

Specialist Meeting on Ontology for *The National Map*

Informal presentation by
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February 3, 2009

http://geolob.wik.is/Ontology_for_the_National_Map

Background

- Some of the challenges in developing an ontology for *The National Map* are listed below (my selection):
 - Ontology and semantics of topographic features.
 - Ontology and data integration.
 - Ontology driven information systems.
 - Ontology and information extraction/query.
 - Presenting the ontology graphically to Internet users.
 - Implementation of an ontology as a Web application.

Goal

- The goal of developing an ontology is to be able to address the geographic footprint of a specific feature across all 8 data layers and examine its attributes and the parts and relations of the feature to its surrounding geography and other features.
- My suggestion: Develop an Information Management Architecture Using Web 2.0 and Web 3.0.
 - Suggestion influenced by challenges selected and papers reviewed (see next slide).

Papers Reviewed

- Three Initial:
 - Multifaceted Descriptions for Complex Entities: Why the National Map Needs Multiple, Automatically-Generated Ontologies.
 - From Google Maps to the National Map: Ontologies, Mashups, and Geographic Information in K-12 Education.
 - Conceptual Dependency Analysis in the Design and Creation of the Geospatial Ontology for the National Map.
- Six Position:
 - [Google Groups for National Map](#) (see slide 6).

Answers to Context Questions

- Brief overview of your work/interest in ontology:
 - Semantic Community: <http://semanticcommunity.net>
 - Supports Spatial Ontology Community of Practice (SOCoP).
- How does your work intersect/impact developing an ontology for *The National Map*?
 - Web 2.0 Wiki for Geospatial Line of Business: <http://geolob.wik.is>
 - Work with Lew Sanford, DoI-USGS-FGDC Geospatial Line of Business Manager.
- What do you see as major benefits to developing an ontology for *The National Map*?
 - Spatial Data Semantic Interoperability.
- What do you see as major obstacles to developing an ontology for *The National Map*?
 - Collaboration Across the Individuals and Communities of Practice/Interest.
- What opportunities do you see for contribution to developing an ontology for *The National Map*?
 - Use of Web 2.0/3.0. See [February 17th Workshop](#): From E-Gov to Connected Governance: The Role of Web 2.0, Cloud Computing, and Web 3.0 Semantic Technologies.

Support for Breakout Session Topics

- Problems and solutions of ontology/semantics for topographic features.
 - Geolifespans (Stewart and Nixon) and Inherent Vagueness (Ahlqvist). See IARPA's Blackbook 2 (Dynamic Ontologies).
- Ontology from databases; connecting to legacy data.
 - [DBpedia Mobile](#) example (Wiegand, Dean).
- Ontology and operational components of topographic data: data integration, generalization, names, ontology-driven gazateers.
 - Ontology Mapping (Huang).
- Implementing a topographic ontology: Web application, graphical presentation, query handling.
 - Web 2.0 Folksonomies (Poore) / Web 3.0 Language Understanding (Crampton).

Web 2.0

- Try Deki (free-then inexpensive enterprise license): See <http://wik.is>
- Import glossaries and hierarchies, and then begin to hyperlink their relationships.
- Capture collaboration in an open and transparent way.
- Follow DBPedia method and use their tools:
 - Web 2.0 Wiki (mySQL) to knowledgebase (RDF and ontology) (see Web 3.0 in next slide).
 - See <http://dbpedia.org/About>

Web 3.0

- Try Knoodl (free-then enterprise license):
 - See <http://knoodl.com>
- Import existing spatial ontologies:
 - Previous SICoP/SOCoP experience:
 - See <http://www.visualknowledge.com>
- Try modeling with OWL and documenting the collaboration:
 - See Knoodl tutorials and other communities.
- Compare the results from Web 2.0 and Web 3.0!