



A Linked Vocabulary API for the Data Categories for Coastal Mapping Vocabulary

RDA P6 2015 VSIG Kickoff

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RESEARCH DATA ALLIANCE



Background

- Ontology and Vocabulary development in the context of data portals for environmental inter-agency collaboration
 - Coastal and Marine Spatial Planning (CMSP)
 - Ocean and Coastal Mapping (OCM)
- New Vocabulary defined in USGS Open File Report 2015–1046
- Need for service to publish vocabulary & mappings and guidelines for community usage
- Data portal integration with vocabulary



Data Categories for Marine Planning (DCMP)

- USGS Open File Report 2015–1046
- Broad Categories for data content subjects
 - Nonliving Resources
 - Living Resources
 - Ocean Uses
 - Governance
 - Infrastructure

Hierarchy of Data Content Subjects	
<p>Nonliving Resources</p> <ul style="list-style-type: none"> Energy Resources <ul style="list-style-type: none"> Oil Resources Natural Gas Resources Wind Tides Ocean Currents Geothermal Resources Ocean Thermal Resources Solar Radiation Material Resources <ul style="list-style-type: none"> Sand Resources Mineral Resources Physical/Chemical Features <ul style="list-style-type: none"> Physical Habitats and Geomorphology Bathymetry and Elevation Substrate Water Column Features Water-Quality Parameters 	<p>Ocean Uses—Continued</p> <ul style="list-style-type: none"> Harvesting Living Resources <ul style="list-style-type: none"> Pelagic Fishing Fishing with Benthic Mobile Gear Fishing with Benthic Fixed Gear Kayak Fishing Dive Fishing Fishing from Shore Gathering from Shore Offshore Seaweed Harvest Hunting Energy Production <ul style="list-style-type: none"> Wind Energy Production Wave Energy Production Ocean Current Energy Production Tidal Current Energy Production Ocean Thermal Energy Conversion Offshore Oil and Gas Production Transportation <ul style="list-style-type: none"> Shipping Cruise Ships Military Vessels Other Commercial/Industrial Uses <ul style="list-style-type: none"> Mining and Mineral Extraction Offshore Aquaculture Coastal Aquaculture Seawater Intake Sewage Discharge Ocean Dumping Underwater Transmission Cables
<p>Living Resources</p> <ul style="list-style-type: none"> Habitat Ecological Functions and Services <ul style="list-style-type: none"> Biological Production Biodiversity Biological Occurrence <ul style="list-style-type: none"> Fishes Invertebrates Flora Mammals Birds Reptiles Invasive Species 	<p>Governance</p> <ul style="list-style-type: none"> Marine Protected Areas (MPAs) De Facto MPAs Commercial Leases Jurisdictional Boundaries Tribally Governed Areas Regulatory Use Restrictions
<p>Ocean Uses</p> <ul style="list-style-type: none"> Recreational Nonextractive /Cultural Use <ul style="list-style-type: none"> Scuba/Snorkeling Swimming Surface Board Sports Paddling Sailing Motorized Boating Wildlife Viewing at Sea Tide Pooling Shore Use Cultural Use 	<p>Infrastructure</p> <ul style="list-style-type: none"> Ports Cables, Pipelines, and Power Grids Buoys and Navigational Aids Structures



Assumptions

- SKOS/RDF
- Linked Data
- REST API
- mappings via SKOS???



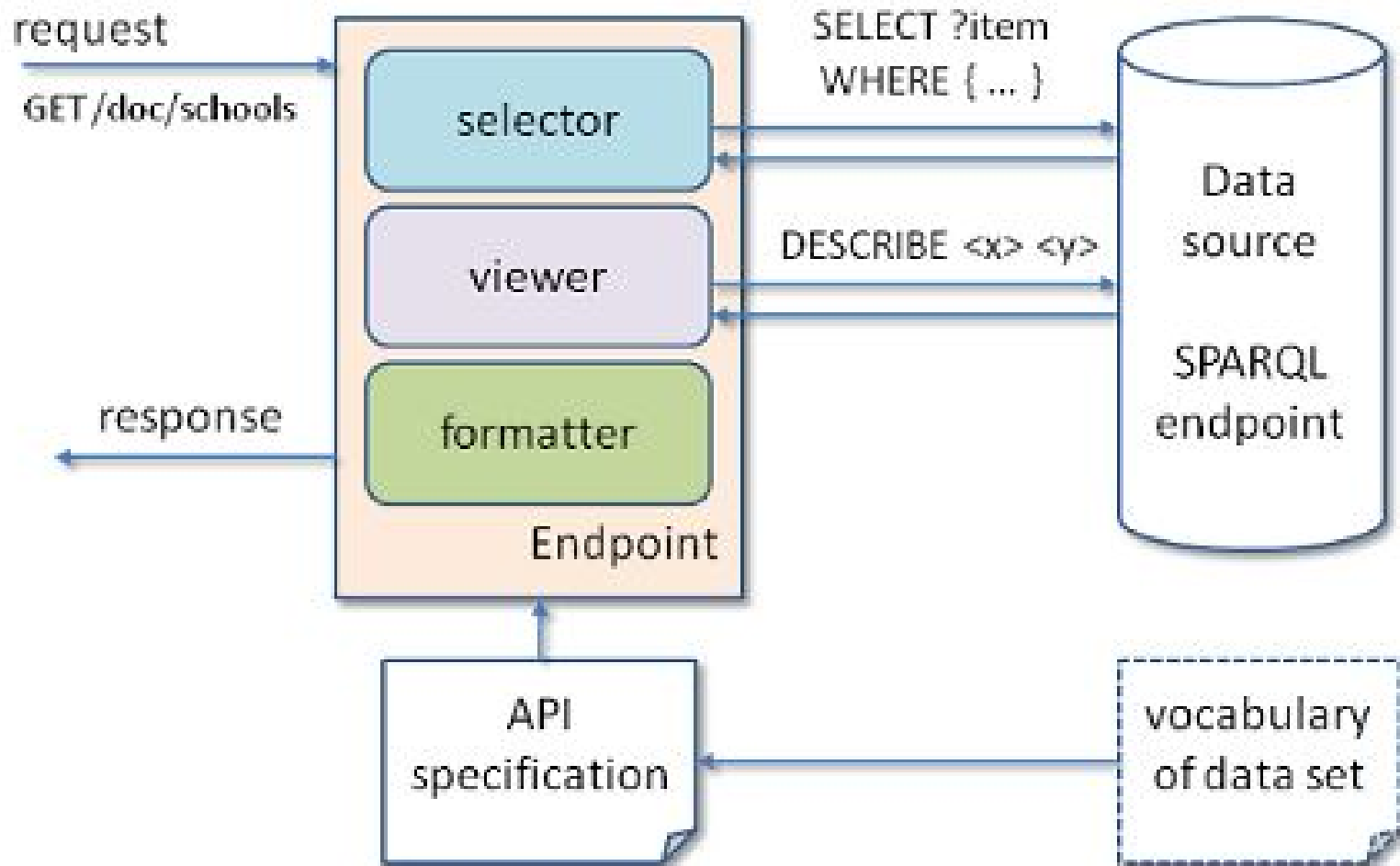


Linked Vocabulary API

Description	Endpoint Template
<i>get list of all terms from all vocabularies published by service</i>	GET /terms
<i>get vocabulary resource</i>	GET /vocab/{vocab_id}
<i>get vocabulary term</i>	GET /vocab/{vocab_id}/term/{term_id}
<i>get list of all terms in the specified vocabulary</i>	GET /vocab/{vocab_id}/terms
<i>get list of all top terms in the specified vocabulary</i>	GET /vocab/{vocab_id}/topTerms
<i>get list of all terms narrower than the specified term</i>	GET /vocab/{vocab_id}/term/{term_id}/narrower
<i>get list of all terms broader than the specified term</i>	GET /vocab/{vocab_id}/term/{term_id}/broader
<i>get list of all terms related to specified term</i>	GET /vocab/{vocab_id}/term/{term_id}/related



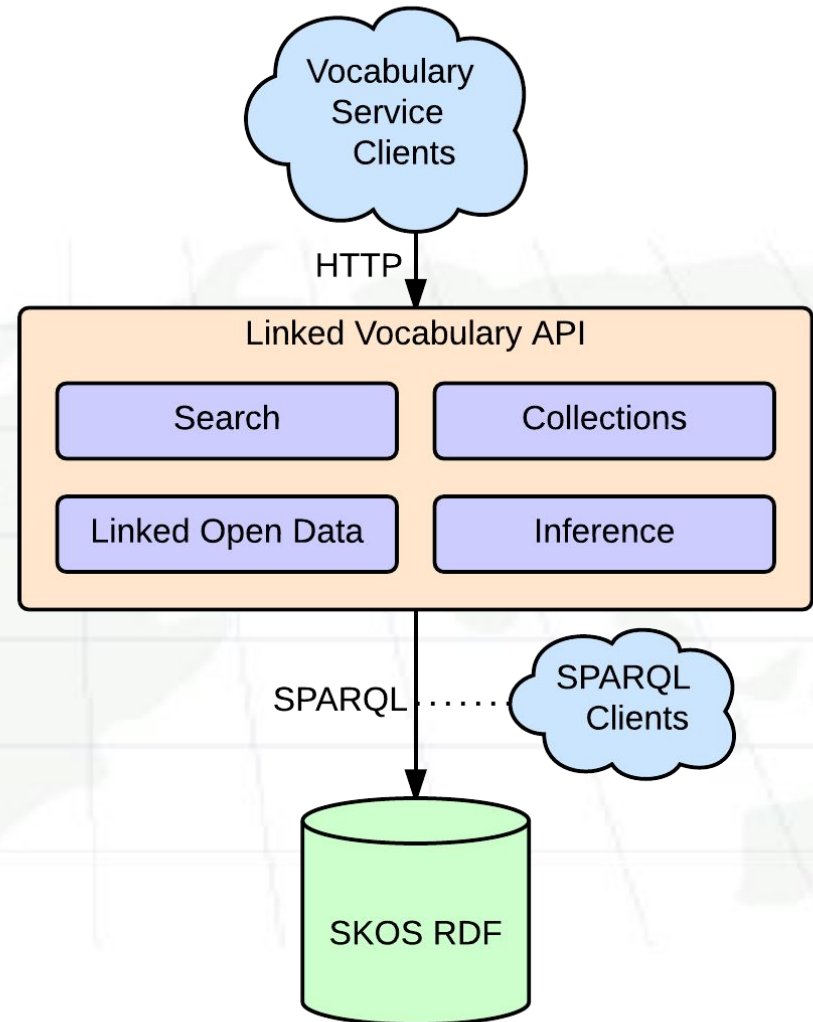
ELDA





Vocabulary Service

- Linked Data API
- Easy-to-use web interface for publishing linked data
- User-defined (read-only) RESTful API
- Declarative Design
- Query Parameters to control resource construction
- Out-of-the-box support for RDF, XML, JSON, HTML





Next Steps

- Publish more vocabularies
- Develop/Publish vocabulary mappings
- Feedback from user community (VSIQ!)
- Iterate on API (especially vocab mapping)



TWOC

Project URL: <https://github.com/tetherless-world/data-categories-marine-planning-api>

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QUESTIONS/COMMENTS?



Links

- This Presentation
 - <http://bit.ly/1ORp5aq>
- DCMP Vocabulary API on Github
 - <https://github.com/tetherless-world/data-categories-marine-planning-api>
- W3C SKOS Primer
 - <http://www.w3.org/TR/skos-primer/>
- Linked Data – Design Issues
 - <http://www.w3.org/DesignIssues/LinkedData.html>
- Linked Data API Specification
 - <https://code.google.com/p/linked-data-api/wiki/Specification>
- ELDA on Github
 - <https://github.com/epimorphics/elda>