Linked Vocabulary API for publication of SKOS vocabularies on the web

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Background and Motivation

The Coastal and Marine Spatial Planning Vocabularies (CMSPV) project concerns vocabulary and ontology development within the context of the overall development of the Coastal and Marine Spatial Planning (CMSP) and Ocean and Coastal Mapping (OCM) portals for inter-agency collaboration. These portals utilize controlled data vocabularies to implement search over a multitude of datasets gathered by numerous agencies. The datasets in the portals will be tagged using one of many vocabularies which have been developed by different agencies and for different communities. To provide complete and accurate search results the portals will need to semantically reconcile (i.e. crosswalk) the different vocabularies in use by datasets accessible through the portal.

Objectives

Provide proof-of-concept to agencies on publishing and consuming controlled research vocabularies on the web
We identified 4 key aspects of controlled vocabulary publication and usage
- Representation
- Access
- Services
- Mapping

Simple Knowledge Organization System (SKOS)

- Model for expressing controlled vocabularies in RDF
- Supports mapping between concept schemes
- W3C Recommendation (2009)

Outcomes

- Developed Linked Vocabulary API
- Published NIMS Data Categories vocabulary as proof-of-concept
- API being evaluated as basis for future vocabulary publications by National Ocean Council Vocabulary (NOCV) effort

Acknowledgments:
- CMSP/OCM Workshop
- Epimorphics Ltd.
- W3C SKOS Working Group
- Related Work:
  - SISSVoc 3.0 Vocabulary Service
  - NERC Vocabulary Server
  - http://bit.ly/1LLUru0

SKOS published as Linked Data

- RESTful API for interacting with vocabulary
  - get vocabulary or term records
  - get collections of term records
  - find vocabulary mappings
  - text-based searches
  - filter properties in returned records
  - pagination of results

Built-in support for
  - RDF
  - JSON
  - XML
  - HTML

Output templates customizable