



University of Rome “Tor Vergata”

An ecosystem of KOS tools

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University of Rome, Tor Vergata

NKOS Consolidated Workshop 2021

Networked Knowledge Organization Systems

(22/09/2021, online)

Outline

The ART Knowledge Engineering Unit at University of Tor Vergata : A few words about us and our university

ART KE Technology Asset

A quick run-through the various development directions and realized platforms

VocBench 3

An overview of some of the most recent features, with particular focus on dataset alignment

ShowVoc

The ideal companion to VocBench, ShowVoc is optimized for data publication and browsing

Loddy

A flexible data publication tool

CODA: An already known guest for VB. And yet one that has much still to say...

My Research Lab



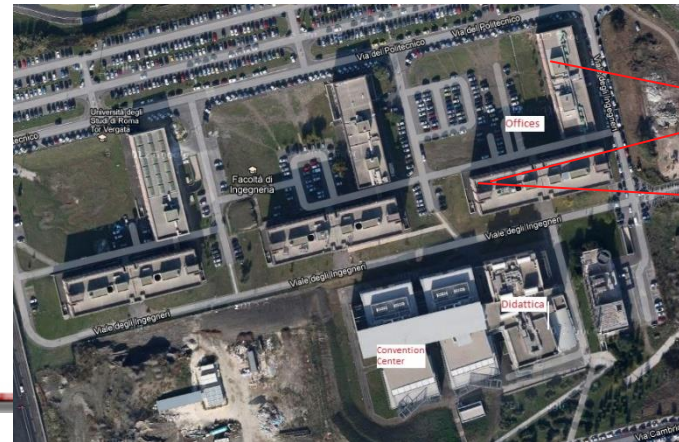
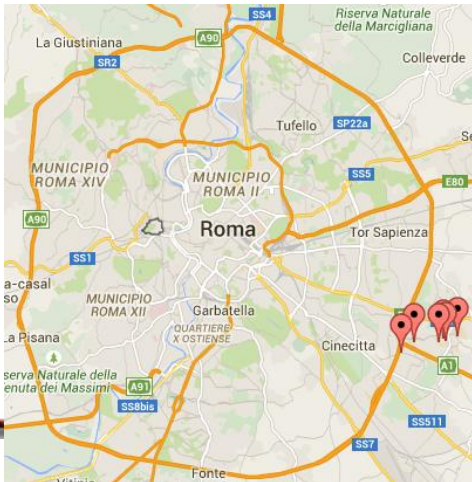
Università degli Studi di Roma Tor Vergata



<http://web.uniroma2.it/>

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<http://art.uniroma2.it> f a V
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- Realized as a University Campus distributed over a wide area in the SE of Rome



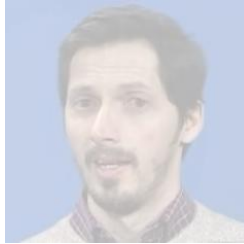
We are located at the Faculty of Engineering, Information Engineering Building



Areas of Interest

Natural Language Processing

- Robust Parsing
- Information Extraction
- Semantic Role Labeling
- Textual Entailment
- ML for Natural Language



Machine Learning

- ML for Natural Language
- Computational Language Learning
- Ontology Learning
- Classification, Multimedia IR
- Music IR



Knowledge Engineering

- Ontologies and Knowledge Modeling
- Semantic Web Technologies
- Knowledge Acquisition
- Knowledge Sharing
- Knowledge-based Systems



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ART Knowledge Engineering Unit's Research is oriented at finding solutions for information gathering, elaboration, elicitation and organization

Aiming at:

- improving the experience of "humans in the loop"
- elaborating better scenarios for machine2machine collaboration

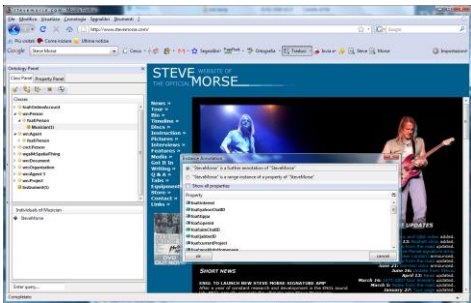


A byproduct of this work is the realization of systems for realizing the above tasks.

Usually they are born as proof-of-concepts, at times evolve as testbeds for further speculation, until sometimes the "child" has grown enough to claim his own space in life

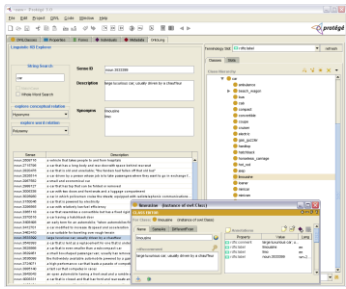
ART Technology Asset (some history)

Semantic Turkey



Flagship KM&A Platform

OntoLing



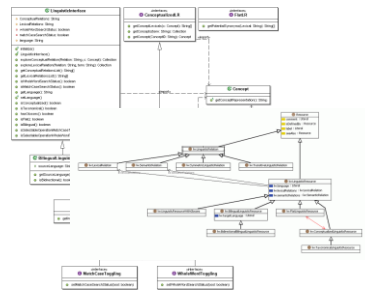
Ontology Linguistic Enrichment Tool

ALE



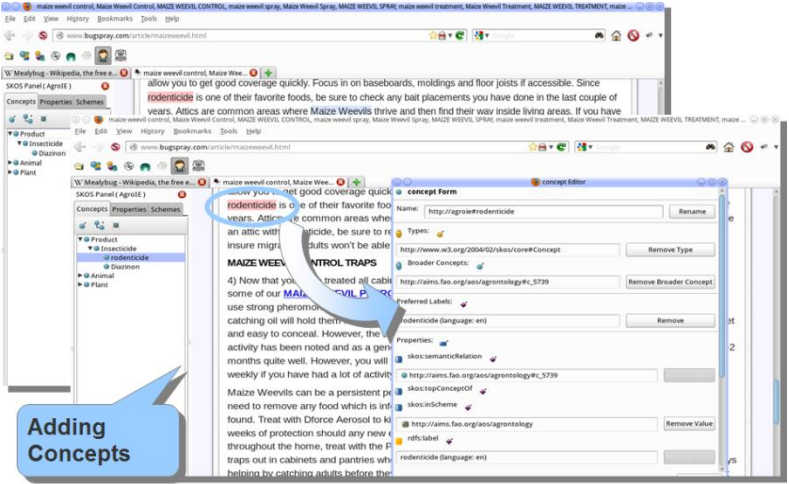
Automatic Linguistic Enrichment

Linguistic Watermark



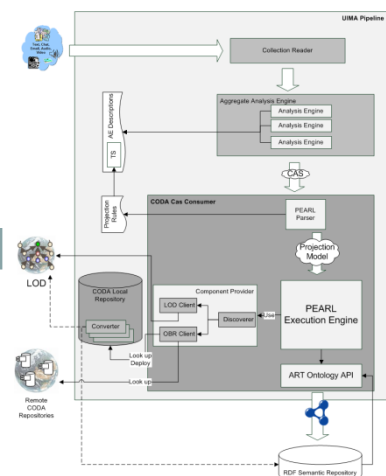
Library and Ontologies for Accessing Heterogeneous Linguistic Resources

Semantic Turkey extensions for Knowledge Acquisition

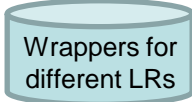


Adding Concepts

CODA



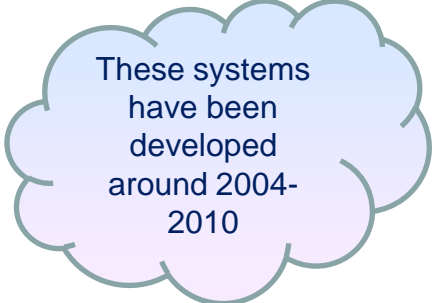
Computer-aided Ontology Development Architecture



Wrappers for different LRs

JMWNL

Java Multi WordNet Library



These systems have been developed around 2004-2010

Appetite comes with eating...

Thanks to EU funding and specific missions, some of these systems have come to industry-standard level, yet open-source and freely licensed to open communities



We'll show how these systems have gone past from their initial research status and became pieces of a bigger picture, aiming at unleashing a full ecosystem of platforms and tools for knowledge acquisition and management.

The ART SW Team

The Developers



University of Rome Tor Vergata

Today, the University of tomorrow



[Armando Stellato](#)

PhD, Researcher, Project Leader
University of Rome Tor Vergata, Italy

An insane love for insane architectures...he has two imaginary friends, sitting on each of his shoulders, fighting an eternal battle between order and chaos.



[Andrea Turbati](#)

PhD, Research Associate
University of Rome Tor Vergata, Italy

[Semantic Turkey](#) developer
VocBench OSGI extension for Semantic Turkey

*He can carve any system bit by bit, but don't talk to him about 'frameworks'...
His motto? "if it works, it's good and if it ain't broke don't fix it!"*



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*Dangerously following and amplifying Armando's architectural leaps...
his hobby is (before breakfast) refactoring 10 levels of abstraction into what Andrea just made work so well.*



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Research Assistant
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<A> Well, then, you could move on to...
<T>: I'm already on it, done by end of today.
<A> This guy is so efficient it's frustrating!*

The Users

a whole community supporting its development

funding sponsors



EU law and publications

ISA²

Interoperability solutions for public administrations, businesses and citizens

and other users (the community now is much much bigger, those here were there since the beginning...and pls forgive any omission!)



Food and Agriculture Organization
of the United Nations



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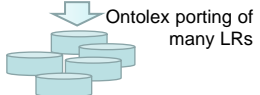
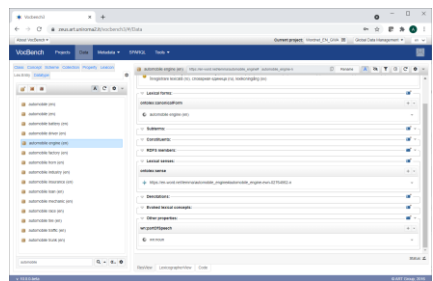
United Nations
Environment Programme

HARVARD
UNIVERSITY

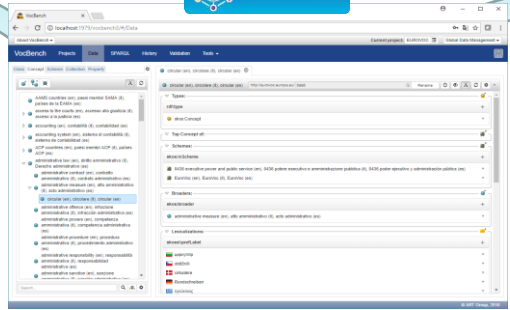


ART Contributions to EU Data Infrastructure

Support for OntoLex

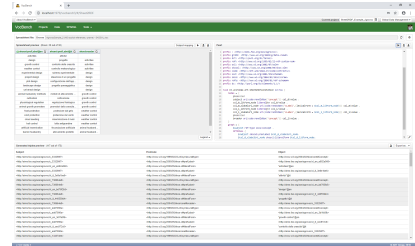


VocBench



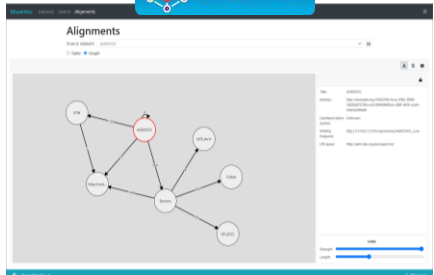
Flagship KM&A Platform

Sheet2RDF



Spreadsheet RDF Data Lifting

ShowVoc

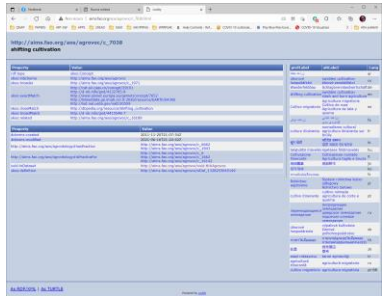


Data Browsing

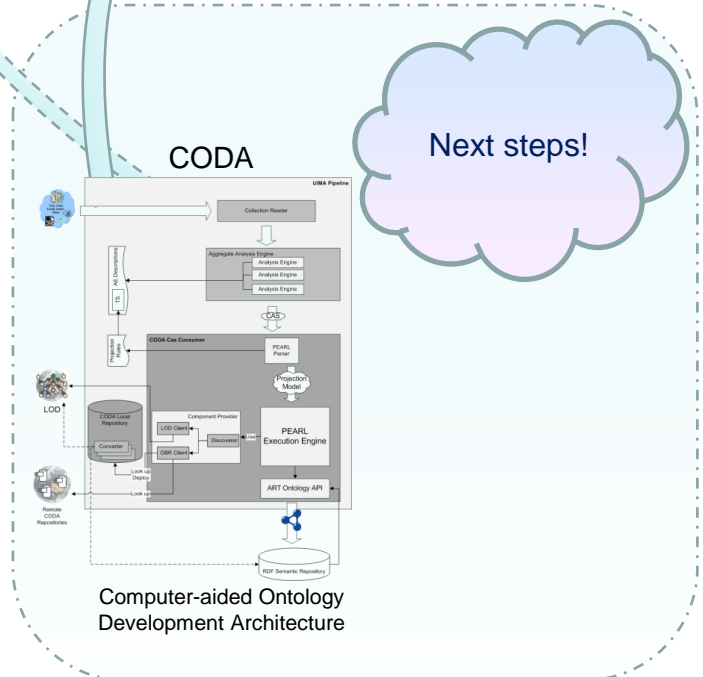
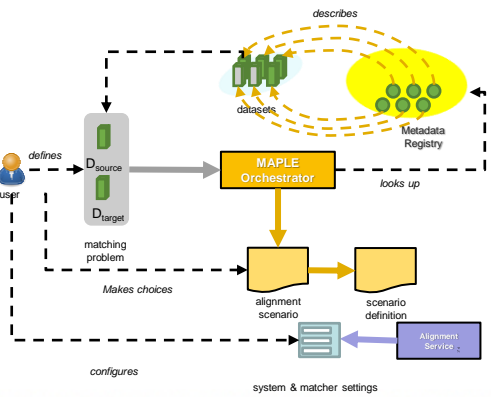


Semantic Turkey

Loddy



Data Publication



Computer-aided Ontology Development Architecture

Supporting an Open Ecosystem for the Development of Semantic Web Resources

The Developers



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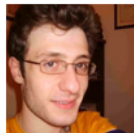
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UNCCD



Senato
della Repubblica



United Nations
Environment Programme

HARVARD
UNIVERSITY



VocBench

127.0.0.1:8080/Class

App PAPERS TV-SERIES PROGRAMMA_SERA... 2BUY 2READ CASA ART-SW FAO MAIL ONTOLEX PROJECTS PHONE APPS JIRA Altri Preferiti

VocBench Projects Class Property Concepts Schemes SPARQL Test Sign Up Login

Resource: Author http://iasted#Author

Types:

- Class
- rdfs:Class
- rdfs:Resource
- Thing

Class Axioms:

rdfs:subClassOf

- Author
- :send SOME :Registration_form
- :occupy SOME :Presenter_house
- :prepare SOME :Transparency
- :obtain SOME :Invitation_letter
- Speaker
- rdfs:Resource
- (:go_through SOME :Registration AND :is_present_in SOME :Conference_days AND :is_present_in SOME :Conference_building)
- :give SOME :Brief_introduction_for_Session_chair
- :occupy SOME :Presenter_city
- :pay SOME :Registration_fee
- Person
- :need SOME :Viza
- :write SOME :Final_manuscript
- :give SOME :Lecture
- :occupy SOME :Presenter_state

VOCBENCH 3

owl:Thing

- City
- Place
- Time
- Person
 - Delegate
 - Technical_committee
 - Session_chair
 - Speaker
 - Author
 - Author_cd_proceedings_include
 - Author_book_proceedings_inclu
 - Plenary_lecture_speaker
 - Tutorial_speaker
 - Lecturer
 - Reviewer
 - IASTED_non_member
 - One_day_presenter
 - Non_speaker
 - Hotel_presenter
 - IASTED_member

Search...

Requirements that drove the development of VB3

R1. Multilingualism

R2. Controlled Collaboration

R3. Data Interoperability and Consistency

R4. Software Interoperability/Extensibility

R5. *Data Scalability*

R6. Under-the-hood data access/modification

R7. *Adaptive Context and Ease-of-use*

R8. RDF Languages Support

R9. Maintainability (Architecture and Code Scalability)

R10. Full Editing Capability (RDF Observability&Reachability)

R11. Provenance

R12. Versioning Support

R13. Metadata Descriptions

R14. Customizable UI

R15. Everything's RDF

VocBench UI

The screenshot displays the VocBench web application interface. The browser address bar shows the URL `localhost:1979/vocbench3/#/Data`. The application has a dark blue header with navigation tabs: **VocBench**, **Projects**, **Data**, **SPARQL**, and **Tools**. Below the header, there are sub-tabs: **Class**, **Concept**, **Scheme**, **Collection**, and **Property**. The **Concept** tab is active, showing a hierarchical tree of concepts. The selected concept is **administrative law (en), diritto amministrativo (it)**. The right-hand pane displays the properties of this concept, including:

- Notes:** (empty)
- Properties:**
 - skos:notation:** 517
 - dct:created:** 1995-10-02
 - skos:related:**
 - public law (en), diritto pubblico (it)
 - administrative code (en), codice amministrativo (it)
 - administrative court (en), giurisdizione amministrativa (it)
 - administrative science (en), scienze amministrative (it)
 - http://purl.org/iso25964/skos-thes#status:**
 - http://publications.europa.eu/resource/authority/status/active
 - dct:modified:** 2015-12-10
 - owl:versionInfo:** n/a

The footer of the application indicates the copyright: © ART Group, 2016.

The screenshot shows the VocBench web application. The browser address bar indicates the URL is localhost:1979/pmki/#/datasets/Eurovoc_4.9.1/data. The application header includes 'PMKI Datasets Search Mappings' and a 'Login' button. The main content area is titled 'Eurovoc_4.9.1' and has 'Data' and 'Sparql' tabs. On the left, a concept tree is visible with 'ACP countries (en)' selected. On the right, a detailed view of this concept is shown with the following properties:

| | |
|--------------------|--|
| ACP countries (en) | http://eurovoc.europa.eu/5083 |
| Type | skos:Concept |
| Top Concept Of | 7231 economic geography (en) EuroVoc (en) |
| In Scheme | 7231 economic geography (en) EuroVoc (en) |
| Preferred Label | AKP-Staaten (de) χώρες ΑΚΕ (el) paesi membri ACP (it) ACP countries (en) pays ACP (fr) |
| Alternative Label | AKP-Länder (de) |
| Scope Note | À utiliser pour les documents qui traitent de l'ensemble de ces pays. (fr) Use for documents which deal with all of these countries. (en) |
| Version Info | n/a |
| Notation | 5083 5083 |
| Related | ACP-EU Convention (en) |
| Start Date | 1952-06-16 |
| Created | 1995-10-02 |

VocBench

A quick tour through some of its recent features

UI and Multilingualism (R1)

The screenshot displays the VocBench web application interface. The left sidebar shows a hierarchical tree of concepts, with 'financial accounting (en), contabilità generale (it)' selected. The main content area shows the details for this concept, including its types, top concept, schemes, broader terms, and lexicalizations. Red boxes highlight the concept tree, the 'skos:in Scheme' list, and the 'skosxl:prefLabel' list. Red arrows point from these boxes to text labels: 'and visualization' (pointing to the 'Types' section), 'Language preferences' (pointing to the 'Preferences' menu item), and 'multilingual editing' (pointing to the 'skosxl:prefLabel' list).

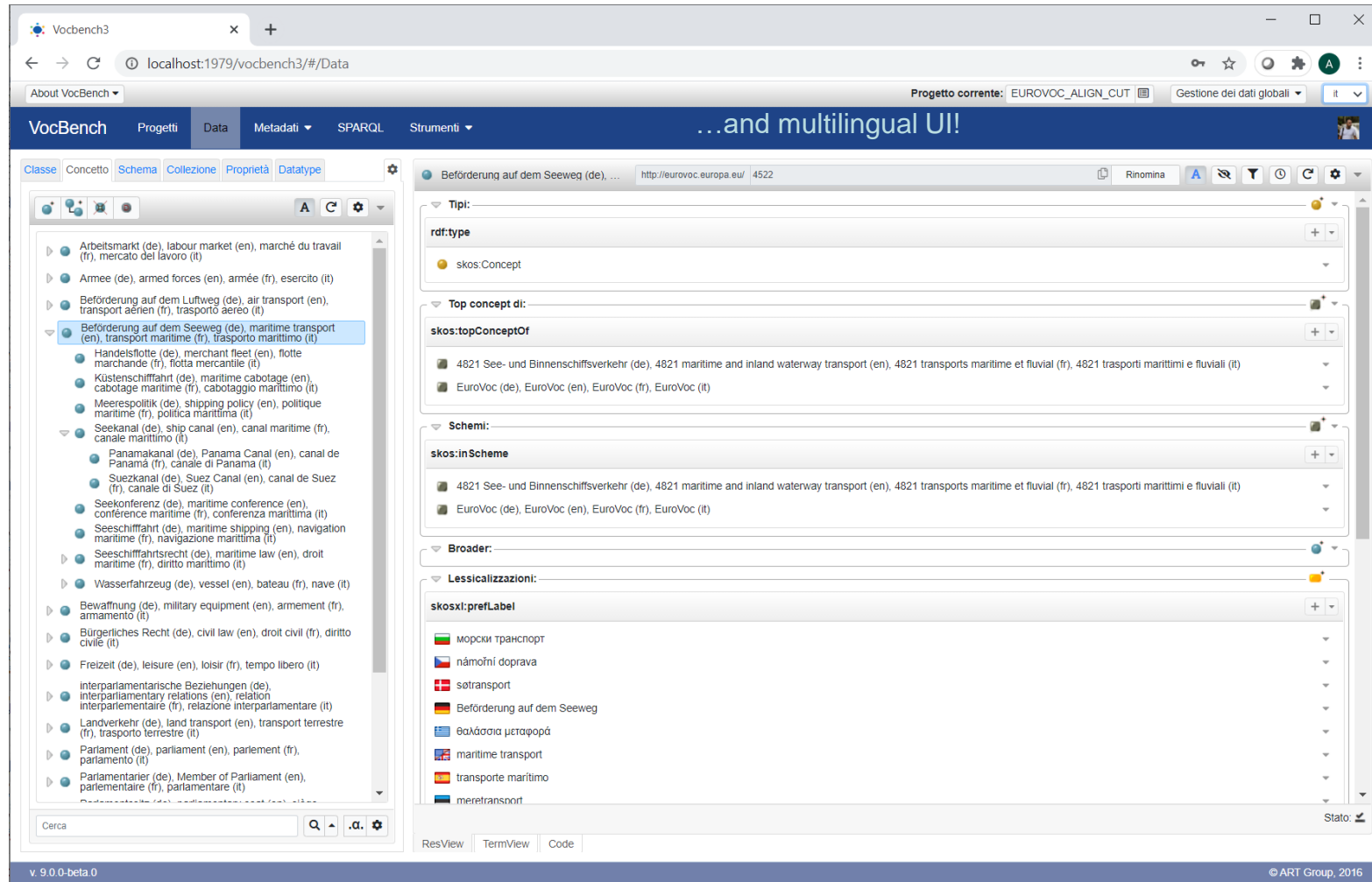
UI and Multilingualism (R1)

The screenshot shows the VocBench web application interface. The browser address bar indicates the URL is localhost:1979/vocbench3/#/Preferences. The page title is 'VocBench Preferences'. The main content area is divided into several sections:

- Resource view mode:** A dropdown menu set to 'Splitted'. Below it, a blue box explains: 'The Resource View panel is splitted in two: on the left there is a main Resource View which describes (and is synched with) the resource selected in the tree/list; on the right there is an optional secondary Resource View which describes a resource selected (double click) from the main Resource View.' To the right of this text are three icons representing different view modes: a list view, a 'Res. View' card, and another 'Res. View' card.
- Rendering Languages:** A section with a red border containing a list of languages with checkboxes. The 'en' (English) checkbox is checked. Other languages listed include Greek, English British, English American, Spanish, Estonian, Persian, Finnish, French, Irish, Hindi, Croatian, Hungarian, Indonesian, Italian, and Japanese.
- Other preferences:** A section with a red border containing:
 - A checkbox for 'Show flags' which is checked.
 - A checkbox for 'Show instances number' which is checked.
 - A 'Project theme' section with a dropdown arrow and a row of color swatches: blue, grey, light blue, green, dark grey, red, and purple. The blue swatch is selected.

A red arrow points from the text 'Language preferences' to the 'Other preferences' section.

UI and Multilingualism (R1)



The screenshot displays the VocBench3 web application interface. The browser address bar shows 'localhost:1979/vocbench3/#/Data'. The application header includes 'VocBench' and navigation tabs for 'Progetti', 'Data', 'Metadati', 'SPARQL', and 'Strumenti'. The main content area is titled '...and multilingual UI!' and shows a detailed view of the concept 'Beförderung auf dem Seeweg' (maritime transport).

The interface is organized into several sections:

- Left Panel:** A tree view of the ontology hierarchy. The selected concept is 'Beförderung auf dem Seeweg' (maritime transport), which includes sub-concepts like 'Handelsflotte', 'Küstenschifffahrt', 'Meerespolitik', 'Seekanal', 'Seekonferenz', 'Seeschifffahrt', 'Seeschifffahrtsrecht', 'Wasserfahrzeug', 'Bewaffnung', 'Bürgerliches Recht', 'Freizeit', 'interparlamentarische Beziehungen', 'Landverkehr', 'Parlament', and 'Parlamentarier'.
- Top Panel:** Displays the URI 'http://eurovoc.europa.eu/4522' and the label 'Beförderung auf dem Seeweg (de), ...'.
- Tipi:** Shows the RDF type 'skos:Concept'.
- Top concept di:** Lists 'skos:topConceptOf' relationships, including '4821 See- und Binnenschiffsverkehr' and 'EuroVoc'.
- Schemi:** Lists 'skos:inScheme' relationships, also including '4821 See- und Binnenschiffsverkehr' and 'EuroVoc'.
- Broader:** A section for broader concepts.
- Lessicizzazioni:** Lists 'skosxl:prefLabel' in multiple languages:
 - морски транспорт (Russian)
 - námoňní doprava (Czech)
 - søtransport (Danish)
 - Beförderung auf dem Seeweg (German)
 - θαλάσσια μεταφορά (Greek)
 - maritime transport (English)
 - transporte marítimo (Spanish)
 - meretransport (Dutch)

The bottom of the interface shows 'v. 9.0.0-beta.0' and '© ART Group, 2016'.

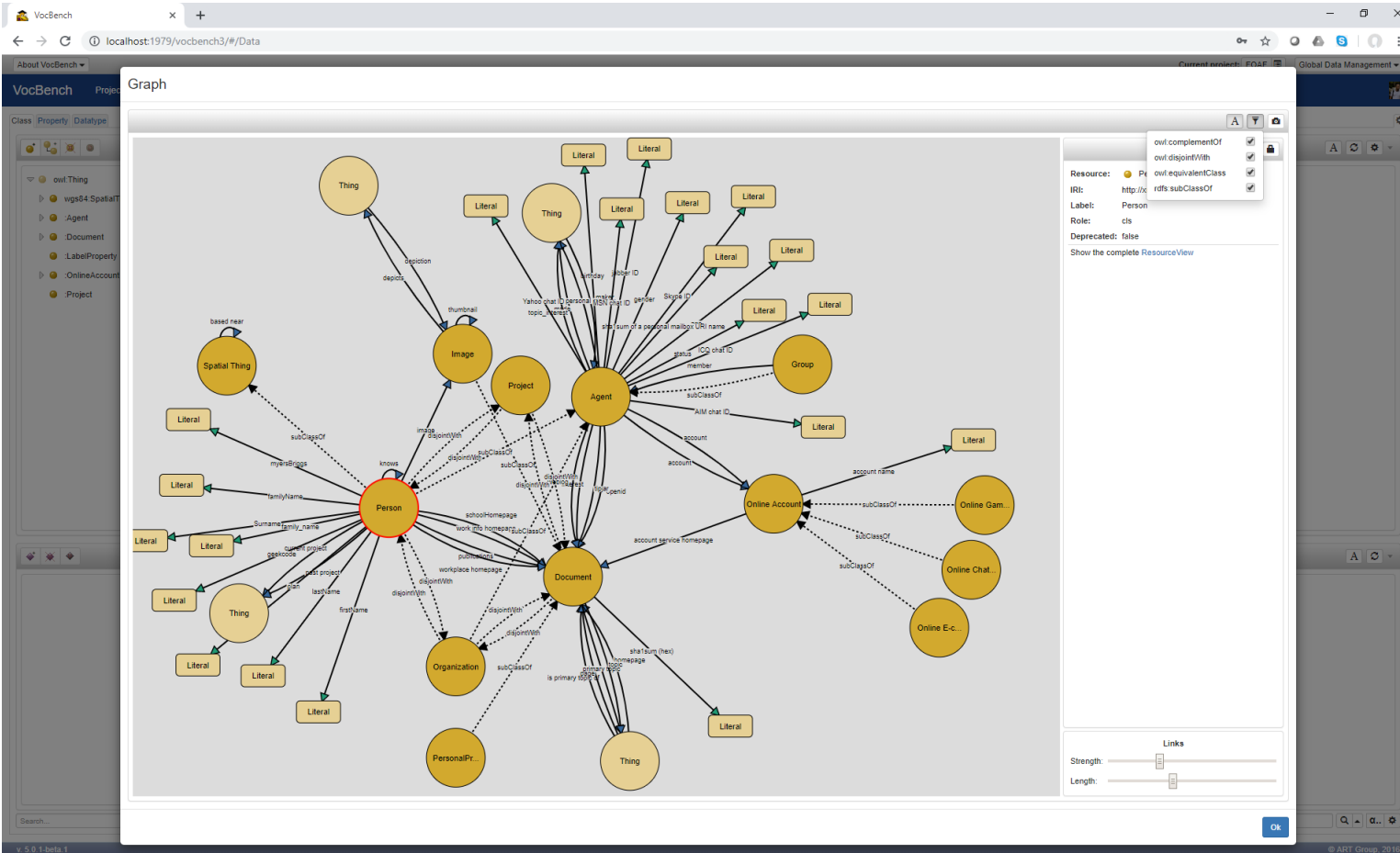
Two Views:

- **Model View:** strongly abstracted from triples, oriented to describing vocabularies
- **Data View:** more adherent to triples in the graph

Interwoven with different organization approaches:

- Exploration/Visualization: self-organizing diagram
- Diagram Editing: possibility to organize the elements of the graph

Graph View: Model View



The model view describes all classes in an ontology and their relevant axioms (a filter is available)

Properties are described as connectors between classes, by using their domain and range descriptors

Graph View: Data View

The screenshot displays the VocBench interface. On the left, a graph view shows a network of nodes and edges. A node labeled '7231 economic...' is highlighted. In the center, an 'Expand node' dialog box is open, showing a list of properties for the selected resource, including 'Types (1)', 'Schemes (3)', 'Broaders (2)', 'Lexicalizations (78)', and 'Other properties (5)'. On the right, a detailed view of the resource is shown, displaying its URI and various properties.

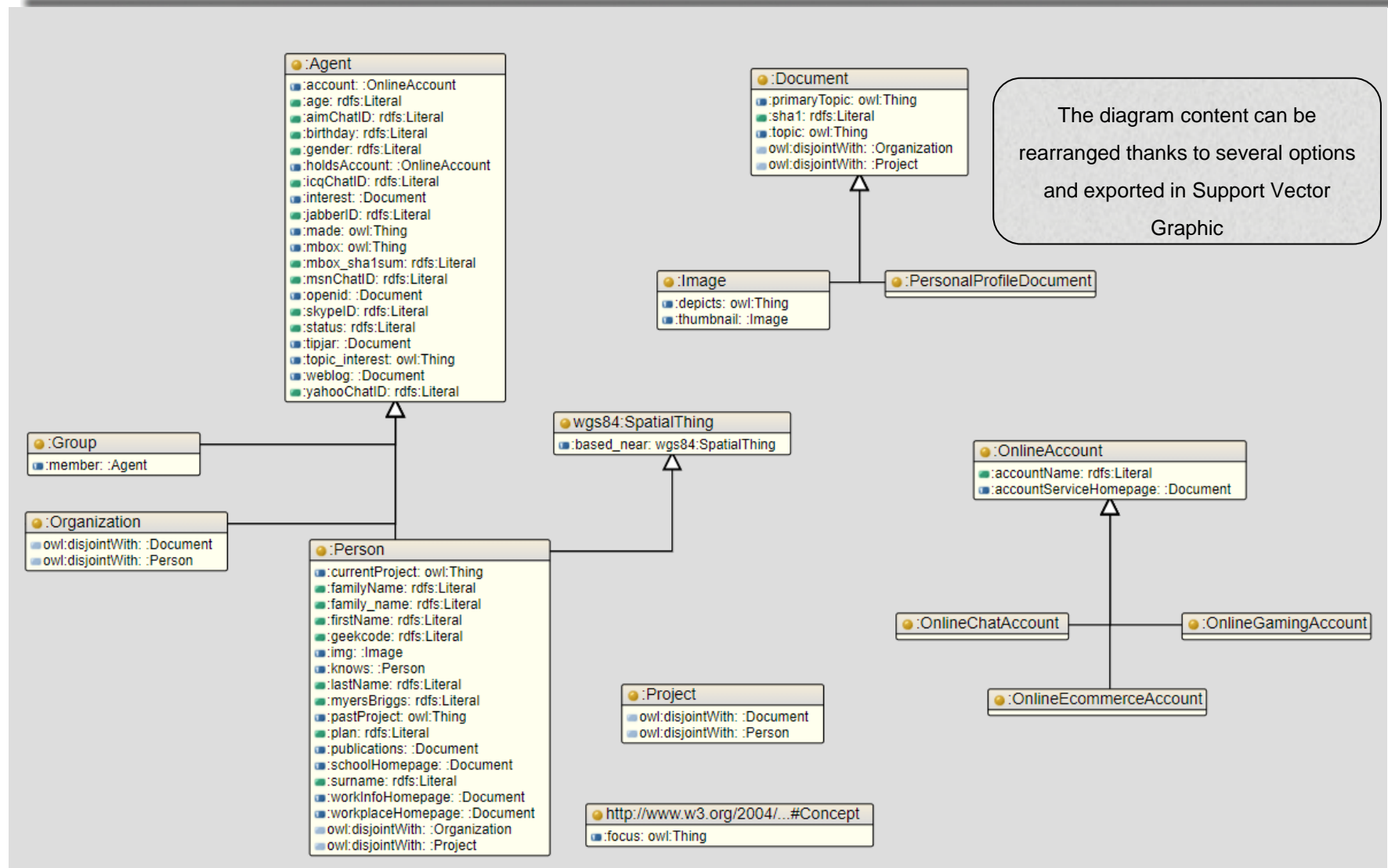
Any resource can be viewed in the data-oriented graph-view, which shows an almost triple-by-triple view of the resources managed in VocBench

A detailed configuration provides several filters, based on specific languages, on a global toggle for all literals or on properties from specific sections of the resource view

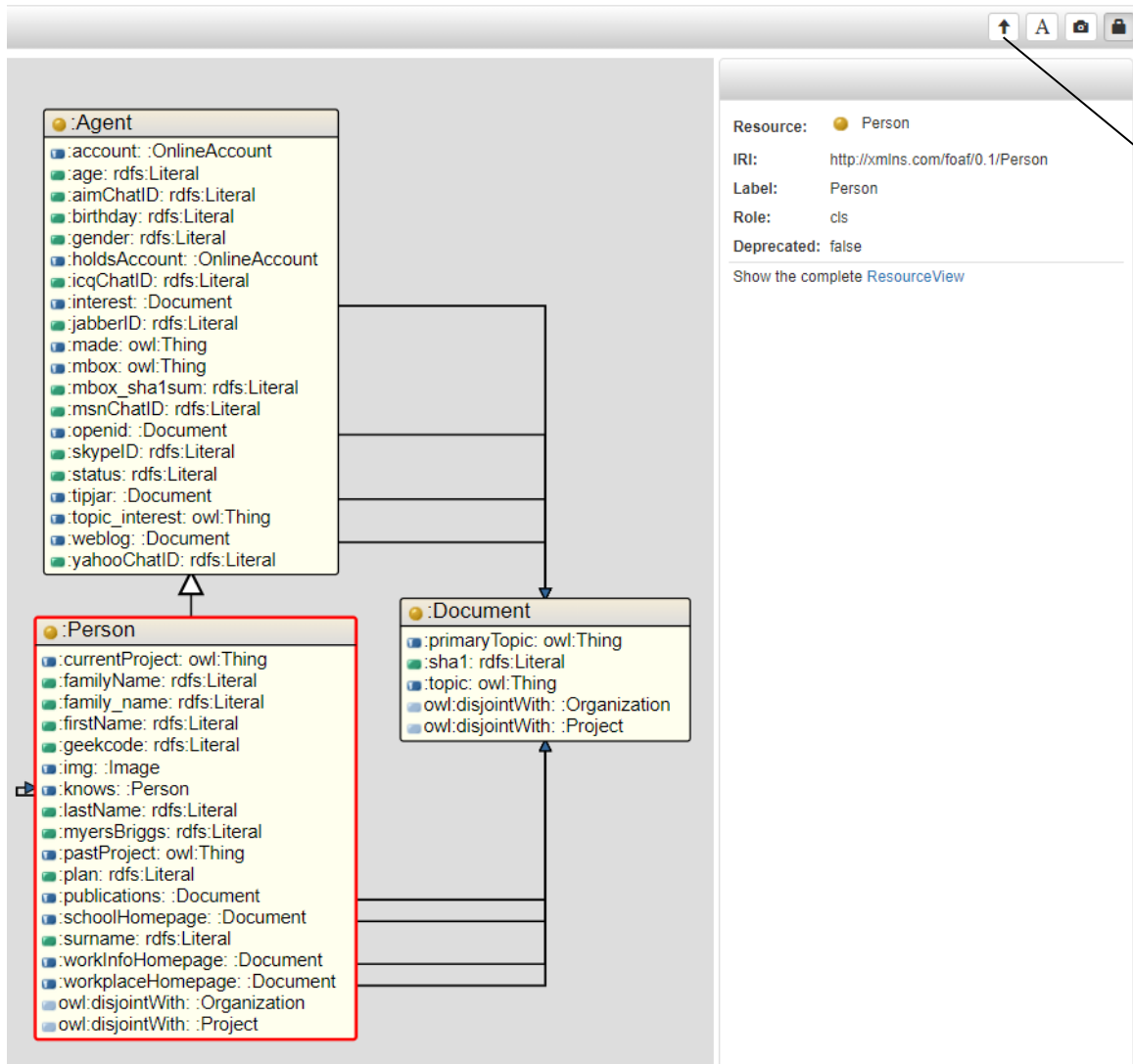
Whenever a resource is inspected, if the number of connected nodes is in any case too high, a dedicated window shows all the properties being used within that specific resource so that the user can prepare a tailored set of filters

Resources can be dragged in or discovered by progressively expanding the boundary nodes in the graph

Graph View: Class Diagram



Graph View: Class Diagram



It is possible to toggle between a IS-A only representation and a description of all the relations holding between the classes by identifying the involved properties.

This latter option is suggested for more detailed inspections of few elements (e.g. the three classes in this view)

Sheet2RDF

VocBench

localhost:1979/vocbench3/#/Sheet2RDF

Current project: Sheet2RDF_Example_Agrovoc

VocBench Projects Data SPARQL Tools

Spreadsheet file: [Browse](#) / AgrovocSample_2 (NO explicit references, qname) - SKOSXL.xlsx

Spreadsheet preview (Rows: 20 out of 30)

| skosxl:prefLabel@en | skosxl:prefLabel@it | skos:broader |
|--------------------------|-----------------------------|-------------------|
| activities | attività | activities |
| design | progetto | activities |
| growth control | controllo della crescita | activities |
| weather control | controllo meteorologico | activities |
| experimental design | schema sperimentale | design |
| project design | ideazione di un progetto | design |
| plot design | configurazione dell'app... | design |
| landscape design | progetto paesaggistico | design |
| universal design | | design |
| animal husbandry methods | metodi di allevamento ... | growth control |
| cultivation | coltivazione | growth control |
| physiological regulation | regolazione fisiologica | growth control |
| animal growth promoters | promotori della crescita... | growth control |
| frost protection | protezione dal gelo | weather control |
| wind protection | protezione dal vento | weather control |
| cloud seeding | inseminazione di nubi | weather control |
| hail control | lotta anigrandine | weather control |
| artificial insemination | fecondazione artificiale | animal husband... |
| barrier husbandry | allevamento protetto | animal husband... |

Subject mapping

Pearl

```

1 prefix : <http://aims-fao.org/aos/agrovoc/>
2 prefix grddl: <http://www.w3.org/2003/g/data-view#>
3 prefix dct: <http://purl.org/dc/terms/>
4 prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>
5 prefix owl: <http://www.w3.org/2002/07/owl#>
6 prefix skosxl: <http://www.w3.org/2008/05/skos-xl#>
7 prefix coda: <http://art.uniroma2.it/coda/contracts/>
8 prefix xsd: <http://www.w3.org/2001/XMLSchema#>
9 prefix skos: <http://www.w3.org/2004/02/skos/core#>
10 prefix rdfs: <http://www.w3.org/2000/01/rdf-schema#>
11 prefix dc: <http://purl.org/dc/elements/1.1/>
12
13 rule it.uniroma2.art.Sheet2RDFAnnotation id:row {
14   nodes = {
15     @Memoized
16     subject uri(coda:randIdgen('concept')) col_0/value .
17     col_0_litForm_node literal@en col_0/value
18     col_0_xlabelUri_node uri(coda:randIdgen('xlabel'),{lexicalForm = $col_0_litForm_node})) col_0/value .
19     col_1_litForm_node literal@it col_1/value .
20     col_1_xlabelUri_node uri(coda:randIdgen('xlabel'),{lexicalForm = $col_1_litForm_node})) col_1/value .
21     @Memoized
22     broader uri(coda:randIdgen('concept')) col_2/value .
23   }
24   graph = {
25     $subject rdfs:type skos:Concept .
26     OPTIONAL {
27       $subject skosxl:prefLabel $col_0_xlabelUri_node .
28       $col_0_xlabelUri_node skosxl:literalForm $col_0_litForm_node .

```

And produced triples

Generated triples preview (117 out of 175)

| Subject | Predicate | Object |
|--|---|--|
| <http://aims.fao.org/aos/agrovoc/c_3332907> | <http://www.w3.org/1999/02/22-rdf-syntax-ns#type> | <http://www.w3.org/2004/02/skos/core#Concept> |
| <http://aims.fao.org/aos/agrovoc/c_3332907> | <http://www.w3.org/2008/05/skos-xl#prefLabel> | <http://aims.fao.org/aos/agrovoc/xl_en_e682a060> |
| <http://aims.fao.org/aos/agrovoc/xl_en_e682a060> | <http://www.w3.org/2008/05/skos-xl#literalForm> | "activities"@en |
| <http://aims.fao.org/aos/agrovoc/c_3332907> | <http://www.w3.org/2008/05/skos-xl#prefLabel> | <http://aims.fao.org/aos/agrovoc/xl_it_3e8e1be6> |
| <http://aims.fao.org/aos/agrovoc/xl_it_3e8e1be6> | <http://www.w3.org/2008/05/skos-xl#literalForm> | "attività"@it |
| <http://aims.fao.org/aos/agrovoc/c_738664e8> | <http://www.w3.org/1999/02/22-rdf-syntax-ns#type> | <http://www.w3.org/2004/02/skos/core#Concept> |
| <http://aims.fao.org/aos/agrovoc/c_738664e8> | <http://www.w3.org/2008/05/skos-xl#prefLabel> | <http://aims.fao.org/aos/agrovoc/xl_en_bd76f2b5> |
| <http://aims.fao.org/aos/agrovoc/xl_en_bd76f2b5> | <http://www.w3.org/2008/05/skos-xl#literalForm> | "design"@en |
| <http://aims.fao.org/aos/agrovoc/c_738664e8> | <http://www.w3.org/2008/05/skos-xl#prefLabel> | <http://aims.fao.org/aos/agrovoc/xl_it_440559d4> |
| <http://aims.fao.org/aos/agrovoc/xl_it_440559d4> | <http://www.w3.org/2008/05/skos-xl#literalForm> | "progetto"@it |
| <http://aims.fao.org/aos/agrovoc/c_738664e8> | <http://www.w3.org/2004/02/skos/core#broader> | <http://aims.fao.org/aos/agrovoc/c_3332907> |
| <http://aims.fao.org/aos/agrovoc/c_edd7090a> | <http://www.w3.org/1999/02/22-rdf-syntax-ns#type> | <http://www.w3.org/2004/02/skos/core#Concept> |
| <http://aims.fao.org/aos/agrovoc/c_edd7090a> | <http://www.w3.org/2008/05/skos-xl#prefLabel> | <http://aims.fao.org/aos/agrovoc/xl_en_3d1fa5fb> |
| <http://aims.fao.org/aos/agrovoc/xl_en_3d1fa5fb> | <http://www.w3.org/2008/05/skos-xl#literalForm> | growth control"@en |
| <http://aims.fao.org/aos/agrovoc/c_edd7090a> | <http://www.w3.org/2008/05/skos-xl#prefLabel> | <http://aims.fao.org/aos/agrovoc/xl_it_cec972c0> |
| <http://aims.fao.org/aos/agrovoc/xl_it_cec972c0> | <http://www.w3.org/2008/05/skos-xl#literalForm> | "controllo della crescita"@it |
| <http://aims.fao.org/aos/agrovoc/c_edd7090a> | <http://www.w3.org/2004/02/skos/core#broader> | <http://aims.fao.org/aos/agrovoc/c_3332907> |
| <http://aims.fao.org/aos/agrovoc/c_14437dee> | <http://www.w3.org/1999/02/22-rdf-syntax-ns#type> | <http://www.w3.org/2004/02/skos/core#Concept> |

Export as...

Possibility to export produced triples or to load them in the dataset

v. 5.0.1-beta.1

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Simplified Views: Terminologist View

An alternative to the resource-view for editing SKOS-concepts – inspired by the IATE User Interface – with simplified experience, less RDF-centric

Area waterlogged outside irrigation (en), Area anegada fuera del perímetro de riego, Area anegada sin riego (es), Superficie engorgée sur des terres non irriguées (fr)

Part de la superficie engorgée dans les zones non irriguées.

— Broader Concepts —

Definition:

:xl_en_28
Term: Area waterlogged outside irrigation

Definition:

:xl_es_28
Term: Area anegada fuera del perímetro de riego, Area anegada sin riego

Definition: Part de la superficie engorgée dans les zones non irriguées.

:xl_fr_28
Term: Superficie engorgée sur des terres non irriguées

Simplified Views: The Lexicographer View

Person (en) ⓧ

Person (en) http://ontolex#ontolexLexicalEntry_981c1aa3 ↻ ⚙️

Person

People ↗ ↖ +

Definition: A human being +

Concept: ◆ http://ontolex#c_8f6b7b5e −

Semantic reference: 🌐 <http://xmlns.com/foaf/0.1/Person>

Add definition
Set concept

A new simplified view for lexicographers:

- structured as an *editable* dictionary page
- fully exploits the Ontolex-lemon standard
- hides the complexities of the Ontolex model in RDF

DATASET ALIGNMENT IN VB3

Dataset Alignment: an Introduction

Ontology¹ Alignment (aka Ontology Matching, Ontology Mapping) defines the task of discovering and assessing alignments between ontologies

¹ the term ontology is to be intended in its broadest meaning, including thesauri, terminologies, authoritative lists and other datasets in general

- The task is well-defined
 - There are variations: Tbox/Schema matching, instance matching, instance-to-schema (also called annotation) etc..
- It is intensive and error-prone
- Several approaches for its automation have been devised
 - An Ontology Alignment Evaluation Initiative is run every year since 2004
- However...

...

It is not limited to automatic discovery of alignments!

Once developed, alignments should be subject to a full maintenance lifecycle, which includes differential updates, taking into account newly added or deleted resources, topological changes in the mapped datasets, possibly collaboration between teams of the involved resources, etc..

Rethinking Alignment Support

There is a lack of omnicomprehensive solutions, embracing alignment maintenance at large, including all possible means to develop, ingest and maintain alignments

Capitalizing on past approaches, we developed a fully-fledged Alignment Environment within our popular Collaborative Environment for Management of Ontologies, Thesauri, Lexicons (and now Alignments ;-) VocBench



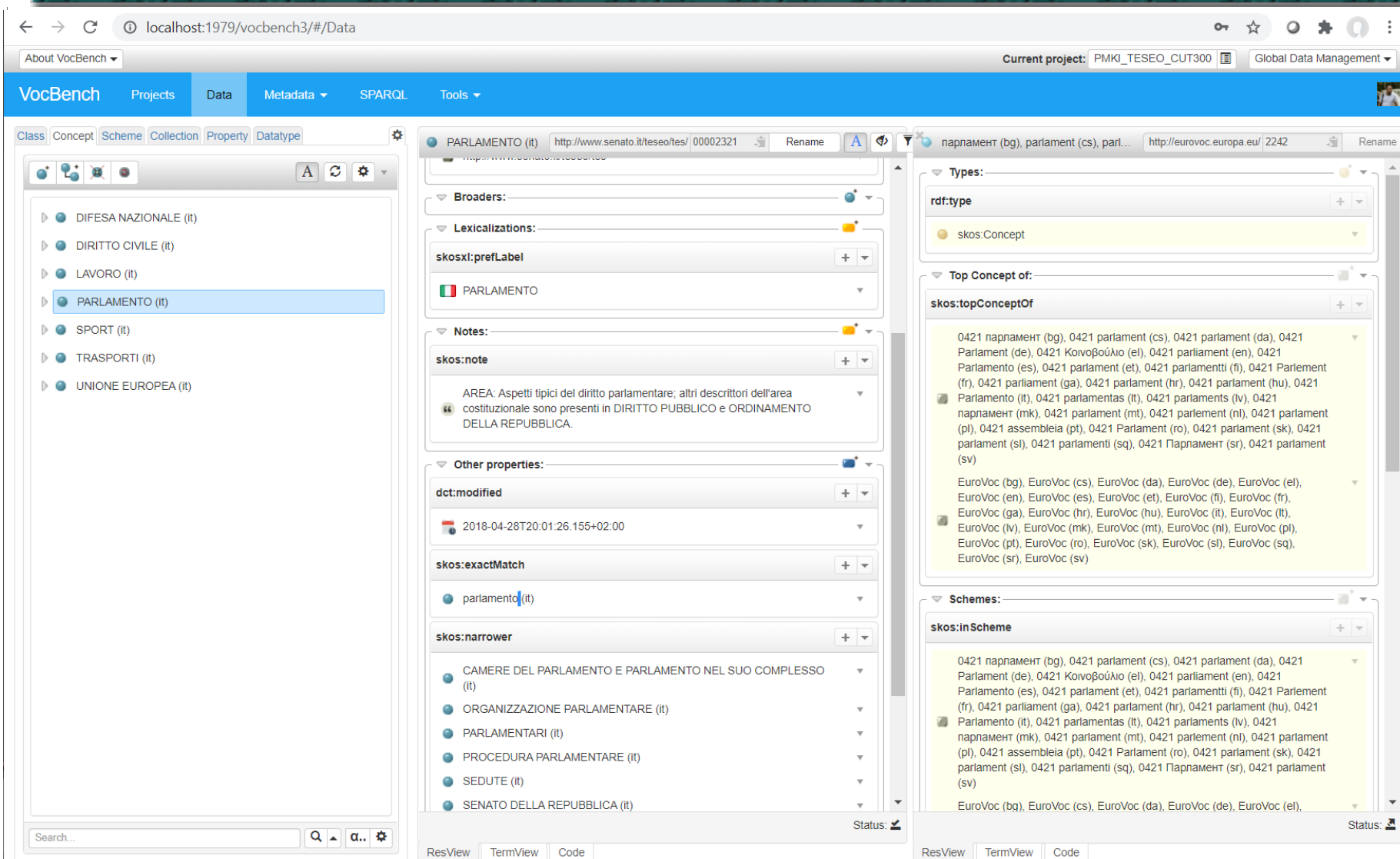
Alignment Support at Large

Not a single entry point for alignment development

Alignment is a pervasive aspect appearing in diverse points of the UX

- Alignment from within the resource-view
 - Manual alignment (search based)
 - Semi-automatic (search keywords based on available labels)
- Alignment Validation
 - Input coming from a static EDOAL file
 - Input coming from the invocation of an automatic alignment system
- EDOAL projects

Alignment from within the Resource View (1)



The screenshot displays the VocBench application interface. The browser address bar shows 'localhost:1979/vocbench3/#/Data'. The current project is 'PMKI_TESEO_CUT300'. The main navigation bar includes 'VocBench', 'Projects', 'Data', 'Metadata', 'SPARQL', and 'Tools'. The left sidebar shows a tree of concepts, with 'PARLAMENTO (it)' selected. The main content area is divided into several sections:

- PARLAMENTO (it)**: URL <http://www.senato.it/teseo/tes/00002321>
- Broaders:** (empty)
- Lexicalizations:**
 - skosxl:prefLabel: PARLAMENTO
- Notes:**
 - skos:note: AREA: Aspetti tipici del diritto parlamentare; altri descrittori dell'area costituzionale sono presenti in DIRITTO PUBBLICO e ORDINAMENTO DELLA REPUBBLICA.
- Other properties:**
 - dct:modified: 2018-04-28T20:01:26.155+02:00
 - skos:exactMatch: parlamento(it)
 - skos:narrower:
 - CAMERE DEL PARLAMENTO E PARLAMENTO NEL SUO COMPLESSO (it)
 - ORGANIZZAZIONE PARLAMENTARE (it)
 - PARLAMENTARI (it)
 - PROCEDURA PARLAMENTARE (it)
 - SEDUTE (it)
 - SENATO DELLA REPUBBLICA (it)
- Types:**
 - rdf:type: skos:Concept
- Top Concept of:**
 - skos:topConceptOf:
 - 0421 парламент (bg), 0421 parlament (cs), 0421 parliament (da), 0421 Parliament (de), 0421 Κοινοβούλιο (el), 0421 parliament (en), 0421 Parlamento (es), 0421 parliament (et), 0421 parlamenti (fi), 0421 Parlement (fr), 0421 parlament (ga), 0421 parlament (hr), 0421 parlament (hu), 0421 Parlamento (it), 0421 parlamentas (lt), 0421 parlaments (lv), 0421 парламент (mk), 0421 parlament (mt), 0421 parlement (nl), 0421 parliament (pl), 0421 assembleia (pt), 0421 Parliament (ro), 0421 parliament (sk), 0421 parliament (sl), 0421 parlamenti (sq), 0421 Парламент (sr), 0421 parlament (sv)
 - EuroVoc (bg), EuroVoc (cs), EuroVoc (da), EuroVoc (de), EuroVoc (el), EuroVoc (en), EuroVoc (es), EuroVoc (et), EuroVoc (fi), EuroVoc (fr), EuroVoc (ga), EuroVoc (hr), EuroVoc (hu), EuroVoc (it), EuroVoc (lt), EuroVoc (lv), EuroVoc (mk), EuroVoc (mt), EuroVoc (nl), EuroVoc (pl), EuroVoc (pt), EuroVoc (ro), EuroVoc (sk), EuroVoc (sl), EuroVoc (sq), EuroVoc (sr), EuroVoc (sv)
- Schemes:**
 - skos:inScheme:
 - 0421 парламент (bg), 0421 parlament (cs), 0421 parliament (da), 0421 Parliament (de), 0421 Κοινοβούλιο (el), 0421 parliament (en), 0421 Parlamento (es), 0421 parliament (et), 0421 parlamenti (fi), 0421 Parlement (fr), 0421 parliament (ga), 0421 parlament (hr), 0421 parlament (hu), 0421 Parlamento (it), 0421 parlamentas (lt), 0421 parlaments (lv), 0421 парламент (mk), 0421 parlament (mt), 0421 parlement (nl), 0421 parliament (pl), 0421 assembleia (pt), 0421 Parliament (ro), 0421 parliament (sk), 0421 parliament (sl), 0421 parlamenti (sq), 0421 Парламент (sr), 0421 parlament (sv)
 - EuroVoc (bg), EuroVoc (cs), EuroVoc (da), EuroVoc (de), EuroVoc (el), EuroVoc (en), EuroVoc (es), EuroVoc (et), EuroVoc (fi), EuroVoc (fr), EuroVoc (ga), EuroVoc (hr), EuroVoc (hu), EuroVoc (it), EuroVoc (lt), EuroVoc (lv), EuroVoc (mk), EuroVoc (mt), EuroVoc (nl), EuroVoc (pl), EuroVoc (pt), EuroVoc (ro), EuroVoc (sk), EuroVoc (sl), EuroVoc (sq), EuroVoc (sr), EuroVoc (sv)

Alignment from within the Resource View (2)

Assisted search

Local Remote

Remote datasets +

PMKI_EUROVOC_CUT300: <http://eurovoc.europa.eu/>

Wikidata: <http://www.wikidata.org/entity/>

EuroVoc: <http://eurovoc.europa.eu/>

Agrovoc: <http://aims.fao.org/aos/agrovoc/>

Paired Lexicalization Sets ⓘ

Loading...

| Language | LexModel |
|--|----------|
| <input checked="" type="checkbox"/> it | SKOSXL |

Search mode ⓘ

Starts with

Contains

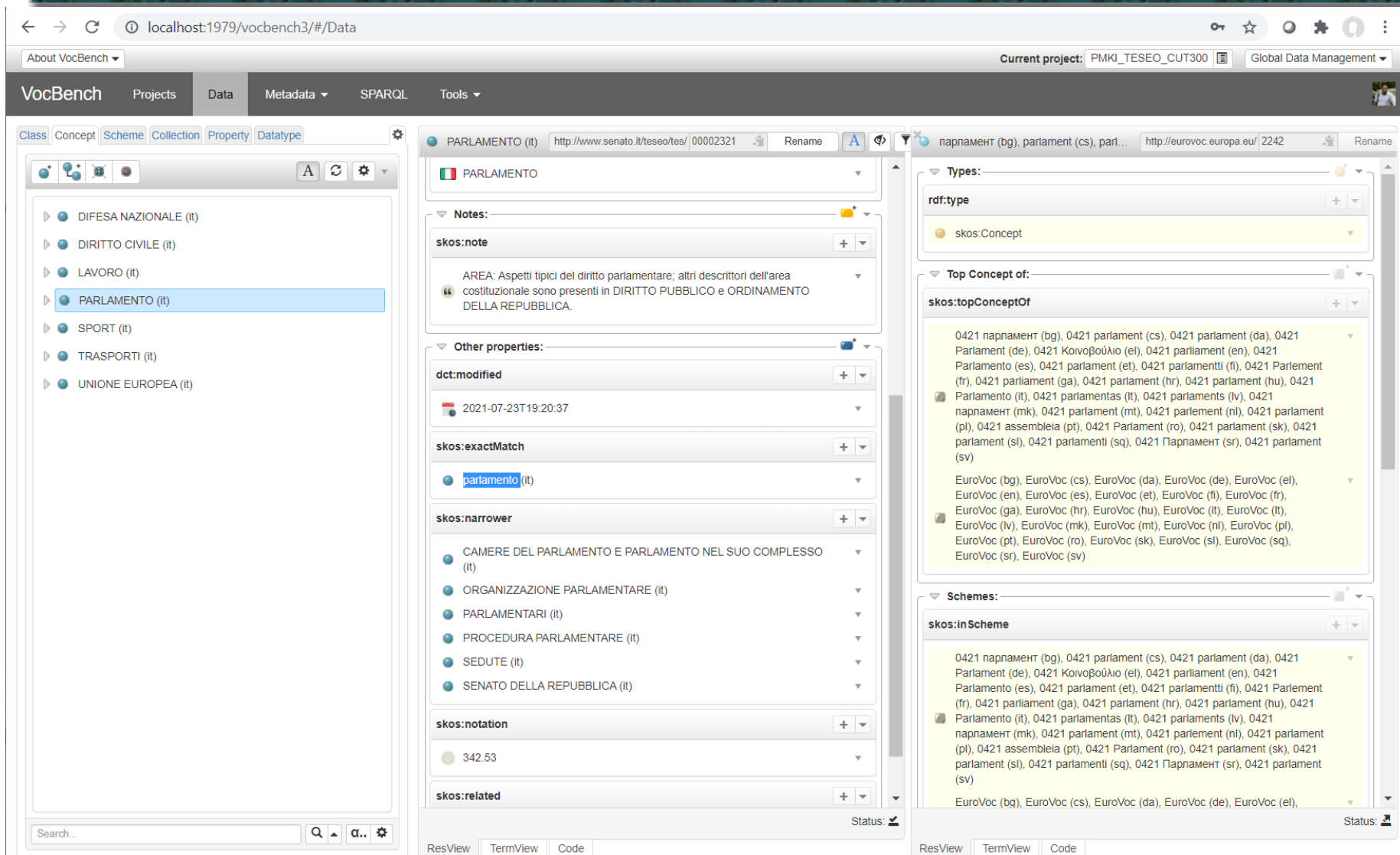
Ends with

Exact

Fuzzy

Ok Cancel

Alignment from within the Resource View (3)



The screenshot displays the VocBench application interface. The browser address bar shows `localhost:1979/vocbench3/#/Data`. The current project is `PMKI_TESEO_CUT300`. The main navigation bar includes `VocBench`, `Projects`, `Data`, `Metadata`, `SPARQL`, and `Tools`. The left sidebar shows a tree view of concepts, with `PARLAMENTO (it)` selected. The central panel displays the details for `PARLAMENTO (it)`, including its URI `http://www.senato.it/teseo/tes/00002321`, a note about constitutional aspects, a modification date of `2021-07-23T19:20:37`, and a list of narrower concepts such as `CAMERE DEL PARLAMENTO E PARLAMENTO NEL SUO COMPLESSO (it)`. The right-hand panel shows alignment details, including the `skos:Concept` type, a list of top concepts in various languages, and a list of schemes.

- The second option for alignment exploits **datasets' metadata** in order to automatically select the search keywords for the target dataset.
- The keywords basically come from the labels of the resource to be aligned
- Language selection through metadata comparison, thanks to a rich metadata description of the lexical asset

The Metadata Registry

The Metadata Registry is based on an application profile mixing several dataset metadata vocabularies:

- DCAT
- VoID
- LIME

LIME (Linguistic Metadata) is the metadata module of the Ontolex-Lemon suite of ontologies for Ontology-Lexicon interfaces

The screenshot shows the Metadata Registry interface with the following details:

- Catalog Records:** A list of records including 'Agrovoc: http://aims.fao.org/aos/agrovoc/' (highlighted), 'DBpedia: http://dbpedia.org/resource/' and 'Friend of a Friend: http://xmlns.com/foaf/0.1/'.
- Dataset:**
 - Type:** Agrovoc
 - Identity:** http://aims.fao.org/aos/agrovoc/void.ttl#Agrovoc
 - Dereferenciation System:** Yes
 - SPARQL Endpoint:** http://agrovoc.uniroma2.it/sp (with a 'No aggregation' checkbox)
 - URI space:** http://aims.fao.org/aos/agrovoc/
- Other versions:** (Empty list)
- Embedded Lexicalization Sets:**
 - Lexicalization Model:** SKOSXL
 - Language:** Ita
 - References:** 61
 - Lexical Entries:** (Empty)
 - Lexicalizations:** 61

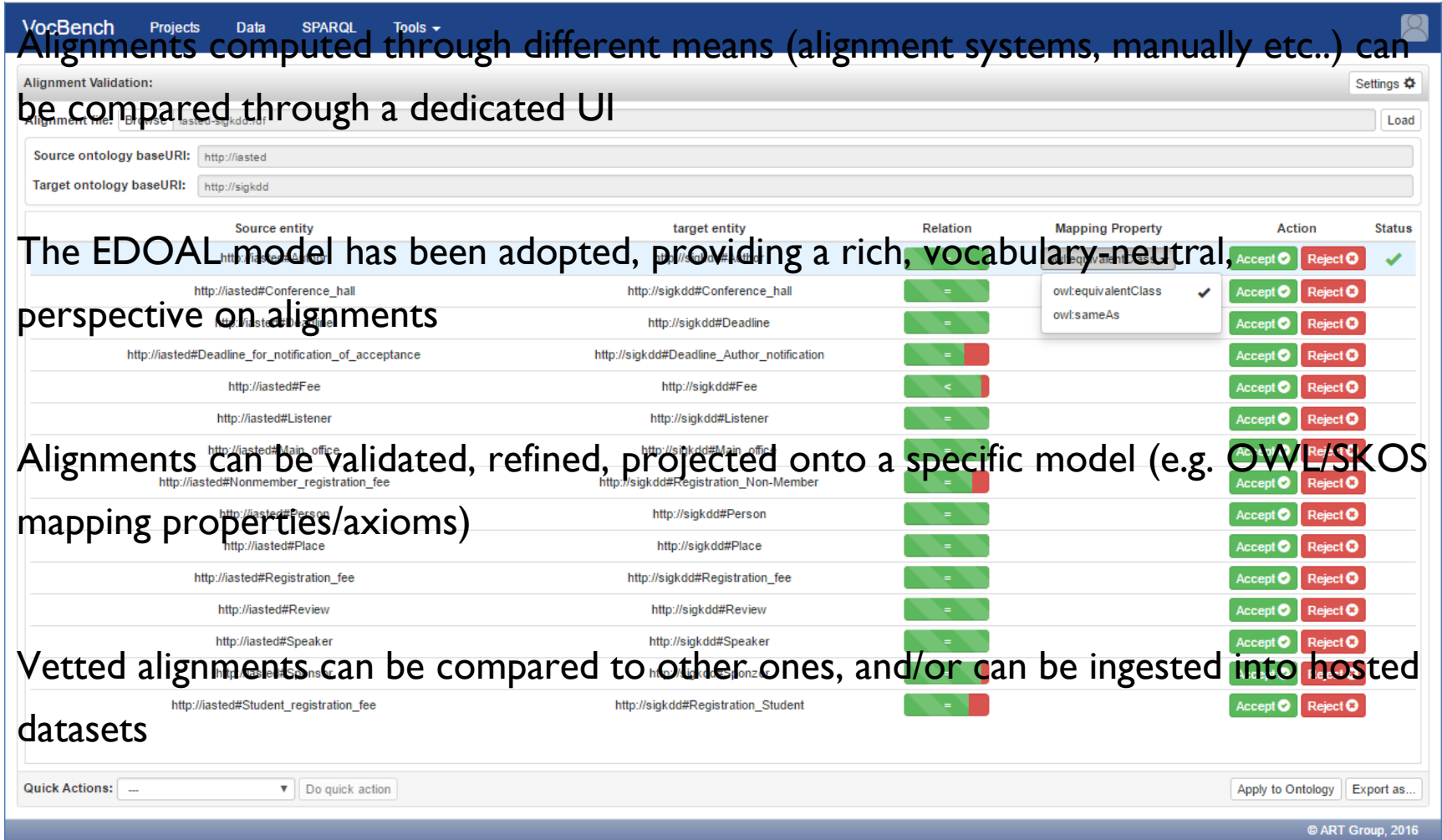
Alignment Validation

Alignments computed through different means (alignment systems, manually etc..) can be compared through a dedicated UI

The EDOAL model has been adopted, providing a rich, vocabulary-neutral, perspective on alignments

Alignments can be validated, refined, projected onto a specific model (e.g. OWL/SKOS mapping properties/axioms)

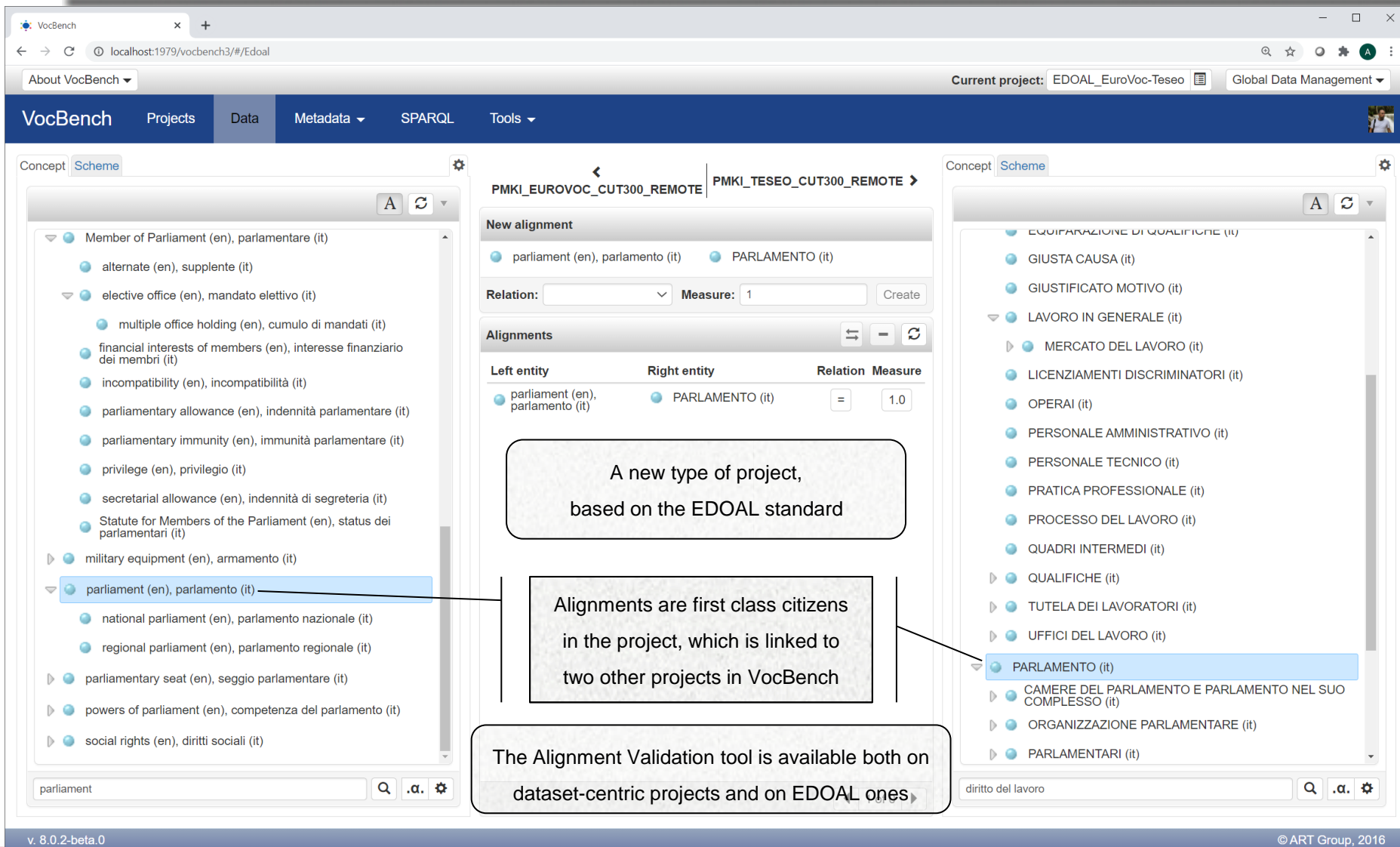
Vetted alignments can be compared to other ones, and/or can be ingested into hosted datasets



The screenshot shows the VocBench Alignment Validation interface. At the top, there are navigation tabs: VocBench, Projects, Data, SPARQL, and Tools. Below the navigation, there's a header for 'Alignment Validation' with a 'Settings' gear icon and a 'Load' button. The main area contains two input fields: 'Source ontology baseURI: http://iasted' and 'Target ontology baseURI: http://sigkdd'. Below these is a table with the following columns: Source entity, target entity, Relation, Mapping Property, Action, and Status. The table lists various alignments between the two ontologies. A dropdown menu is open over the 'Mapping Property' column, showing 'owl:equivalentClass' (checked) and 'owl:sameAs'. At the bottom, there are 'Quick Actions' and 'Do quick action' buttons, along with 'Apply to Ontology' and 'Export as...' buttons. The footer indicates '© ART Group, 2016'.

| Source entity | target entity | Relation | Mapping Property | Action | Status |
|---|--|----------|---------------------|---------------|--------|
| http://iasted#Conference_hall | http://sigkdd#Conference_hall | = | owl:equivalentClass | Accept Reject | ✓ |
| http://iasted#Deadline | http://sigkdd#Deadline | = | owl:sameAs | Accept Reject | |
| http://iasted#Deadline_for_notification_of_acceptance | http://sigkdd#Deadline_Author_notification | = | | Accept Reject | |
| http://iasted#Fee | http://sigkdd#Fee | < | | Accept Reject | |
| http://iasted#Listener | http://sigkdd#Listener | = | | Accept Reject | |
| http://iasted#Main_office | http://sigkdd#Main_office | = | | Accept Reject | |
| http://iasted#Nonmember_registration_fee | http://sigkdd#Registration_Non-Member | = | | Accept Reject | |
| http://iasted#Person | http://sigkdd#Person | = | | Accept Reject | |
| http://iasted#Place | http://sigkdd#Place | = | | Accept Reject | |
| http://iasted#Registration_fee | http://sigkdd#Registration_fee | = | | Accept Reject | |
| http://iasted#Review | http://sigkdd#Review | = | | Accept Reject | |
| http://iasted#Speaker | http://sigkdd#Speaker | = | | Accept Reject | |
| http://iasted#Student_registration_fee | http://sigkdd#Registration_Student | = | | Accept Reject | |

EDOAL Projects



VocBench

Current project: EDOAL_EuroVoc-Teseo

Global Data Management

Concept | Scheme

Member of Parliament (en), parlamentare (it)

- alternate (en), supplente (it)
- elective office (en), mandato elettivo (it)
 - multiple office holding (en), cumulo di mandati (it)
- financial interests of members (en), interesse finanziario dei membri (it)
- incompatibility (en), incompatibilità (it)
- parliamentary allowance (en), indennità parlamentare (it)
- parliamentary immunity (en), immunità parlamentare (it)
- privilege (en), privilegio (it)
- secretarial allowance (en), indennità di segreteria (it)
- Statute for Members of the Parliament (en), status dei parlamentari (it)

parliament (en), parlamento (it)

- national parliament (en), parlamento nazionale (it)
- regional parliament (en), parlamento regionale (it)

parliamentary seat (en), seggio parlamentare (it)

powers of parliament (en), competenza del parlamento (it)

social rights (en), diritti sociali (it)

parliament

PMKI_EUROVOC_CUT300_REMOTE | PMKI_TESEO_CUT300_REMOTE

New alignment

parliament (en), parlamento (it) | PARLAMENTO (it)

Relation: Measure: 1 Create

Alignments

| Left entity | Right entity | Relation | Measure |
|----------------------------------|-----------------|----------|---------|
| parliament (en), parlamento (it) | PARLAMENTO (it) | = | 1.0 |

A new type of project, based on the EDOAL standard

Alignments are first class citizens in the project, which is linked to two other projects in VocBench

The Alignment Validation tool is available both on dataset-centric projects and on EDOAL ones

Concept | Scheme

EQUIPARAZIONE DI QUALIFICHE (it)

- GIUSTA CAUSA (it)
- GIUSTIFICATO MOTIVO (it)
- LAVORO IN GENERALE (it)
 - MERCATO DEL LAVORO (it)
- LICENZIAMENTI DISCRIMINATORI (it)
- OPERAI (it)
- PERSONALE AMMINISTRATIVO (it)
- PERSONALE TECNICO (it)
- PRATICA PROFESSIONALE (it)
- PROCESSO DEL LAVORO (it)
- QUADRI INTERMEDI (it)
- QUALIFICHE (it)
- TUTELA DEI LAVORATORI (it)
- UFFICI DEL LAVORO (it)
- PARLAMENTO (it)
- CAMERE DEL PARLAMENTO E PARLAMENTO NEL SUO COMPLESSO (it)
- ORGANIZZAZIONE PARLAMENTARE (it)
- PARLAMENTARI (it)

diritto del lavoro

v. 8.0.2-beta.0

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AUTOMATIC ALIGNMENT

Metadata-driven Ontology Alignment: MAPLE

- MAPLE is an orchestrator for ontology alignment scenarios
- By analyzing the metadata of the datasets involved in a mediation process, MAPLE can inform alignment systems on the proper configuration and best strategies to adopt
- In VB3, MAPLE analysis can be inspected by the user, who can override several of its performed choices
- VB provides an Open API for Alignment Systems so that they can interact with it
- Possibility for connected Alignment Systems to define a set of matchers and to export their configuration schemes
 - General configuration
 - Matchers Configuration
- Currently available systems
 - Genoma (a simple alignment system meant to prove the potentialities of MAPLE) [Roberto Enea, Maria Teresa Pazienza, Andrea Turbati GENOMA: GENeric Ontology Matching Architecture, IA*IA 2015 (2015) doi:10.1007/978-3-319-24309-2_23 (Gavanelli, Marco and Lamma, Evelina and Riguzzi, Fabrizio eds.), Lecture Notes in Computer Science, 9336, 303-315, Springer International Publishing, 2015]
 - NAISC [created by the SFI Insight Centre for Data Analytics in the context of the Horizon 2020 ELEXIS project (grant agreement No 731015 McCrae, J.P., Buitelaar, P.: Linking Datasets Using Semantic Textual Similarity. Cybernetics and Information Technologies 8(1), 109-123 (2018)]
 - More to come... AgreementMakerLight: AML [D. Faria, C. Pesquita, E. Santos, M. Palmonari, I. Cruz, and F. Couto, The AgreementMakerLight ontology matching system, ODBASE 2013]

...I have to summon here

...two very dear old friends...

Semantic/Linguistic Coordination

Hi, I'm Merlin the Wizard. I see you are a Genie, so I'm... sorry, mine is: suppose we can talk about magic*

Mmm... I just speak arabian, and I'm able to express some of my ideas in a very simple english (Freelang, automatic translation with 23% coverage of ontology concepts)

Oh yes, I like talking about magic. My reference ontology for magic is: Xxxw/magic.owl

Well, ok, what's your language(s)?

actually I'm a good english speaker (ontology natively english speaker (a Wordnet 2.1 resource agent) and I've just found on the yellow pages an english/arabian translator (Dict english/arabian dictionary Semantic Web Service), maybe they can help us a bit...

*agents are talking on the basis of a minimal agreed protocol which can then start a semantic coordination activity

...let's see what happens

behind the stages...

"Alignment Scenario" Evaluation by MAPLE

Short Description of the datasets to be compared

Description of the **support datasets**: usually lexicalizations of the same datasets to be aligned, but can include external supporting resources (e.g. lexical resources such as WordNet to expand language coverage, so called *synonymizers*)

Possible suggested pairings between lexicalization sets (supported by *synonymizers*, *translators* etc.) and summarized into a score

```

result:
  sourceDataset:
    @type: null
    @id: "http://example.org/59a81cd5-cfd7-435b-8d65-e0f303e105f4/void.ttl#9a64ce19-27a0-48ca-9294-c13f823604e1"
    uriSpace: "http://www.senato.it/teseo/tes/"
    sparqlEndpoint: "http://localhost:7200/repositories/TESEO_core"
  targetDataset:
    @type: null
    @id: "http://example.org/3753f4f6-b68b-4c4a-a71b-2535718602da/void.ttl#a3f50b1e-5100-49a4-b703-40c6daad777f"
    uriSpace: "http://eurovoc.europa.eu/"
    sparqlEndpoint: "http://localhost:7200/repositories/EuroVoc_core"
  supportDatasets:
    0:
      @id: "http://example.org/3753f4f6-b68b-4c4a-a71b-2535718602da/void.ttl#a3f50b1e-5100-49a4-b703-40c6daad777f_it_Lexicalization_set"
      uriSpace: null
      sparqlEndpoint: "http://localhost:7200/repositories/EuroVoc_core"
      referenceDataset: "http://example.org/3753f4f6-b68b-4c4a-a71b-2535718602da/void.ttl#a3f50b1e-5100-49a4-b703-40c6daad777f"
      lexiconDataset: null
      lexicalizationModel: "http://www.w3.org/2008/05/skos-xl"
      lexicalizations: 18545
      references: 7282
      lexicalEntries: null
      avgNumOfLexicalizations: 2.546
      percentage: 1
      languageTag: "it"
      @type: "http://www.w3.org/ns/Lemon/Lime#LexicalizationSet"
    1:
      @id: "http://example.org/59a81cd5-cfd7-435b-8d65-e0f303e105f4/void.ttl#9a64ce19-27a0-48ca-9294-c13f823604e1_it_Lexicalization_set"
      uriSpace: null
      sparqlEndpoint: "http://localhost:7200/repositories/TESEO_core"
      referenceDataset: "http://example.org/59a81cd5-cfd7-435b-8d65-e0f303e105f4/void.ttl#9a64ce19-27a0-48ca-9294-c13f823604e1"
      lexiconDataset: null
      lexicalizationModel: "http://www.w3.org/2008/05/skos-xl"
      lexicalizations: 3378
      references: 3378
      lexicalEntries: null
      avgNumOfLexicalizations: 1
      percentage: 1
      languageTag: "it"
      @type: "http://www.w3.org/ns/Lemon/Lime#LexicalizationSet"
  pairings:
    0:
      score: 0.5716210939615214
      source:
        lexicalizationSet: "http://example.org/59a81cd5-cfd7-435b-8d65-e0f303e105f4/void.ttl#9a64ce19-27a0-48ca-9294-c13f823604e1_it_Lexicalization_set"
        synonymizer: null
      target:
        lexicalizationSet: "http://example.org/3753f4f6-b68b-4c4a-a71b-2535718602da/void.ttl#a3f50b1e-5100-49a4-b703-40c6daad777f_it_Lexicalization_set"
        synonymizer: null

```



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<http://art.uniroma2.it/stellato>




...and, in VocBench,

what the user sees...

Semantic/Linguistic Coordination

Create task

Left project: Teseo-CUT  

Left project: Eurovoc-CUT   

Profile matching

Type: Dataset

URI space: <http://www.teseo.it/teseo/tes/>

Conforms to: **SKOS**

SPARQL endpoint: <http://localhost:7200/repositories/Teseo-CUT>

Type: Dataset


URI space: <http://eurovoc.europa.eu/>


Conforms to: **SKOS**





SPARQL endpoint: <http://localhost:7200/repositories/Eurovoc-CUT>

Pairings

Use

 Score: 0.555
Best combined score: 0.991

Synonymizers 

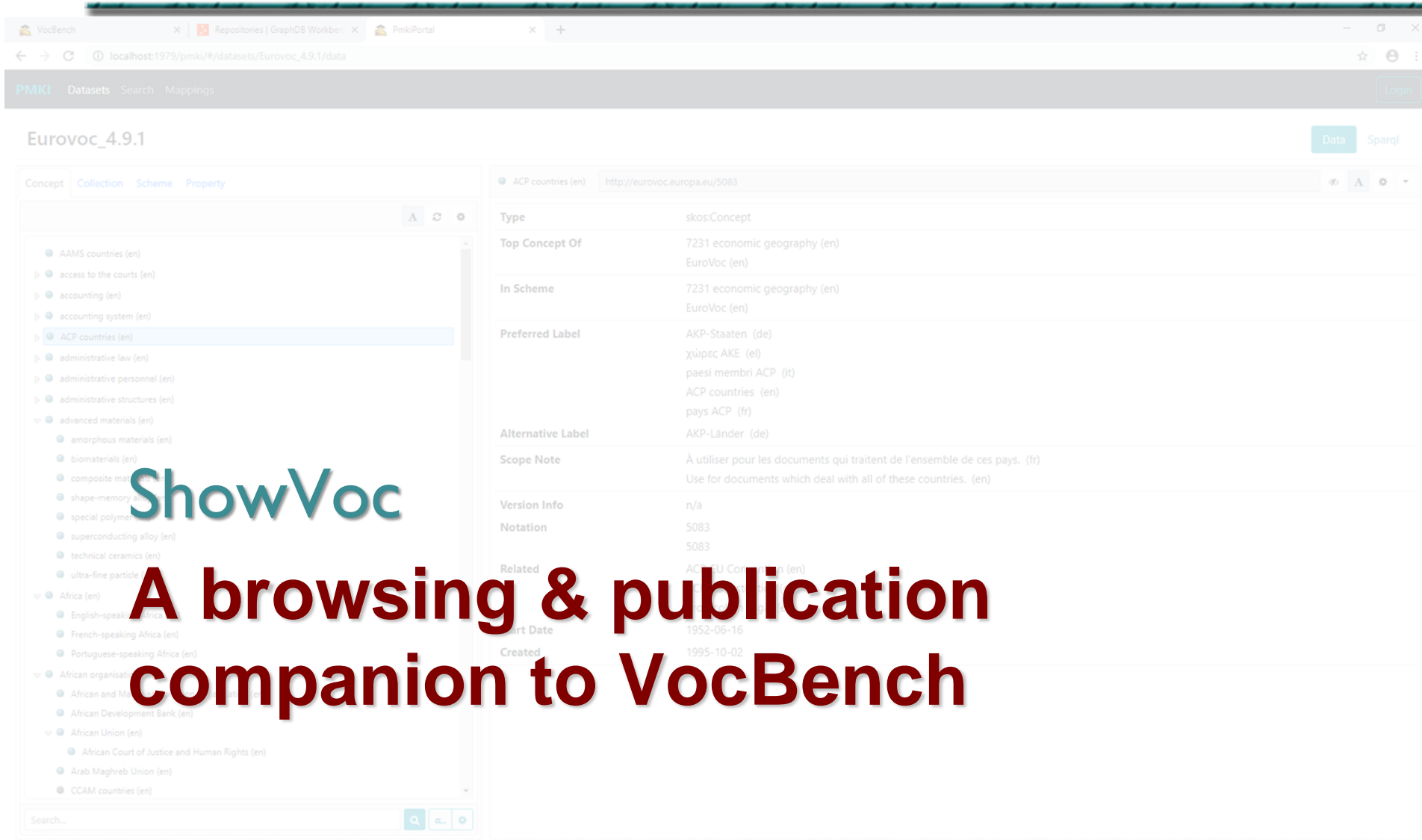
-  *MultiWordNet* Score: 0.991 
-  *ItaWordnet* Score: 0.886 

Matchers

Optionally a matcher can be provided to the alignment system. [Click here](#) to search for available matchers.

Quality of potential pairings is mainly measured in terms of:

- coverage of the dataset (percentage of resources that are lexicalized in that given language)
- on a second order, on the lexical richness in that language (overall number of lexicalizations, thus revealing the presence of alternative expressions, synonyms etc..).
- Availability of support resources (that can expand the possible anchors between resources)



The screenshot displays the VocBench web application. The browser address bar shows the URL `localhost:1979/pmki/#/datasets/Eurovoc_4.9.1/data`. The application header includes navigation links for 'PMKI', 'Datasets', 'Search', and 'Mappings', along with a 'Login' button. The main content area is titled 'Eurovoc_4.9.1' and features a 'Data' button and a 'Sparql' query editor. On the left, a sidebar lists various concept categories, with 'ACP countries (en)' selected. The right pane shows the detailed view for 'ACP countries (en)' with the URI `http://eurovoc.europa.eu/5083`. The details include:

- Type: skos:Concept
- Top Concept Of: 7231 economic geography (en) EuroVoc (en)
- In Scheme: 7231 economic geography (en) EuroVoc (en)
- Preferred Label: AKP-Staaten (de), χώρες ΑΚΕ (el), paesi membri ACP (it), ACP countries (en), pays ACP (fr)
- Alternative Label: AKP-Länder (de)
- Scope Note: À utiliser pour les documents qui traitent de l'ensemble de ces pays. (fr), Use for documents which deal with all of these countries. (en)
- Version Info: n/a
- Notation: 5083
- Related: ACP-150 Countries (en)
- Start Date: 1952-06-16
- Created: 1995-10-02

ShowVoc

A browsing & publication companion to VocBench

The PMKI Project

- PMKI (Public Multilingual Knowledge Infrastructure) is a project funded by the ISA2 programme of the EU, aimed at the development of open data portals focusing on terminological and linguistic content.
- Within the project, the idea of a specific portal mutated into a sort of read-only VocBench, including the resource view and much of the browsing views, with a focus on efficiency and streamlined fruition of content.
- Besides browsing UX, the system features capabilities oriented at showing datasets as whole resources
- These features include, among others
 - global free-text search over all datasets and machine translation API
 - browse linksets between datasets through a dedicated graph exploration
 - each node represents a dataset as a whole
 - the arcs represent the linksets
 - For each linkset, it is possible to list its mapping statements and browse the involved aligned resources

The ShowVoc Platform

- Revised resource-view thought for a more readable and streamlined visualization of resource details
- Exploitation of VocBench advanced visualization solutions (e.g. Custom Forms, adapted to the new resource-view)
- Focus on language resources, from (multilingual) thesauri to lexicons
- Global index-based search separated from the dataset-specific indexes (which are stored per-repository)
- SPARQL interface (*reused and adapted from VocBench*)
- Graph View (*reused and adapted from VocBench*)
 - Dataset-oriented graph-view
- Mappings Page
- Contributors' Services and Pages
- Administration Panel

Dataset List View

Browse PMKI datasets

Dataset type

KOS

Lexicons

Only open projects

Language

de

fr

en

es

it

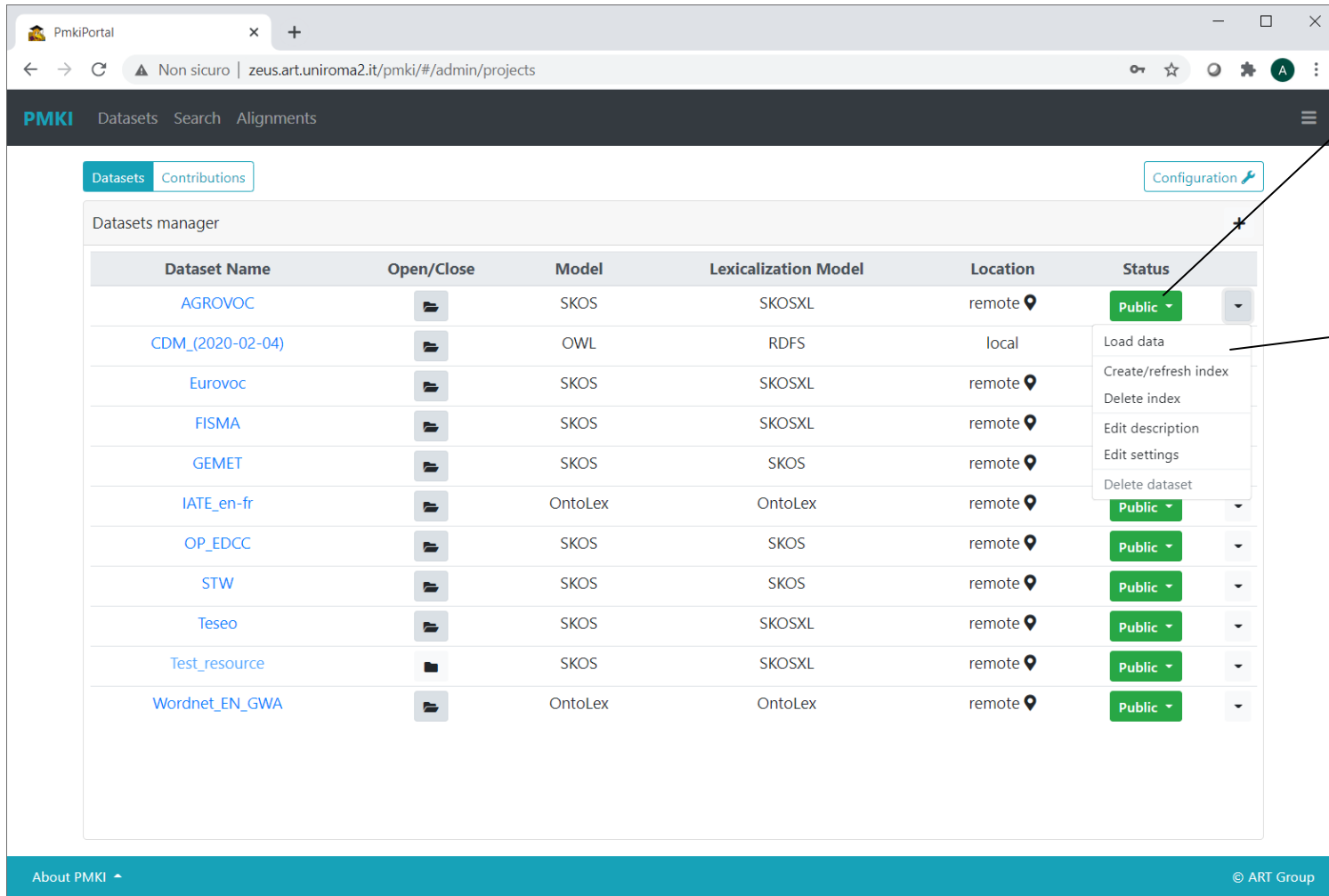
Search

| | |
|---|--|
| IATE_en-fr http://iate.europa.eu/entry/ | Model: OntoLex Lexicalization: OntoLex |
| LandAndWater http://www.fao.org/landandwater/ | Model: SKOS Lexicalization: SKOSXL |
| OntoLex_Demo http://example.org/ | Model: OntoLex Lexicalization: OntoLex |
| OntoLex_Test http://ontolex.test/ | Model: OntoLex Lexicalization: OntoLex |
| PMKI_EUROVOC_CUT300 http://eurovoc.europa.eu/ | Model: SKOS Lexicalization: SKOSXL |
| PMKI_EUROVOC_CUT300_REMOTE http://eurovoc.europa.eu/ | Model: SKOS Lexicalization: SKOSXL |
| PMKI_TESEO_CUT300 http://www.senato.it/teseo/tes/ | Model: SKOS Lexicalization: SKOSXL |
| PMKI_TESEO_CUT300_REMOTE http://www.senato.it/teseo/tes/ | Model: SKOS Lexicalization: SKOSXL |
| Sheet2RDF_AgrovocDemo http://aims.fao.org/aos/agrovoc | Model: SKOS Lexicalization: SKOSXL |
| Sheet2RDF_Example_Agrovoc http://aims.fao.org/aos/agrovoc/ | Model: SKOS Lexicalization: SKOSXL |
| Sheet2RDF_SKOSTest | Model: SKOS Lexicalization: SKOSXL |

All datasets in the connected triple store are reported by the platform. These can be filtered by:

- Open-only repositories
- Language
- Type of dataset (KOS or Lexicon)

Administrator Dashboard



The screenshot shows the PMKI Administrator Dashboard. The browser address bar indicates the URL `zeus.art.uniroma2.it/pmki/#/admin/projects`. The dashboard has a navigation bar with 'PMKI', 'Datasets', 'Search', and 'Alignments'. Below this, there are tabs for 'Datasets' and 'Contributions', and a 'Configuration' button. The main area is titled 'Datasets manager' and contains a table of datasets. A context menu is open over the 'Public' status of the 'AGROVOC' dataset, showing options like 'Load data', 'Create/refresh index', 'Delete index', 'Edit description', 'Edit settings', and 'Delete dataset'.

| Dataset Name | Open/Close | Model | Lexicalization Model | Location | Status |
|------------------|------------|---------|----------------------|----------|--------|
| AGROVOC | | SKOS | SKOSXL | remote | Public |
| CDM_(2020-02-04) | | OWL | RDFS | local | |
| Eurovoc | | SKOS | SKOSXL | remote | |
| FISMA | | SKOS | SKOSXL | remote | |
| GEMET | | SKOS | SKOS | remote | |
| IATE_en-fr | | OntoLex | OntoLex | remote | Public |
| OP_EDCC | | SKOS | SKOS | remote | Public |
| STW | | SKOS | SKOS | remote | Public |
| Teseo | | SKOS | SKOSXL | remote | Public |
| Test_resource | | SKOS | SKOSXL | remote | Public |
| Wordnet_EN_GWA | | OntoLex | OntoLex | remote | Public |

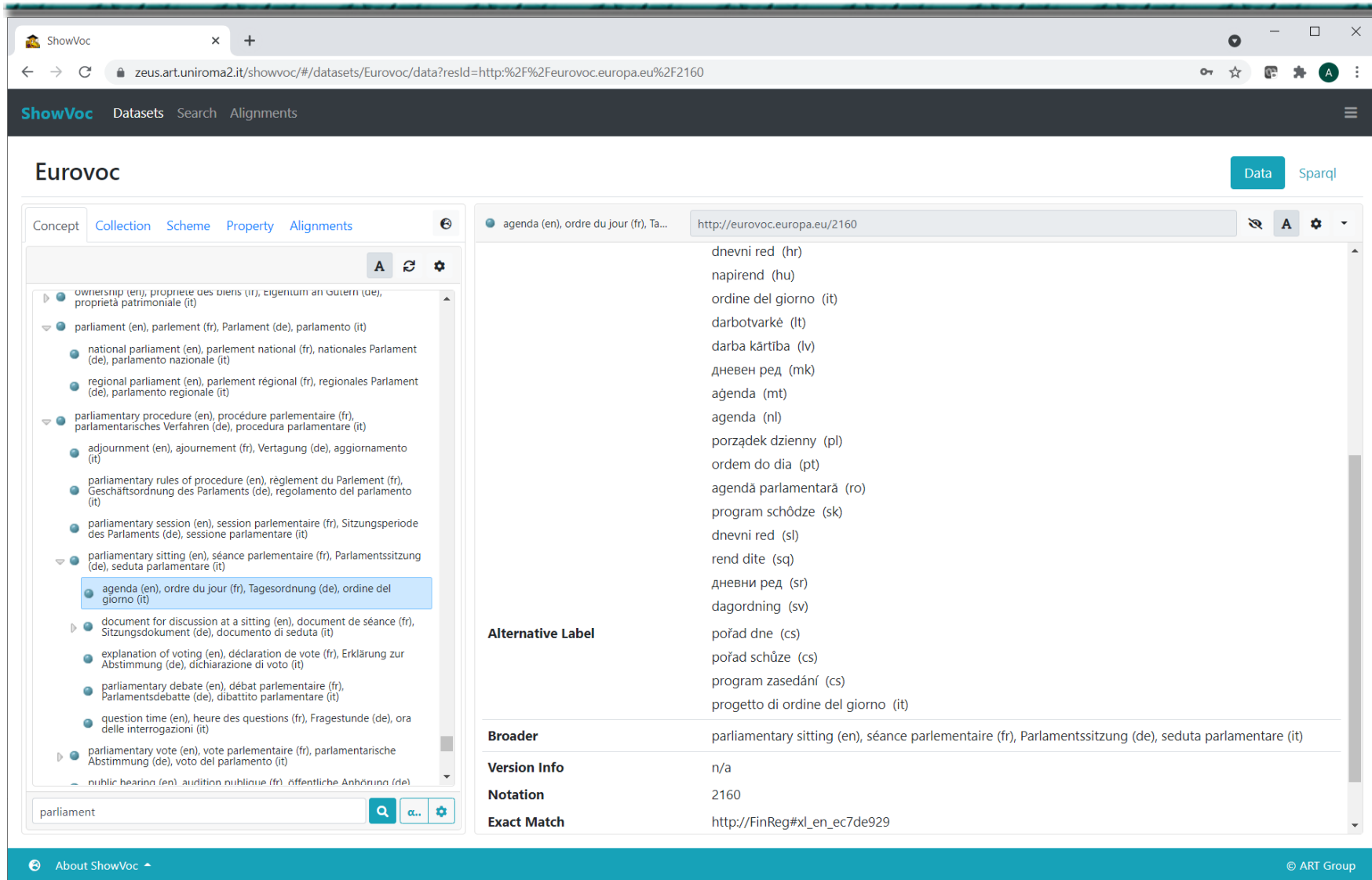
The status can be:

- pristine
- staging
- public

Various operations can be performed by the admin directly from this dashboard

Browsing Datasets

(1)



ShowVoc Datasets Search Alignments

Eurovoc

Data Sparql

Concept Collection Scheme Property Alignments

- ownership (en), propriete des biens (fr), Eigentum an Gutern (de), proprietà patrimoniale (it)
- parliament (en), parlement (fr), Parlament (de), parlamento (it)
 - national parliament (en), parlement national (fr), nationales Parlament (de), parlamento nazionale (it)
 - regional parliament (en), parlement régional (fr), regionales Parlament (de), parlamento regionale (it)
- parliamentary procedure (en), procédure parlementaire (fr), parlamentarisches Verfahren (de), procedura parlamentare (it)
 - adjournment (en), ajournement (fr), Vertagung (de), aggiornamento (it)
 - parliamentary rules of procedure (en), règlement du Parlement (fr), Geschäftsordnung des Parlaments (de), regolamento del parlamento (it)
 - parliamentary session (en), session parlementaire (fr), Sitzungsperiode des Parlaments (de), sessione parlamentare (it)
- parliamentary sitting (en), séance parlementaire (fr), Parlamentssitzung (de), seduta parlamentare (it)
 - agenda (en), ordre du jour (fr), Tagesordnung (de), ordine del giorno (it)**
 - document for discussion at a sitting (en), document de séance (fr), Sitzungsdokument (de), documento di seduta (it)
 - explanation of voting (en), déclaration de vote (fr), Erklärung zur Abstimmung (de), dichiarazione di voto (it)
 - parliamentary debate (en), débat parlementaire (fr), Parlamentsdebatte (de), dibattito parlamentare (it)
 - question time (en), heure des questions (fr), Fragestunde (de), ora delle interrogazioni (it)
- parliamentary vote (en), vote parlementaire (fr), parlamentarische Abstimmung (de), voto del parlamento (it)
- public hearing (en), audition publique (fr), öffentliche Anhörung (de)

parliament

agenda (en), ordre du jour (fr), Ta... <http://eurovoc.europa.eu/2160>

dnevni red (hr)
napirend (hu)
ordine del giorno (it)
darbotvarké (lt)
darba kārtība (lv)
дневен ред (mk)
agenda (mt)
agenda (nl)
porządek dzienny (pl)
ordem do dia (pt)
agendă parlamentară (ro)
program schôdze (sk)
dnevni red (sl)
rend dite (sq)
дневни ред (sr)
dagordning (sv)
pořad dne (cs)
pořad schůze (cs)
program zasedání (cs)
progetto di ordine del giorno (it)

Alternative Label

Broader parliamentary sitting (en), séance parlementaire (fr), Parlamentssitzung (de), seduta parlamentare (it)

Version Info n/a

Notation 2160

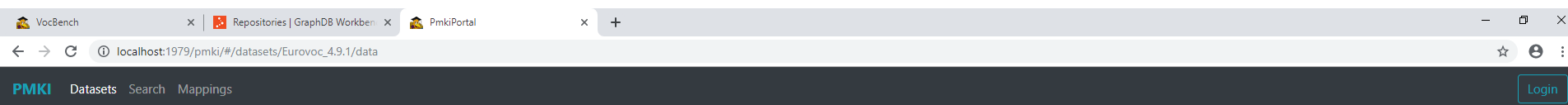
Exact Match http://FinReg#xl_en_ec7de929

About ShowVoc

© ART Group

Browsing Datasets

(2)



Eurovoc_4.9.1

Data Sparql

Concept Collection Scheme Property

AC A C

- AAMS countries (en)
- ▷ access to the courts (en)
- ▷ accounting (en)
- ▷ accounting system (en)
- ▷ ACP countries (en)
- ▷ administrative law (en)
- ▷ administrative personnel (en)
- ▷ administrative structures (en)
- ▼ advanced materials (en)
 - amorphous materials (en)
 - biomaterials (en)
 - composite materials (en)
 - shape-memory alloy (en)
 - special polymer (en)
 - superconducting alloy (en)
 - technical ceramics (en)
 - ultra-fine particle (en)
- ▼ Africa (en)
 - English-speaking Africa (en)
 - French-speaking Africa (en)
 - Portuguese-speaking Africa (en)
- ▼ African organisation (en)
 - African and Mauritian Common Organisation (en)
 - African Development Bank (en)
- ▼ African Union (en)
 - African Court of Justice and Human Rights (en)
 - Arab Maghreb Union (en)
 - CCAM countries (en)

Search... 🔍 ⌵ ⚙️

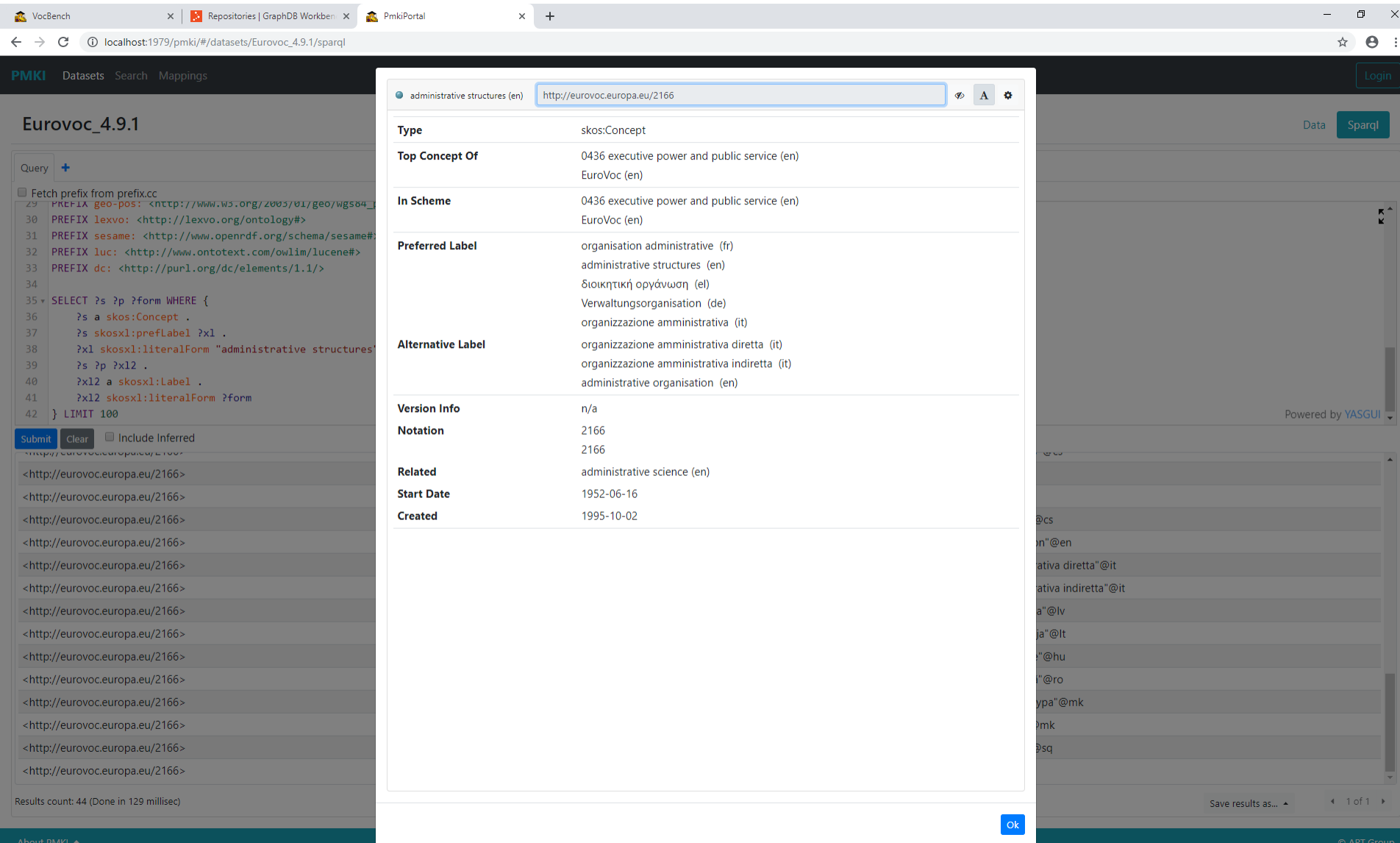
● ACP countries (en) http://eurovoc.europa.eu/5083 🔍 A ⚙️

| | |
|-------------------|--|
| Type | skos:Concept |
| Top Concept Of | 7231 economic geography (en) EuroVoc (en) |
| In Scheme | 7231 economic geography (en) EuroVoc (en) |
| Preferred Label | AKP-Staaten (de) χώρες ΑΚΕ (el) paesi membri ACP (it) ACP countries (en) pays ACP (fr) |
| Alternative Label | AKP-Länder (de) |
| Scope Note | À utiliser pour les documents qui traitent de l'ensemble de ces pays. (fr) Use for documents which deal with all of these countries. (en) |
| Version Info | n/a |
| Notation | 5083 5083 |
| Related | ACP-EU Convention (en) ACP-EU institution (en) protocol on sugar (en) |
| Start Date | 1952-06-16 |
| Created | 1995-10-02 |

The view is highly customizable!
PMKI exploits VB's custom forms making them uniform with the new lightweight UI.

e.g. in this concept, scope notes and notations are both reified, yet their indirectly linked content is shown seamlessly in the resource-view

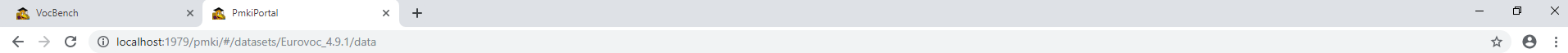
SPARQL querying in ShowVoc



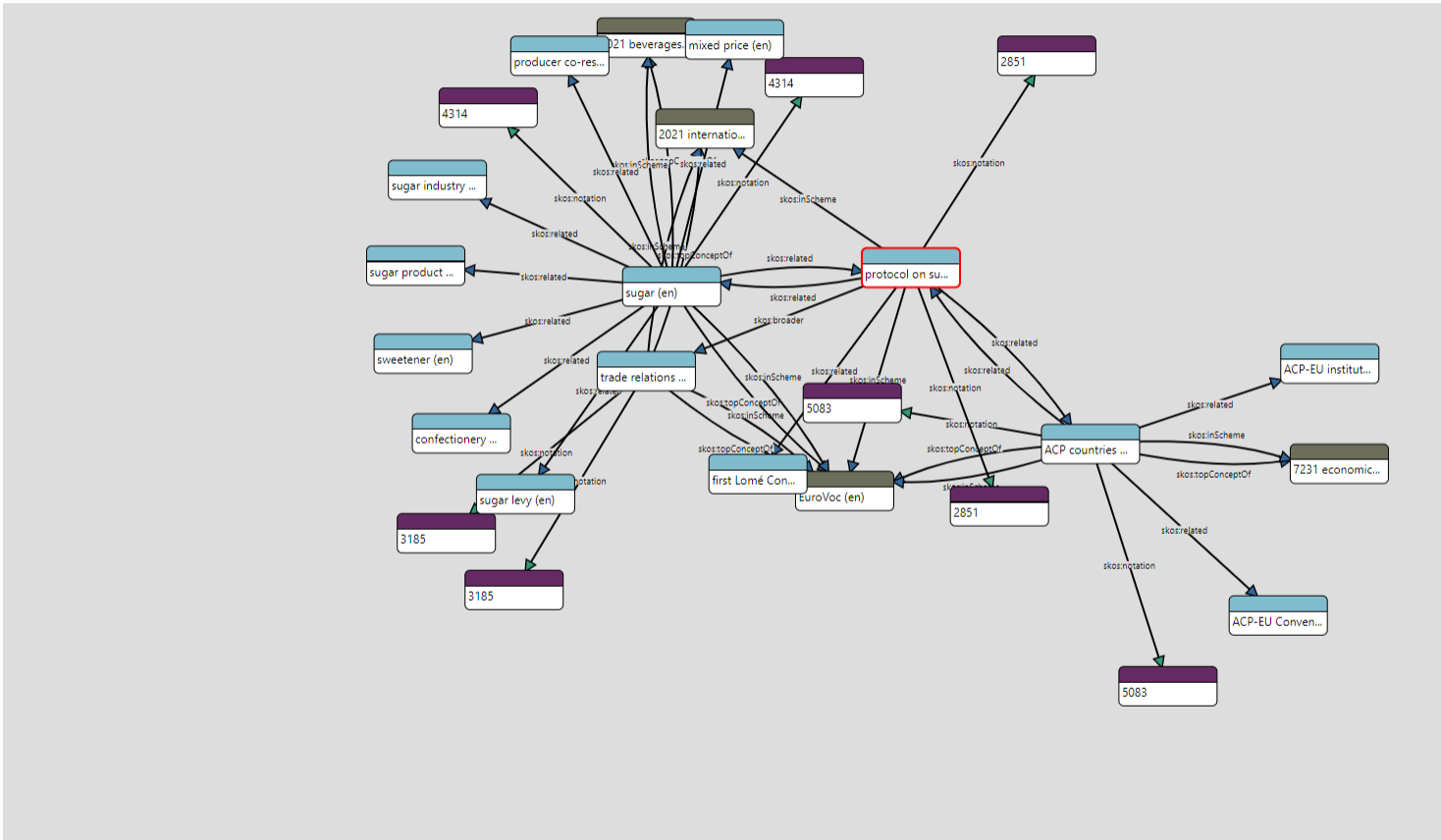
The screenshot shows a web browser window with a SPARQL query interface. The browser tabs include 'VocBench', 'Repositories | GraphDB Workben...', and 'PmkiPortal'. The address bar shows 'localhost:1979/pmki/#/datasets/Eurovoc_4.9.1/sparql'. The main interface has a 'Query' section with a SPARQL query and a 'Submit' button. A modal window is open, displaying the details of a concept identified by the URI 'http://eurovoc.europa.eu/2166'. The modal window has a title bar 'administrative structures (en) http://eurovoc.europa.eu/2166'. The details are organized into sections: Type, Top Concept Of, In Scheme, Preferred Label, Alternative Label, Version Info, Notation, Related, Start Date, and Created.

| Property | Value |
|-------------------|--|
| Type | skos:Concept |
| Top Concept Of | 0436 executive power and public service (en) EuroVoc (en) |
| In Scheme | 0436 executive power and public service (en) EuroVoc (en) |
| Preferred Label | organisation administrative (fr) administrative structures (en) διοικητική οργάνωση (el) Verwaltungsorganisation (de) organizzazione amministrativa (it) |
| Alternative Label | organizzazione amministrativa diretta (it) organizzazione amministrativa indiretta (it) administrative organisation (en) |
| Version Info | n/a |
| Notation | 2166 2166 |
| Related | administrative science (en) |
| Start Date | 1952-06-16 |
| Created | 1995-10-02 |

ShowVoc Graph View



Graph



Resource: protocol on sugar (en)
IRI: http://eurovoc.europa.eu/2851
Label: protocol on sugar (en)
Role: concept
Deprecated: false
[Show the complete ResourceView](#)

Mostly inherited from VB but...more to come for overall metadata at dataset level!

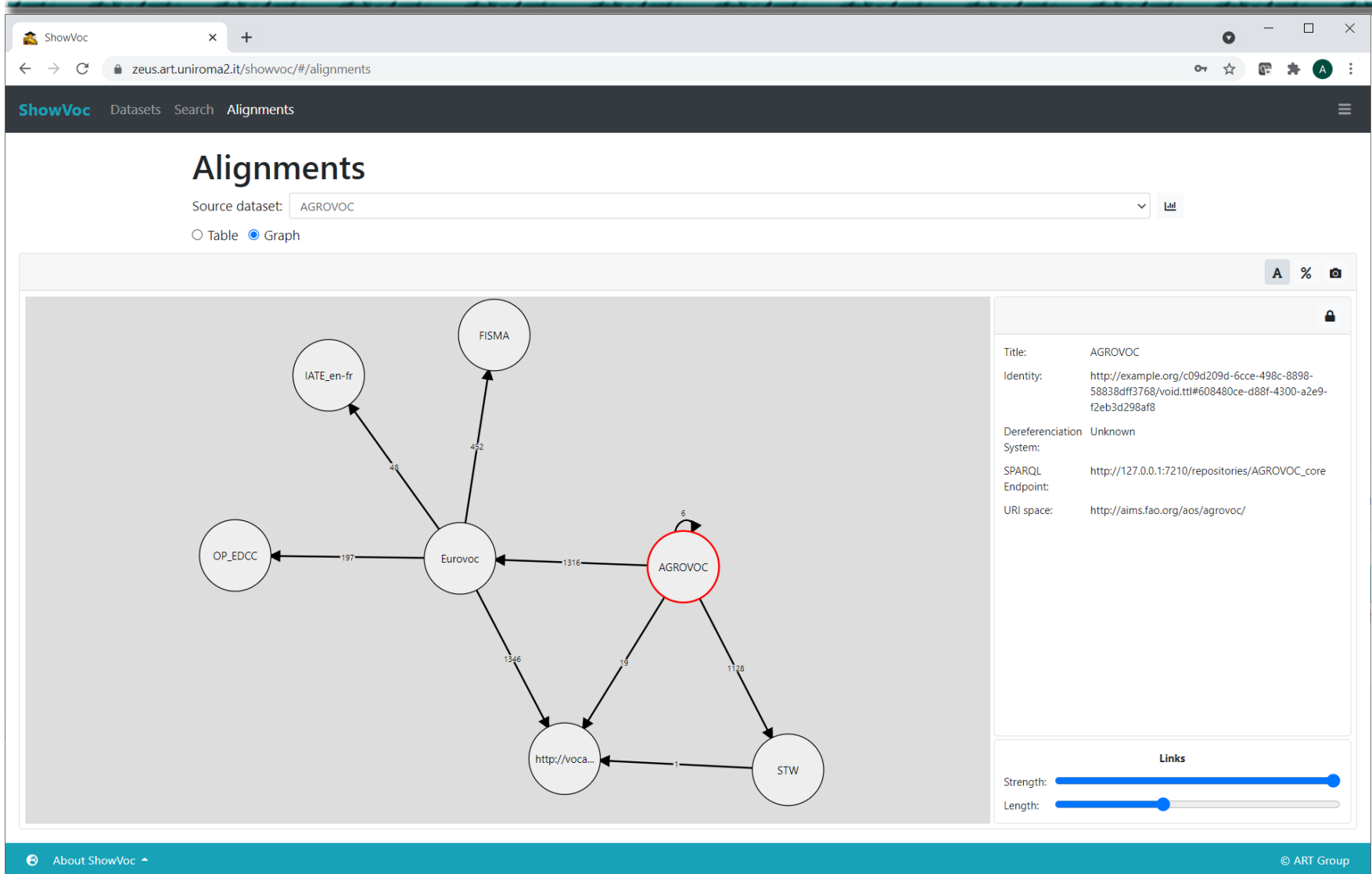
Links

Strength:
Length:

Ok

Browsing Alignments

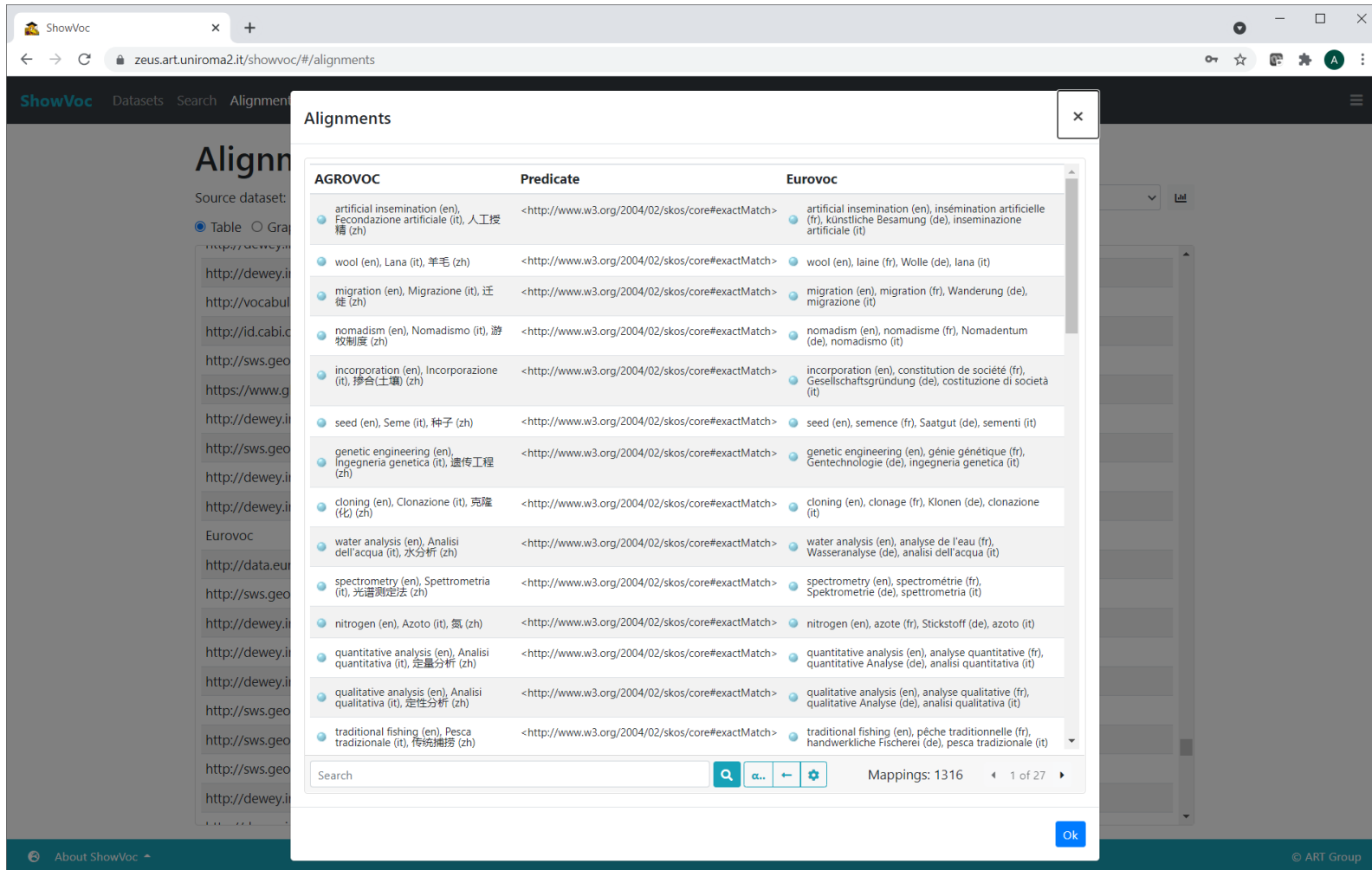
(1)



The screenshot shows the ShowVoc web application interface. The browser address bar displays the URL `zeus.art.uniroma2.it/showvoc/#/alignments`. The application header includes the ShowVoc logo and navigation links for Datasets, Search, and Alignments. The main content area is titled "Alignments" and features a dropdown menu for the "Source dataset" set to "AGROVOC". Below this, there are radio buttons for "Table" and "Graph", with "Graph" selected. The central part of the interface displays a graph visualization of alignments. The graph consists of several nodes: "IATE_en-fr", "FISMA", "Eurovoc", "OP_EDCC", "AGROVOC", "http://voca...", and "STW". Edges between nodes are labeled with numerical values representing the number of alignments. The "AGROVOC" node is highlighted with a red border. The graph shows the following connections and counts: "IATE_en-fr" to "Eurovoc" (48), "FISMA" to "Eurovoc" (452), "Eurovoc" to "OP_EDCC" (197), "Eurovoc" to "http://voca..." (1346), "AGROVOC" to "Eurovoc" (1316), "AGROVOC" to "http://voca..." (19), "AGROVOC" to "STW" (1128), and "STW" to "http://voca..." (1). The "AGROVOC" node also has a self-loop with a count of 6. To the right of the graph is a metadata panel for the selected "AGROVOC" dataset, containing fields for Title, Identity, Dereferenciation System, SPARQL Endpoint, and URI space. At the bottom right of the graph area, there are two sliders for "Links": "Strength" and "Length". The footer of the application includes an "About ShowVoc" link and the copyright notice "© ART Group".

Browsing Alignments

(2)



The screenshot shows the ShowVoc web application interface. The main content area displays a list of alignments between AGROVOC and Eurovoc. The table below represents the data shown in the application.

| AGROVOC | Predicate | Eurovoc |
|---|--|--|
| artificial insemination (en), Fecondazione artificiale (it), 人工授精 (zh) | <http://www.w3.org/2004/02/skos/core#exactMatch> | artificial insemination (en), insémination artificielle (fr), künstliche Besamung (de), inseminazione artificiale (it) |
| wool (en), Lana (it), 羊毛 (zh) | <http://www.w3.org/2004/02/skos/core#exactMatch> | wool (en), laine (fr), Wolle (de), lana (it) |
| migration (en), Migrazione (it), 迁徙 (zh) | <http://www.w3.org/2004/02/skos/core#exactMatch> | migration (en), migration (fr), Wanderung (de), migrazione (it) |
| nomadism (en), Nomadismo (it), 游牧制度 (zh) | <http://www.w3.org/2004/02/skos/core#exactMatch> | nomadism (en), nomadisme (fr), Nomadentum (de), nomadismo (it) |
| incorporation (en), Incorporazione (it), 掺合(土壤) (zh) | <http://www.w3.org/2004/02/skos/core#exactMatch> | incorporation (en), constitution de société (fr), Gesellschaftsgründung (de), costituzione di società (it) |
| seed (en), Seme (it), 种子 (zh) | <http://www.w3.org/2004/02/skos/core#exactMatch> | seed (en), semence (fr), Saatgut (de), sementi (it) |
| genetic engineering (en), Ingegneria genetica (it), 遗传工程 (zh) | <http://www.w3.org/2004/02/skos/core#exactMatch> | genetic engineering (en), génie génétique (fr), Gentechnologie (de), ingegneria genetica (it) |
| cloning (en), Clonazione (it), 克隆 (zh) | <http://www.w3.org/2004/02/skos/core#exactMatch> | cloning (en), clonage (fr), Klonen (de), clonazione (it) |
| water analysis (en), Analisi dell'acqua (it), 水分析 (zh) | <http://www.w3.org/2004/02/skos/core#exactMatch> | water analysis (en), analyse de l'eau (fr), Wasseranalyse (de), analisi dell'acqua (it) |
| spectrometry (en), Spettrometria (it), 光谱测定法 (zh) | <http://www.w3.org/2004/02/skos/core#exactMatch> | spectrometry (en), spectrométrie (fr), Spektrometrie (de), spettrometria (it) |
| nitrogen (en), Azoto (it), 氮 (zh) | <http://www.w3.org/2004/02/skos/core#exactMatch> | nitrogen (en), azote (fr), Stickstoff (de), azoto (it) |
| quantitative analysis (en), Analisi quantitativa (it), 定量分析 (zh) | <http://www.w3.org/2004/02/skos/core#exactMatch> | quantitative analysis (en), analyse quantitative (fr), quantitative Analyse (de), analisi quantitativa (it) |
| qualitative analysis (en), Analisi qualitativa (it), 定性分析 (zh) | <http://www.w3.org/2004/02/skos/core#exactMatch> | qualitative analysis (en), analyse qualitative (fr), qualitative Analyse (de), analisi qualitativa (it) |
| traditional fishing (en), Pesca tradizionale (it), 传统捕捞 (zh) | <http://www.w3.org/2004/02/skos/core#exactMatch> | traditional fishing (en), pêche traditionnelle (fr), handwerkliche Fischerei (de), pesca tradizionale (it) |

At the bottom of the alignment list, there is a search bar and a status bar showing "Mappings: 1316" and "1 of 27".

Support for OWL Ontologies

The screenshot displays the PMKI web interface for the ontology 'CDM_(2020-02-04)'. The main content area shows the details for the class 'Manifestation of case law' (URI: http://publications.europa.eu/ontology/cdm#manifestation_case-law).

Class: Manifestation of case law

Type: owl:Class

Label: Manifestation of case law

Sub Class Of:

- :manifestation_case-law_operative_part MAX 1
- :manifestation_case-law_subject MAX 1
- :manifestation_case-law_keywords MAX 1
- :manifestation_case-law_endorsements MAX 1
- :manifestation_case-law_costs_decisions MAX 1
- :manifestation_case-law_grounds MAX 1
- :manifestation_case-law_parties MAX 1
- :manifestation

Comment: Note: Consciously suppressed are: 1, décision + 2, sommaire proprement dit (avec référence aux affaires précédentes) -

The left sidebar shows a tree view of the ontology classes, with ':manifestation_case-law' selected. The bottom of the interface includes a search bar and navigation links like 'About PMKI' and '© ART Group'.

Global Search

The screenshot shows the ShowVoc web application interface. The search bar contains the word "land". Below the search bar, the text "Filters: Datasets Languages" is visible. The main content area displays the results for the search term "land", indicating "5 datasets". The results are organized into two sections: "AGROVOC" and "Eurovoc".

AGROVOC

- countries (en), Paesi (it)
http://aims.fao.org/aos/agrovoc/c_330904
land (nb)
- land (en), Terra (it), 土地 (zh)
http://aims.fao.org/aos/agrovoc/c_4172
Land (de)
- land productivity (en), Produttività dei terreni (it), 土地生产率 (zh)
http://aims.fao.org/aos/agrovoc/c_4176
land productivity (en)
- land suitability (en), Attitudine del territorio (utilizzo) (it), 土地适宜性 (zh)
http://aims.fao.org/aos/agrovoc/c_15992
land suitability (en)
- terrestrial plants (en), Embriofite (it)
http://aims.fao.org/aos/agrovoc/c_330289
land plants (en)

Eurovoc

- abandoned land (en), terre abandonnée (fr), Sozialbrache (de), terreno abbandonato (it)
<http://eurovoc.europa.eu/4444>
verlaten land (nl)
- agricultural land (en), terre agricole (fr), landwirtschaftliche Nutzfläche (de), terreno agricolo (it)
<http://eurovoc.europa.eu/4445>
agricultural land (en)
- arable land (en), terre labourable (fr), Ackerland (de), terreno arativo (it)
<http://eurovoc.europa.eu/4446>

A callout box on the right side of the screenshot contains the following text:

Global Search is powered by an index built over all datasets:

- Allowing for seamless access to heterogenous lexicalization models (RDFS, SKOS, SKOS-XL, Ontolex)
- Keeping provenance information

High-level Translation API

```


▼ {result: [{resource: "http://eurovoc.europa.eu/563", resourceLocalName: "563",...},...]}
▼ result: [{resource: "http://eurovoc.europa.eu/563", resourceLocalName: "563",...},...]}
  ▶ 0: {resource: "http://eurovoc.europa.eu/563", resourceLocalName: "563",...}
  ▶ 1: {resource: "http://eurovoc.europa.eu/565", resourceLocalName: "565",...}
  ▼ 2: {resource: "http://eurovoc.europa.eu/1699", resourceLocalName: "1699",...}
    ▼ descriptions: [{lang: "en",...}]
      ▼ 0: {lang: "en",...}
        lang: "en"
        ▼ values: [{value: "outline law", predicate: "http://www.w3.org/2008/05/skos-xl#prefLabel",...}, {...}]
          ▼ 0: {value: "outline law", predicate: "http://www.w3.org/2008/05/skos-xl#prefLabel",...}
            predicate: "http://www.w3.org/2008/05/skos-xl#prefLabel"
            type: "lexicalization"
            value: "outline law"
          ▼ 1: {...}
            predicate: "http://www.w3.org/2004/02/skos/core#scopeNote"
            type: "note"
            value: "Law outlining general principles but allowing the government to use its parliamentary power to develop them further."
        ▼ matches: [{lang: "en",...}]
          ▶ 0: {lang: "en",...}
        ▼ repository: {id: "Eurovoc", open: true}
          id: "Eurovoc"
          open: true
          resource: "http://eurovoc.europa.eu/1699"
          resourceLocalName: "1699"
          resourceType: "http://www.w3.org/2004/02/skos/core#Concept"
          role: "http://eurovoc.europa.eu/1699"
        ▼ translations: [{lang: "it",...}]
          ▼ 0: {lang: "it",...}
            lang: "it"
            ▼ values: [{value: "legge quadro", predicate: "http://www.w3.org/2008/05/skos-xl#prefLabel",...}, {...}]
              ▶ 0: {value: "legge quadro", predicate: "http://www.w3.org/2008/05/skos-xl#prefLabel",...}
              ▼ 1: {...}
                predicate: "http://www.w3.org/2004/02/skos/core#scopeNote"
                type: "note"
                value: "Provvedimento normativo che indica i criteri fondamentali in base ai quali la materia a cui si riferiscono verrà successivamente regolata da altre leggi."
            ▶ 3: {resource: "http://eurovoc.europa.eu/561", resourceLocalName: "561",...}
            ▶ 4: {resource: "http://eurovoc.europa.eu/5711", resourceLocalName: "5711",...}
            ▶ 5: {resource: "http://eurovoc.europa.eu/6565", resourceLocalName: "6565",...}
            ▶ 6: {resource: "http://eurovoc.europa.eu/7350", resourceLocalName: "7350",...}
            ▶ 7: {resource: "http://eurovoc.europa.eu/518", resourceLocalName: "518",...}
            ▶ 8: {resource: "http://aims.fao.org/aos/agrovoc/c_12106", resourceLocalName: "c_12106",...}
            ▶ 9: {resource: "http://eurovoc.europa.eu/535", resourceLocalName: "535",...}
            ▶ 10: {resource: "http://eurovoc.europa.eu/5137", resourceLocalName: "5137",...}

```

Contributors' Page

PMKI Datasets Search Alignments


Name Armando Last name Stellato

Email  stellato@uniroma2.it Organization * University of Rome Tor Vergata

Contribution I want to provide metadata about an existing resource on the web

Base URI

Resource name


Identity * 

Dereferenciation system *

Sparql endpoint * No aggregation

URI space *

(*) Optional field

About PMKI  © ART Group

ShowVoc: Where do I find it?

ShowVoc has been publicly released to the
community...

...just today!

<http://showvoc.uniroma2.it>

The screenshot shows a web browser window displaying the PMKI Datasets interface. The browser tabs include 'VocBench', 'Repositories | GraphDB Workben...', and 'PmkiPortal'. The address bar shows 'localhost:1979/pmki/#/datasets/Eurovoc_4.9.1/data'. The interface has a navigation bar with 'PMKI', 'Datasets', 'Search', and 'Mappings', along with a 'Login' button. The main content area is titled 'Eurovoc_4.9.1' and includes tabs for 'Data' and 'Sparql'. On the left, a tree view shows a hierarchy of concepts, with 'ACP countries (en)' selected. On the right, a table provides details for this concept:

| | |
|--------------------|--|
| ACP countries (en) | http://eurovoc.europa.eu/5083 |
| Type | skos:Concept |
| Top Concept Of | 7231 economic geography (en) EuroVoc (en) |
| In Scheme | 7231 economic geography (en) EuroVoc (en) |
| Preferred Label | AKP-Staaten (de) χώρες ΑΚΕ (el) paesi membri ACP (it) ACP countries (en) pays ACP (fr) |
| Alternative Label | AKP-Länder (de) |
| Scope Note | À utiliser pour les documents qui traitent de l'ensemble de ces pays. (fr) Use for documents which deal with all of these countries. (en) |
| Version Info | n/a |
| Notation | 5083 5083 |
| Related Concepts | ACP Conversion (en) |
| Start Date | 1952-06-16 |
| Created | 1995-10-02 |

Loddy

An easy and flexible solution for publishing your data

Loddy

← → ↻ ↶ Non sicuro | aims.fao.org/aos/agrovoc/c_7038.html

QNAS PAPERS ART-SW APPS 2READ IGAD SHOPPING WFRPG4E Help Contents - Ref... COVID-19 outbreak... Play Blue Max boar... COVID-19 Visualizer COVID-19 ITALIA ... 2020-10-19^20. Vo... informatica - Un nu... AnyList Altri preferiti

http://aims.fao.org/aos/agrovoc/c_7038
shifting cultivation

Core Properties

| Property | Value |
|-----------------|--|
| rdft:type | skos:Concept |
| skos:inScheme | http://aims.fao.org/aos/agrovoc |
| skos:broader | http://aims.fao.org/aos/agrovoc/c_1971 |
| skos:exactMatch | http://cat.ail.caas.cn/concept/29101 |
| | http://d-nb.info/gnd/4132785-8 |
| | http://www.eionet.europa.eu/gemet/concept/7652 |
| skos:closeMatch | http://linkedata.ge.imati.cnr.it:2020/resource/EARTH/64360 |
| | http://lod.nal.usda.gov/nalt/20559 |
| skos:broadMatch | http://dbpedia.org/resource/Shifting_cultivation |
| skos:related | http://d-nb.info/gnd/4415548-7 |
| | http://aims.fao.org/aos/agrovoc/c_16189 |

In this example, a page template for:

- SKOS thesauri
- described by SKOS-XL labels has been adopted.

Only one query is fired on the connected dataset, but different, complementary, filters, take out information on the left columns

| Property | Value |
|--|--|
| dcterms:created | 2011-11-20T21:07:54Z |
| dcterms:modified | 2021-06-16T21:24:42Z |
| http://aims.fao.org/aos/agronology#hasPractice | http://aims.fao.org/aos/agrovoc/c_6662 |
| http://aims.fao.org/aos/agronology#isPracticeFor | http://aims.fao.org/aos/agrovoc/c_1843 |
| | http://aims.fao.org/aos/agrovoc/c_6 |
| | http://aims.fao.org/aos/agrovoc/c_1662 |
| | http://aims.fao.org/aos/agrovoc/c_16142 |
| void:inDataset | http://aims.fao.org/aos/agrovoc/void.ttl#Agrovoc |
| skos:definition | http://aims.fao.org/aos/agrovoc/xDef_1328253045149 |

All other properties Properties

Similar in principle to the dear old **Pubby**¹, which provided:

- a **Linked Data interface** to local or remote SPARQL protocol servers
- a **dereferenceable URIs** by rewriting URIs found in the SPARQL-exposed dataset into the Pubby server's namespace
- Provides a simple **HTML interface** showing the data available about each resource
- Takes care of handling **redirects and content negotiation**

¹ <http://wifo5-03.informatik.uni-mannheim.de/pubby/>

Pubby features use of the Velocity template engine, for tinkering with the graphical view

Loddy:

- Based on JSF/Facelets, projects a data model onto a plain HTML page
- Offers a layered configuration based on reusable query components that can be edited even by RDF neophytes

| prefLabel | altLabel | Lang |
|---------------------------|--|-------|
| زراعة متقطعة | | ar |
| úhorové hospodárství | swidden cultivation žárové zemědělství | cs |
| Wanderfeldbau | Schlagbrennlandwirtschaft | de |
| shifting cultivation | swidden cultivation slash and burn agriculture | en |
| Cultivo migratorio | Agricultura migratoria Cultivo de roza | es |
| زراعة ترحلية | زراعة ترحلية کشورزی بیجی | fa |
| culture itinérante | nomadisme cultural agriculture itinérante sur brûlis | fr |
| झूम खेती | स्वीडन सस्यन खेती जताना एव घटाना | hi |
| talajváltó művelés | égetékes földművelés | hu |
| Coltivazione itinerante | Coltivazione nomade Agricoltura taglia e brucia | it |
| 焼畑農業 | 焼畑耕作 | ja |
| 양지재배 | | ko |
| ການຂັດໄຂ້ອັນລ່ວມ | | lo |
| Rolnictwo wędrowne | System rolnictwa leśno- odlogowy Rolnictwo żarowe | pl |
| cultivo itinerante | cultivo nómada agricultura de corte e queima | pt |
| перемещающееся земледелие | мигрирующее земледелие шведское земледелие подсечно-огневое земледелие | ru |
| úhorové hospodárenie | výpalová kultivácia žiarové poľnohospodárstvo | sk |
| การเผาไร่เลื่อนลอย | การเผาไร่ปลูกแทนไร่เลื่อนลอย การเกษตรระบบเผาและทำลายป่า | th |
| 轮垦 | 烧荒垦田 垦荒 | zh |
| arazi rotasyonu | tarım açmaclığı | tr |
| agricultură itinerantă | agricultură migratorie | ro |
| cultivo migratório | agricultura migratória | pt-BR |

SKOS-XL column!

CODA
Computer-aided Ontology Development Architecture

| | | |
|-------------------|--|-------------------------------|
| Concept | ACP countries (en) | http://eurovoc.europa.eu/5083 |
| Type | skos:Concept | |
| Top Concept Of | 7231 economic geography (en) EuroVoc (en) | |
| In Scheme | 7231 economic geography (en) EuroVoc (en) | |
| Preferred Label | AKP-Staaten (de) χώρες ΑΚΕ (el) paesi membri ACP (it) ACP countries (en) pays ACP (fr) | |
| Alternative Label | AKP-Länder (de) | |
| Scope Note | À utiliser pour les documents qui traitent de l'ensemble de ces pays. (fr) Use for documents which deal with all of these countries. (en) | |
| Version Info | n/a | |
| Notation | 5083 | |
| Related | ACP EM Convention (en) | |
| Start Date | 1952-06-16 | |
| Created | 1995-10-02 | |

Some Definitions...

- **COD** (Computer-aided Ontology Development)
 - All processes for enriching ontology content through exploitation of external resources, by using (semi)automatic approaches.
- **CODA: COD Architecture**
 - An Architecture for systems for Computer-aided Ontology Development
 - A Platform supporting development of such systems

CODA Project Objectives

- A *conceptual systematization*
 - of the tasks covering reuse of data extracted from unstructured information to improve ontology content
- An *architecture*
 - defining the components which take part in such a scenario
- A *framework*
 - supporting all of the above through standard implementations and components orchestration

CODA Architecture

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- **Input data**
 - A RDF Dataset
 - A UIMA CAS (Common Analysis System)
 - PEARL Projection Documents
- **PEARL Parser**
 - PEARL: a language for projecting UIMA features into RDF triples
 - The Parser reads PEARL documents and transforms them into directives for data manipulation
- **PEARL Processor**
 - and realizes the projection of information extracted through traditional UIM components (i.e. UIMA Annotations)
- **CODA Component Repositories (Local and Distributed)**
 - Provide access to custom pluggable components for performing CODA tasks



CODA as a whole, can be used as an Analysis Engine in a UIMA Pipeline

CODA Today...

CODA is already part of Semantic Turkey and used in VocBench, for powering:

- **Sheet2RDF** (spreadsheets are converted into feature structures, and then manipulated through CODA transformation language)
- **Custom Forms** rather unorthodox use of the framework: in this case the extraction template is actually what will be asked to the user, and a form is built around this template

...and a look ahead on tomorrow

What is missing in the ecosystem is a platform for knowledge acquisition from text, covering diverse tasks, such as ontology learning, document categorization, information extraction and triplification.

This platform could be put at the hands of user, allowing them to work from VocBench, seamlessly moving in between processed content and acquired knowledge

Showcase – Annotation with AgroIE

Semantic Turkey

AgroIE plugin

Insects

Plants

Relations

AGROVOC Thesaurus
(Small cut)

en.wikipedia.org/wiki/Maize weevil - Wikipedia, the free e...
SKOS Panel (AgroIE)
Concepts Properties Schemes
Product
Insecticide
Diazinon
Animal
Insect
Curculionidae
Pseudococcidae
Plant
Cassava
Cereal
Rise
Oryza
Rye
Sorghum
Oat
Wheat
Barley
Buckwheat
Orchidacea
Fruit
Grape
Papaya
Comosus

WIKIPEDIA
The Free Encyclopedia

Navigation
Main page
Contents
Featured content
Current events
Random article
Donate to Wikipedia

Interaction
Help
About Wikipedia
Community portal
Recent changes
Contact Wikipedia

Toolbox
What links here
Recent changes

Article Talk Read Edit View history
Maize weevil
From Wikipedia, the free encyclopedia

The **maize weevil** (*Sitophilus zeamais*), known in the **United States** as the **greater rice weevil**,^{[1][2]} is a species of **beetle** in the family **Curculionidae**. It can be found in numerous tropical areas around the world, and in the United States, and is a major **pest** of **maize**.^[3] This **species attacks both standing crops and stored cereal products, including wheat, rice, sorghum, oats, barley, rye, buckwheat, peas, and cottonseed. The maize weevil also infests other types of stored, processed cereal products such as pasta, cassava, and various coarse, milled grains. It has even been known to attack fruit while in storage, such as apples.**^[7]

Contents

- 1 Description
- 2 Distribution
- 3 Life cycle
- 4 Host range
- 5 Damage and detection
- 6 See also
- 7 References
- 8 Further reading
- 9 External links

Classification

| | |
|----------|--------------------------|
| Family: | Curculionidae |
| Genus: | <i>Sitophilus</i> |
| Species: | <i>S. zeamais</i> |

Binomial name

Showcase - Ontology Enrichment (1)

The screenshot displays a web browser window with the URL www.bugspray.com/article/maizeweevil.html. The article text is partially visible, with the sentence: "rodenticide is one of their favorite foods, be sure to check any bait placements you have done in the last couple of years. Attics are common areas where Maize Weevils thrive and then find their way inside living areas. If you have an attic with insecticide, be sure to re-insure migrating adults won't be able to find their way in." The word "rodenticide" is highlighted in red in the original image. A blue circle highlights this word, and a blue arrow points from it to the "concept Editor" window.

The "concept Editor" window shows a "concept Form" for the concept "rodenticide". The Name field is set to `http://agroie#rodenticide`. The Types field is empty. The Broader Concepts field contains two entries: `http://www.w3.org/2004/02/skos/core#Concept` and `http://aims.fao.org/aos/agrontology#c_5739`. The Preferred Labels field contains one entry: "rodenticide (language: en)". The Properties field contains several entries: `skos:semanticRelation`, `http://aims.fao.org/aos/agrontology#c_5739`, `skos:topConceptOf`, `skos:inScheme`, and `http://aims.fao.org/aos/agrontology`. The rdfs:label field contains "rodenticide (language: en)".

A blue speech bubble in the bottom left corner contains the text "Adding Concepts".

Conclusions

- In the context of EU ISA2 action, a few attempts at providing an ecosystem of free and open-source platforms for development of digital data have been carried on
- The objective is two-fold:
 - Using state-of-the art findings and technologies in order to deliver industry-standard solutions free and open-sourced
 - Use these same solutions as a basis for further research and improvement
- Development must go vertical on each new platform...
...but not lose focus on the whole picture
- Future work will focus will
 - Continue on VocBench development, as Semantic Web technologies are continuously evolving and so must do VocBench
 - Explore new directions for expanding information management to the processing of unstructured information and the acquisition of knowledge

"That's all Folks!"



Stellato

Contacts

VocBench site: <http://vocbench.uniroma2.it/>

You can also follow VB by registering to:

- VocBench Mailing Lists:
 - User: <http://groups.google.com/group/vocbench-user>
 - Developer: <http://groups.google.com/group/vocbench-developer>
- Semantic Turkey Mailing Lists (only for backend related aspects) :
 - User: <http://groups.google.com/group/semanticturkey-user>
 - Developer: <http://groups.google.com/group/semanticturkey-developer>