO definitions used in the UNE Spanish norms and whenever they are available.

Terminesp Linked Data is an initiative from the

The core data has been modelled using the Lemon translation module proposed by the OEG and ava

To get started you can check the example query

### The sample is helpful, but can I construct a different SPARQL query?

### Sample Queries

"Give me available translations for the term "red" in Spanish"

"Into which languages has been the term "hueco" translated? Retrieve also the URI of the lexica that makes them available"

### Query

# Query that retrieves all available translations for the term "red" in Spanish

PREFIX rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>
PREFIX skos: <http://www.w3.org/2004/02/skos/core#>
PREFIX lemon: <http://www.lemon-model.net/lemon#>
PREFIX translation: <http://purl.org/net/translation#>
PREFIX tr\_cat: <http://purl.org/net/translation-categories#>

SELECT DISTINCT ?translation ?tr\_category ?lex\_entry\_source ?wr\_source ?lexicon\_source ?lex\_entry\_target ?wr\_target ?lexicon\_target

WHERE {

Enabled operations: select, construct, ask, describe (Max. number of results: unrestricted)



Output format (if supported by query type):

Show results inline:

✓ JSONP callback (for JSON results):

HTTP method:

● get ○ post







(E							
ž	Getty Vocabularies: LOD	SPAR	QL Queries	Any 🔻	Search	Search Brief •	
<u>5.1</u>	Agents by Type	Qu	ery:				
<u>5.2</u>	Associative Relations of Agent		1				
<u>5.3</u>	<u>Female Artists</u>		1				
<u>5.4</u>	<u>Female Artists as a Hobby</u>						
<u>5.5</u>	Names of Native American Painters						
<u>5.7</u>	Architects Born in the 14th or 15th Century						
5.8	Indian and Pakistani Architectural Groups						
<u>5.9</u>	Non-Italians Who Worked in Italy						
<u>5.10</u>	Artists Associated to a Given Patron or His						
Family							
<u>5.11</u> their te	German, Dutch, Flemish printmakers, listed with						
5.12	Artists Whose Identity May be Associated or						
Confus	sed With Another						
<u>5.13</u>	Ordered Hierarchy of Given Subject		Include inferred				
5.14	Ancient Artists or Groups by Nationality						Submit
<u>5.15</u>	Art Repositories in the USA by State		Expand results over equ	uivalent URIs			
<u>5.16</u>	Popes and Their Reigns						
<u>5.1/</u>	Pope Reign Durations	5	5.14 Ancient Artists	or Group	s by Nationality		
<u>6 Lar</u>	Scientific Names by Language		Find artists (type aat:3000)	25101 <people< td=""><td>in the visual arts&gt; or a descendant) or grou</td><td>ups (type aat:300157460 studios</td><td></td></people<>	in the visual arts> or a descendant) or grou	ups (type aat:300157460 studios	
6.2	Scientific Names not in English and Latin		(organizations) or a descer	ndant)	, .	1 ()1	
6.3	Find Terms by Language Tag		Who have start (birth or fo	undation) date	< -0001 (i.e. BC)		
<u>6.4</u>	Languages and ISO Codes	- 11 ·	Sort by preferred nationali	ty			
<u>6.5</u>	Language URLs		select 2nationality 2x 2n	ame 2hio (			SPARQL
<u>6.6</u>	Custom Language Tags		filter (?type in (aat:3	00025101, aa	:300157460))		
<u>7 Cou</u>	unting and Descriptive Info		<pre>?x gvp:agentTypePreferr</pre>	ed (gvp:agen	TypePreferred/gvp:broaderExtended)	?type.	
7.1	Descriptive Info from VOID		<pre>?x foaf:focus [gvp:biog filton(2start &lt;= "-0001</pre>	raphyPreferr	ed [gvp:estStart ?start]].		
7.2	Number of Entities from VOID	1	<pre>?x foaf:focus [gvp:nati</pre>	onalitvPrefe:	cred [gvp:prefLabelGVP [xl:literalFo	orm ?nationalitvlll;	
<u>7.3</u>	Number of Sources		gvp:prefLabelGVP [x]	:literalForm	<pre>?name];</pre>	-2111,	0
<u>7.4</u>	Associative Relations Count	1	<pre>foaf:focus [gvp:biog</pre>	raphyPreferr	ed [schema:description ?bio]]		
7.6			} order by ?nationality				
<u>1.0</u>	TON TOP Flace Types	N	lote that you have to specify t	he appropriate	format and data type for the Year literal. so	o the comparison can work. Ther	re are over 3k

← → C ↑ 🗋 vocab.getty.edu/queries#Ancient_Artist	s_or_Groups_by_Nationality		<u>0</u> द्वे =
Getty Vocabularies: LOD	SPARQL Queries	Any - Search	Search Brief 🔻
5.1       Agents by Type         5.2       Associative Relations of Agent         5.3       Female Artists         5.4       Female Artists as a Hobby         5.5       Native American Painters         5.6       Names of Native American Painters         5.7       Architects Born in the 14th or 15th Century         5.8       Indian and Pakistani Architectural Groups         5.9       Non-Italians Who Worked in Italy         5.10       Artists Associated to a Given Patron or His         Family       5.11         5.12       Artists Whose Identity May be Associated or         Confused With Another         5.13       Ordered Hierarchy of Given Subject         5.14       Ancient Artists or Groups by Nationality	Query: 1 select ?national 2 filter (?type 3 ?x gvp:agentTy 4 ?x foaf:focus 5 filter(?start 7 ?x foaf:focus 8 gvp:prefLab 9 foaf:fe 9 foaf:fe 8 order by 8 S • Include infen	<pre>ity ?x ?name ?bio { in (aat:300025101, aat:3001 pePreferred!(gvp:agentTypeP [gvp:biographyPreferred [gv &lt;= "-0001"^^xsd:gYear). [gvp:nationalityPreferred [</pre>	57460)) Preferred/gvp:broaderExtended) ?type. pp:estStart ?start]]. Ggvp:prefLabelGVP [xl:literalForm ?nation ]; ema:description ?bio]] Submit
5.16 Popes and Their Reigns			Results: 3149
6       Language Queries         6.1       Scientific Names by Language         6.2       Scientific Names not in English and Latin         6.3       Find Terms by Language Tag         6.4       Languages and ISO Codes         6.5       Language UPLs	<ul> <li>5.14 Ancient Artists</li> <li>Find artists (type aat:3000 (organizations) or a descet</li> <li>Who have start (birth or f</li> <li>Sort by preferred national</li> </ul>	s or Groups by Nationality 025101 <people arts="" in="" the="" visual=""> or a desendant) Foundation) date &lt; -0001 (i.e. BC) lity</people>	ecendant) or groups (type aat:300157460 studios
0.3       Language ORLS         6.6       Custom Language Tags         7       Counting and Descriptive Info         7.1       Descriptive Info from VOID         7.2       Number of Entities from VOID         7.3       Number of Sources         7.4       Associative Relations Count         7.5       Number of AAT Revision Actions         7.6       TGN Top Place Types	<pre>select ?nationality ?x ? filter (?type in (aat:     ?x gvp:agentTypePrefer     ?x foaf:focus [gvp:bio     filter(?start &lt;= "-000     ?x foaf:focus [gvp:nat         gvp:prefLabelGVP [x         foaf:focus [gvp:bio     } order by ?nationality </pre>	<pre>name ?bio {     300025101, aat:300157460)) rred (gvp:agentTypePreferred/gvp:broa graphyPreferred [gvp:estStart ?start 1"^^xsd:gYear). ionalityPreferred [gvp:prefLabelGVP 1:literalForm ?name]; graphyPreferred [schema:description the appropriate formation data tase for the </pre>	aderExtended) ?type. t]]. [x1:literalForm ?nationality]]]; ?bio]]



# Reality check

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If they are similar in structure and use similar sets of properties, I could learn one, and then apply to others...

B http://skos.um.es/spargl/ **UNESCO** Thesaurus http://purl.org/dc/elements/1.1/source http://purl.org/dc/elements/1.1/title http://purl.org/dc/terms/created http://purl.org/dc/terms/creator http://purl.org/dc/terms/date http://purl.org/dc/terms/modified http://purl.org/dc/terms/publisher http://purl.org/dc/terms/source http://purl.org/dc/terms/title http://purl.org/umu/uneskosvoc#contains http://purl.org/umu/uneskosvoc#memberOf http://www.w3.org/1999/02/22-rdf-syntax-ns#type http://www.w3.org/2000/01/rdf-schema#comment http://www.w3.org/2000/01/rdf-schema#label http://www.w3.org/2002/07/owl#sameAs http://www.w3.org/2004/02/skos/core#altLabel http://www.w3.org/2004/02/skos/core#broader http://www.w3.org/2004/02/skos/core#closeMatch http://www.w3.org/2004/02/skos/core#hasTopConcept http://www.w3.org/2004/02/skos/core#inScheme http://www.w3.org/2004/02/skos/core#member http://www.w3.org/2004/02/skos/core#narrower http://www.w3.org/2004/02/skos/core#notation http://www.w3.org/2004/02/skos/core#prefLabel http://www.w3.org/2004/02/skos/core#related http://www.w3.org/2004/02/skos/core#scopeNote http://www.w3.org/2004/02/skos/core#topConceptOf

# Reality check





### Conclusion:

- barriers exist
  - especially for non-tech savvy users and
  - for non-KOS developers and indexers.

Virtuoso SPAROL Query Editor		
About   Namespace Prefixes   Inference rules           Default Data Set Name (Graph IRI)		Documentation/Help Contact
Query Text select * where {?s ?p ?o} LIMIT 100		Examples
		<ol> <li>Select all taxa from the UniProt taxonomy: (show)</li> <li>Select all bacterial taxa, and their scientific name, from the UniProt taxonomy: (show)</li> <li>Select all E-Coli K12 (including strains) UniProt entries and their amino acid sequence: (show)</li> <li>Select the UniProt entry with the mnemonic 'A4_HUMAN': (show)</li> <li>Select a mapping of UniProt to PDB entries using the UniProt cross-references to the PDB database: (show)</li> <li>Select all cross-references to external databases of the category '3D structure databases' of UniProt entries that are classified with the keyword '3Fe-4S': (show)</li> <li>Select all UniProt entries, and their recommended protein name, that have a preferred gene name that contains the text 'DNA': (show)</li> <li>Select the preferred gene name and disease</li> </ol>
(Security restrictions of this server do not allow you to retrieve remote RDF data, see <u>details</u> .) Results Format:		annotation of all human UniProt entries that are known to be involved in a disease: (show)
Execution timeout: 0 milliseconds (values less than 1000 are ignored)	🛃 🛃	<ol> <li>Select all number of lenses with a sequence variant that leads to a 'loss of function': (show)</li> <li>Collected the interaction of the second se</li></ol>
Options:       Strict checking of void variables         (The result can only be sent back to browser, not saved on the server, see details)         Run Query       Reset	tion by-products   Reducing nges to the controlled vocabulary	<ol> <li>Select all human UniProt entries with a sequence variant that leads to a tyrosine to phenylalanine substitution: (show)</li> <li>Select all UniProt entries with annotated transmembrane regions and the regions' begin and end coordinates on the canonical sequence: (show)</li> </ol>
	on through folding   New FTP repository for reference	12. Select all UniProt entries that were integrated on the 30th of November 2010: (show)

# Conclusion: All LOD KOS are 5 stars already, but One more step will make them even greater

Virtuoso SPARQ	L Query Editor			
Default Data Sat Name	(Creat IDI)	Abo	out   Namespace Prefixes	<u>s   Inference rule</u>
Default Data Set Name	(Graph IRI)			
Query Text				
select * where {?s ?	?p ?o} LIMIT 100	<b>←</b>	<b>- V</b> S. <b>-</b>	
(Security restrictions of this se	erver do not allow you to retr	ieve remote RDF dat	a, see <u>details</u> .)	
Results Format:	HTML ‡			
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Run Query Reset			do	1
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<u>2</u>	Find	ing Subjects	
	<u>2.1</u>	<u>Top-level Subjects</u>	
	<u>2.2</u>	Descendants of a Given Parent	
	<u>2.3</u>	Subjects by Contributor Id	
	<u>2.4</u>	Subjects by Contributor Abbrev	
	<u>2.5</u>	Preferred Ancestors	
	<u>2.6</u>	Full Text Search Query	
	<u>2.7</u>	Case-insensitive Full Text Search Query	
	<u>2.8</u>	Exact-Match Full Text Search Query	
	<u>2.9</u>	Find Person Occupations by broaderExtended	
	<u>2.10</u>	Find Person Occupations by Double FTS	
	<u>2.11</u>	Find Quartz Timepieces by Double FTS	
	<u>2.12</u>	Find Subject by Exact English PrefLabel	
	<u>2.13</u>	Find Subject by Language-Independent	
	PrefLabels		