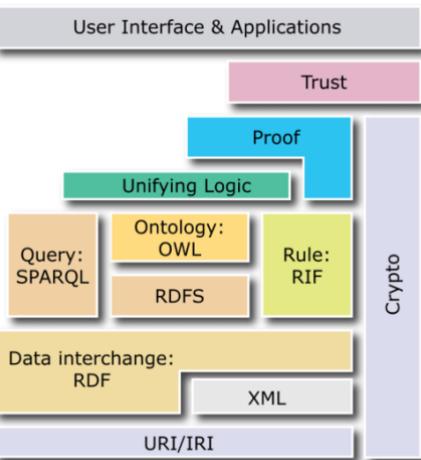




Using Linked Data to Organize Born Digital Government Information

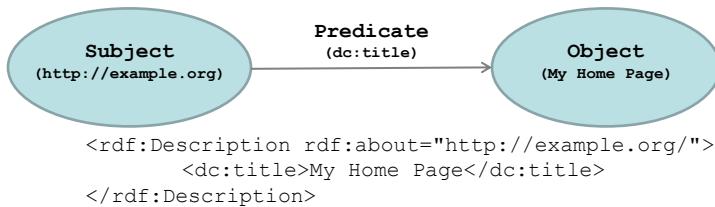
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Semantic web & linked data



RDF (Resource Description Framework):

- URI's stand in for things (e.g. <http://www.example.com#example>)
- Information about resources is expressed in triples
- Triples are like simple English sentences



3

OWL (Web Ontology Language):

- Builds on RDF (valid OWL is valid RDF)
- Adds vocabulary for expressing logical relationships between resources
- Designed to model domain knowledge in a way that can be understood by machines

4

SKOS (Simple Knowledge Organization System):

- An example of an OWL ontology (vocabulary) developed by W3C
- Designed to describe "KOS's," i.e. schemes for expressing information about topical subjects

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DEPARTMENT OF THE NAVY
HEADQUARTERS UNITED STATES MARINE CORPS
3000 MARINE CORPS PENTAGON
WASHINGTON, DC 20350-3000

MCO 1306.16F
MPO
11 JUN 2013

MARINE CORPS ORDER 1306.16F

From: Commandant of the Marine Corps
To: Distribution List

Subj: CONSCIENTIOUS OBJECTORS

Ref: (a) MCO P1900.16F W/CH 2
(b) 38 U.S.C. Section 5303
(c) DOD Instruction 1300.06
(d) 50 U.S.C. APP 456(j)
(e) SECNAV M-5210.1

Encl: (1) Definitions
(2) Required Information to be Supplied by Applicants
for Discharge or Noncombatant Service)
(3) Summary Sheet for Conscientious Objector
Application
(4) Counseling Concerning Department of Veterans Affairs
Benefits
(5) Sample Appointing Order
(6) Guide to the Investigating Officer

[http://doni.daps.dla.mil/SECNAV%20Manuals1/5210.2%20\(2012\).pdf](http://doni.daps.dla.mil/SECNAV%20Manuals1/5210.2%20(2012).pdf)

6

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Document: <http://govdocs.rutgers.edu/mil/af/AFI60-105.pdf>
Title: JOINT ELECTRONICS TYPE DESIGNATION SYSTEM
Citation: AFI60-105
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 - 1000 General (include Marine Corps Standard Operating Procedures (SOPs))
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Document: http://govdocs.rutgers.edu/mil/cg/CI_4491_2.pdf
Title: COAST GUARD USE OF THE NAVY PRIORITY MATERIAL OFFICE (PMO), COMDTINST 4491.2
Citation: CI 4491.2
Effective Date:
Department: Department of the Coast Guard
Downloaded From: http://www.uscg.mil/directives/ci/4000-4999/CI_4491_2.pdf
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Document: http://govdocs.rutgers.edu/mil/cg/CI_5420_23D.pdf
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**Documents for Navy Standard Subject Identification Codes
4491 (Requisitions and Other Material or Service Requests)**

Documents for Subject Code 4491

Document: http://govdocs.rutgers.edu/mil/cg/CI_4491_2.pdf
Title: COAST GUARD USE OF THE NAVY PRIORITY MATERIAL OFFICE (PMO),
COMDTINST 4491.2
Citation: CI 4491.2
Effective Date:
Department: Department of the Coast Guard
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Document: http://govdocs.rutgers.edu/mil/cg/CI_4491_1.pdf
Title: INVENTORY CONTROL POINT REMOTE STOCK LOCATION PARTS AND
MATERIAL REQUEST FORM POLICY, COMDTINST 4491.1
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**Documents for Army Publication Series 725 (Requisition and
Issue of Supplies and Equipment)**

Documents for Subject Code 725

Document: http://govdocs.rutgers.edu/mil/army/r725_1.pdf
Title: SPECIAL AUTHORIZATON AND PROCEDURES FOR ISSUES, SALES, AND
LOANS
Citation: AR 725-1
Effective Date: 10/17/2003
Department: Department of the Army
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Document: http://govdocs.rutgers.edu/mil/army/r725_50.pdf
Title: REQUISITION, RECEIPT, AND ISSUE SYSTEM
Citation: AR 725-50
Effective Date: 11/15/1995
Department: Department of the Army
Downloaded from: http://www.apd.army.mil/pdffiles/r725_50.pdf

Related Subjects for subject code 725

Air Force Publication Series 23
Air Force Publication Series 64
Navy Standard Subject Identification
Codes 4470
Navy Standard Subject Identification
Codes 4491

SKOS descriptions:

- Create individual objects for each `skos:ConceptScheme` and `skos:Concept`
- Assign uri's to each individual
- assign human readable descriptions to each uri (`skos:notation` and `skos:prefLabel`)
- add additional "lexical labels" (e.g., `rdfs:comment`) if there is more information available

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SKOS semantic relations:

- use `skos:broader` and `skos:narrower` to relate concepts within a hierarchy
- use `skos:related` to suggest equivalencies within a single scheme (e.g., see also)
- use mapping relations to show relationships between concepts in different schemes (e.g. `skos:narrowMatch`, `broadMatch`, or `closeMatch`)

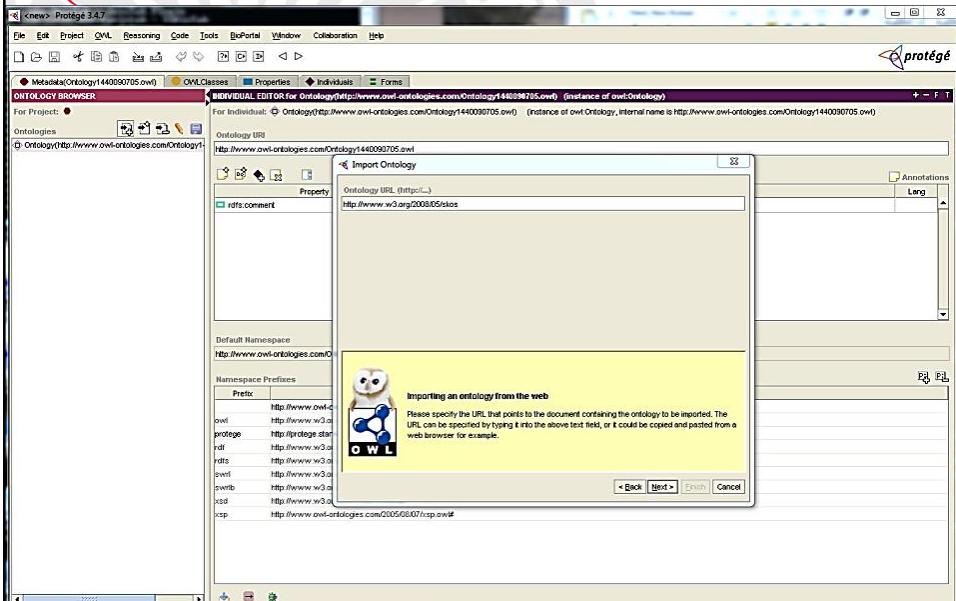
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- <http://www.w3.org/wiki/ConverterToRdf>
- <http://protege.stanford.edu/>
- <http://protegewiki.stanford.edu/wiki/Import>

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Protégé 3.4.7

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File Edit Project OML Reasoning Code Tools BioPortal Window Collaboration Help

Metadata/Ontology1440980705.owl OML Classes Properties Individuals Forms MappingMaster

Workbook

Sheet3 Sheet2 Sheet1

1		1000 - 1099		GENERAL
2		1000		General (Include Marine Corps Standard Operating Procedures (SOPs))
3		1001		Reserve Policies and Programs
4		1010		Inspections
5		1020		Uniforms
6		1040		Reserve Career Planning
7		1050		Leave and Liberty
8		1070		Personnel Records
9		1080		Personnel Accounting
10		1100 - 1199		RECRUITING
11		1101		General
12		1110		Administration and Logistics
13		1111		Manpower
14		1120		Plans and Policy
15		1121		Policy
16		1122		Research
17		1123		Program Analysis
18		1130		Operations
19		1154		Address Bookmarks

Workbook File: C:\Users\hunkel\Desktop\mappings\revisednavy\sscc.xls

Open Close

Mappings Control Expressions

Comment	MM DSL expression	Sheet name	Start column	Finish column	Start row	Finish row
---------	-------------------	------------	--------------	---------------	-----------	------------

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File Edit Project OML Reasoning Code Tools BioPortal Window Collaboration Help

Metadata/Ontology1440980705.owl OML Classes Properties Individuals Forms MappingMaster

Workbook

Sheet3 Sheet2 Sheet1

1		1000 - 1099		GENERAL
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5		1020		
6		1040		
7		1050		
8		1070		
9		1080		
10		1100 - 1199		
11		1101		
12		1110		
13		1111		
14		1120		
15		1121		
16		1122		
17		1123		
18		1130		
19		1154		

Workbook File: C:\Users\hunkel\Desktop\mappings\revisednavy\sscc.xls

Open Close

Mappings Control Expressions

Comment	MM DSL expression
---------	-------------------

Comment: @A* (rdfID slot:Concept)

Sheet name: Sheet1

Start column: A

Start row: 1

Finish column: B

Finish row: 2263

Cancel Ok

Add Edit Delete

Finish row

http://protege.cim3.net/cgi-bin/wiki.pl?MappingMasterDSL

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The screenshot shows the Protégé 3.4.7 interface with the 'MappingMaster' tab selected. A tooltip is visible above the 'OK' button of an error dialog box. The error message details a mapping issue involving the 'skos:inScheme' property and the 'NavySSIC' class.

MappingMaster V0.9

See <http://protege.cim3.net/cgi-bin/wiki/p?MappingMaster> for documentation.
Use the Expressions tab to define mappings using MappingMaster's DSL.
Click the Map button to perform mappings.

Mapping Ontology

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The screenshot shows the Protégé 3.4.7 interface with the 'MappingMaster' tab selected. An information dialog box is centered on the screen, stating 'Mappings performed successfully.' This indicates that the previous error has been resolved.

MappingMaster V0.9

See <http://protege.cim3.net/cgi-bin/wiki/p?MappingMaster> for documentation.
Use the Expressions tab to define mappings using MappingMaster's DSL.
Click the Map button to perform mappings.

Mapping Ontology

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<http://govdocs.rutgers.edu/ontologies>

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"On the Semantic Web the true potential of data is unleashed when it is interlinked. As concepts from different concept schemes are connected together they begin to form a distributed, heterogeneous global concept scheme. A web of concept schemes can serve as the foundation for new applications that allow meaningful navigation between KOSs"*

*Antoine Isaac & Ed Summers, *SKOS Simple Knowledge Organization System Primer*, W3C (August 18, 2009), <http://www.w3.org/TR/skos-primer/>.

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