

A User Interface for Ontology Repositories

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Problem

- An ontology repository may contain a large collection of ontologies.
- How to find a suitable ontology from the repository?
- How to find a suitable concept from the ontologies?

Approach

- Ontology finding can be facilitated by filtering ontologies based on the metadata describing them.
- Providing the user an overview of an ontology helps understanding the ontology (e.g. domain, purpose, structure).
- Global search and browsing methods over the collection of ontologies support ontology and concept finding.

Solution

- The **ONKI2 browser** provides a user interface for finding ontologies and concepts.

Finding ontologies

- Multi-facet search interface with text search
- available facets: subject, structure and the publishing status of the ontology
- text search matched to the labels and description texts of the ontologies
- Ontologies can be searched based on their contents, i.e. concepts they contain (see the section "Finding concepts")

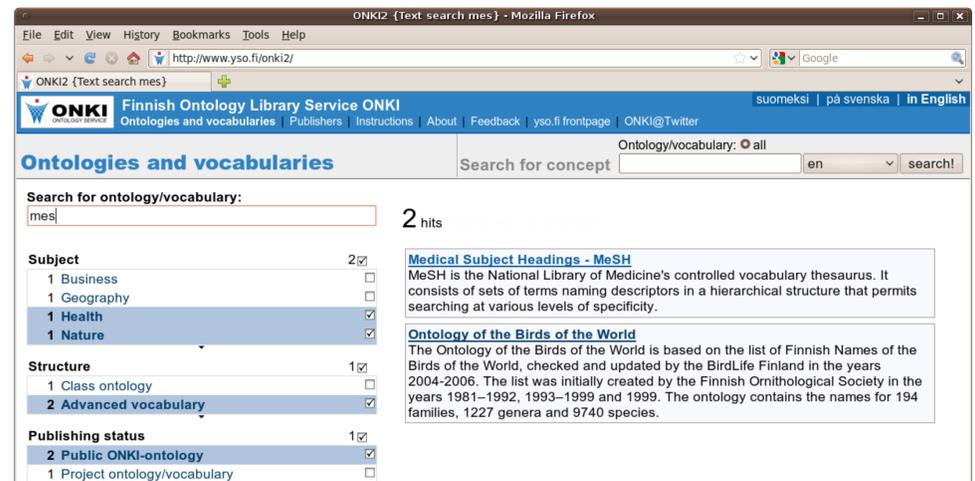


Fig. 2. Multi-facet search view of ontologies.

- The user is searching for a public (publishing status facet) advanced vocabulary (structure facet) in the domain of health or nature (subject facet) with a query string "mes".

Finding concepts

- Autocompletion text search matched to the labels of the concepts
- all the ontologies in the repository or a single ontology can be searched
- several concepts with a same label are grouped together
- additional restrictions: concept type, group or subconcepts of a specific concept
- Properties of the concepts are displayed in the search results
- browsing between related concepts
- browsing between ontologies via mapping relations

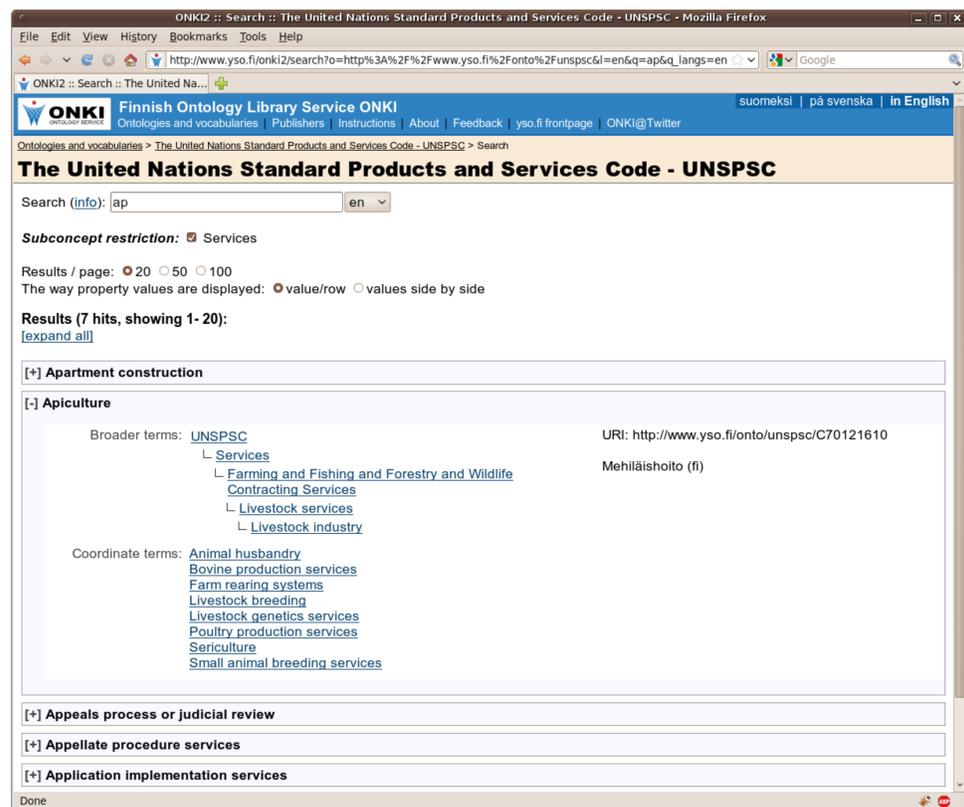


Fig. 1. Concept searching and browsing in the UNSPSC vocabulary.

- The user is searching for subconcepts of the concept "Services" whose label start with the string "ap".
- The concept "apiculture" has been selected for further investigation.

Getting an overview of an ontology

- Directory view based on:
 - 1) groups categorizing the concepts,
 - 2) topmost concepts of the ontology (e.g. in SKOS vocabularies), or
 - 3) alphabetical ordering of the concepts
- Directory acts also as a starting point for browsing the ontology

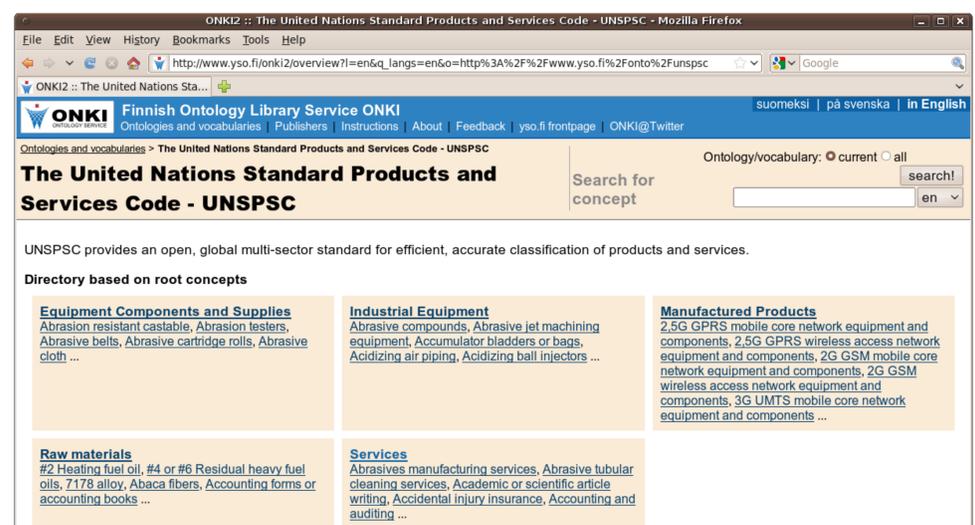


Fig. 3. Overview of the UNSPSC vocabulary.

System implementation

- PHP application using the Zend Framework for the MVC architecture
- Ontology multi-facet search interface generated with the SIMILE Exhibit
- Ontology metadata processed with the ARC RDF library
- Distributed network of ONKI SKOS ontology servers used as a ontology repository