

Community Ontology Repository (COR)

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Additional Information...

ORR/COR Developer Workshop

Date : Thursday (11 January 2018)

Room : Glen Echo

Time : 3:10 PM – 5:00 PM

Presenter : Carlos Rueda, Beth Huffer and Lewis McGibbney

- ORR concept and COR instance
- Architectural details of the ORR
- Git repository
- Installing ORR
- Using the ReST API
- Development road map (also, in the Semantic Technology Committee Business Meeting, 1:30-3:00 PM, Glen Room)



Background

ORR (Ontology Registry and Repository)

'Open source software developed by the Marine Metadata Interoperability (MMI) Project, and upgraded via the 'Cross-Domain Observational Metadata for Environment Sensing (X-DOMES), to facilitate semantic interoperability.'

MMISW GitHub: <https://github.com/mmisw>

COR (Community Ontology Repository)

'An ORR instance for ESIP.'

Project: <http://esipfed.github.io/cor/>

COR: <http://cor.esipfed.org/ont/>



Brief History

- ▶ 2004: Marine Metadata Interoperability project (MMI)
“Promoting the exchange, integration and use of marine data through enhanced data publishing, discovery, documentation and accessibility.”
- ▶ 2008: ORR born as part of MMI’s vision for a Semantic Framework
- ▶ 2015: X-DOMES Project; ORR overhauled version 3
- ▶ 2017: ESIP Community Ontology Repository (COR)



NSF/EarthCube Integrative Activities: Cross-Domain Observational Metadata Environmental Sensing Network (X-DOMES)

Janet Fredericks (WHOI), Felimon Gayanilo (TAMUCC),
Carlos Rueda (MBARI), Krzysztof Janowicz (UCSB)

Consulting with John Graybeal (Stanford),
and Mike Botts (Botts Innovative Res.)

...develop prototypes for the application of standards-based description of environmental sensor metadata, including provenance, that is paramount to automated data discovery, access, archival, processing, as well as quality control and assessment.

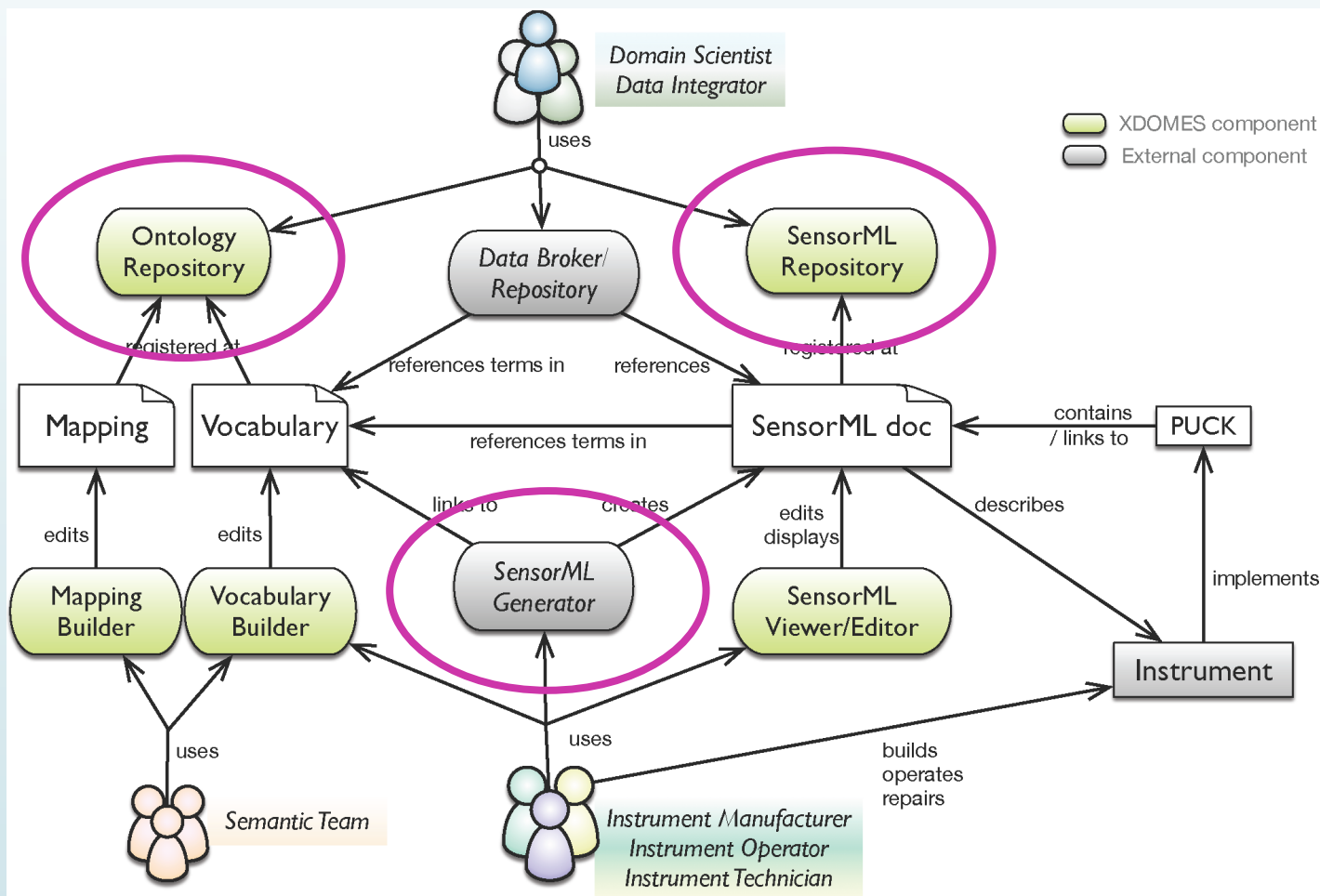
Project URL: xdomes.org



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Community Standards: Semantic Web (W3C) & SensorML (OCG-SWE)





X-DOMES Tools

- ▶ ORR instance to create fully described, resolvable semantic terms
- ▶ SensorML Viewer/Editor that enables drafting of the validated OGC/SensorML documents that can be distributed by sensor manufacturers, extended and reference by field operators and data managers.
- ▶ SensorML Registry and Repository (SRR) that enables SensorML documents to be referenced as URLs with version control and proper authoritative ownership



Community Involvement



The GUI

The screenshot shows the ESIP Community Ontology Repository interface. At the top, there is a navigation bar with the ESIP logo, version information (v3.7.0), and links for Help and Contact us. On the right side of the navigation bar, there are buttons for Sign in and Create account. Below the navigation bar, there are search options for Term Search and SPARQL Search. The main content area features a table of ontologies with columns for IRI, Name, Author, Owner, and Version. On the left side, there are several filter panels: Owner (Most recent ontology, esip, gcmd, obo, testorg), Status (draft, stable, testing, unstable), Resource type (featuretype, ontology, parameter), Ontology type (orr-vocabulary, other), and Hosting (fully-hosted, re-hosted). A Global filter search box is located at the top of the table. Arrows from the right side of the image point to various elements: 'Version' points to the version column header; 'Link to doc' points to the IRI column header; 'Contact U' points to the Contact us link; 'Sign in and' points to the Sign in button; 'SPARQL Se' points to the SPARQL Search link; 'Term Searc' points to the Term Search link; 'Global filte' points to the Global filter search box; 'Headers (+)' points to the column headers; 'Facets' points to the filter panels; and 'Links to on' points to the IRI column.

IRI	Name	Author	Owner	Version
https://raw.githubusercontent.com/...	GWL representation of the GCMD DIP v9.8...	Lewis McGibbney	~lmcgibbn	20171121T183348
http://sweetontology.net/swee...	SWEET Ontology	ESIP Federation	esip	20171123T183349
http://sweetontology.net/stat...	SWEET Ontology	ESIP Federation	esip	20171123T183344
http://sweetontology.net/stat...	SWEET Ontology	ESIP Federation	esip	20171123T183342
http://sweetontology.net/stat...	SWEET Ontology	ESIP Federation	esip	20171123T183342
http://sweetontology.net/stat...	SWEET Ontology	ESIP Federation	esip	20171123T183344
http://sweetontology.net/stat...	SWEET Ontology	ESIP Federation	esip	20171123T183341
http://sweetontology.net/stat...	SWEET Ontology	ESIP Federation	esip	20171123T183341
http://sweetontology.net/stat...	SWEET Ontology	ESIP Federation	esip	20171123T183341
http://sweetontology.net/stat...	SWEET Ontology	ESIP Federation	esip	20171123T183340
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http://sweetontology.net/stat...	SWEET Ontology	ESIP Federation	esip	20171123T183338
http://sweetontology.net/stat...	SWEET Ontology	ESIP Federation	esip	20171123T183338
http://sweetontology.net/stat...	SWEET Ontology	ESIP Federation	esip	20171123T183337

Version
Link to doc
Contact U

Sign in and

SPARQL Se
Term Searc

Global filte
Headers (+)
Facets

Links to on

The GUI

The screenshot displays the Community Ontology Repository interface. At the top, the logo for the Community Ontology Repository is visible, along with navigation links for Home, Term Search, and SPARQL Search. The main content area shows the URL `http://cor.esipfed.org/ont/testorg/op` and the status `draft`. A dropdown menu for `View/download as` is open, listing various formats: RDF/XML, JSON-LD, N3, Turtle, N-Triples, N-Quads, TriG, RDF/JSON, and LOD. Below this, the `Metadata details` section is expanded, showing a table with fields like `omv Name`, `omv Description`, `omvm Resource type`, and `omv Ontology Creator`. The `Data` section is also expanded, showing a table with columns for `LongName`, `ShortName`, `Definition`, `Reference`, and `Notes`. A tooltip is visible over the `seaWaterTemperature` row, displaying the `Term IRI` as `http://cor.esipfed.org/ont/testorg/op/seaWaterTemperature`.

Status
Download
Ontology v

Metadata
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• Othe

Data
Term IRI



Live Demonstration

1. Faceted and term search
2. Exporting results
3. Uploading ontology
4. Creating vocabulary
5. The mapping concept
6. SPARQL examples
7. Help document (<https://mmisw.org/orrdoc/>)

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Thanks for coming...

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