


RUTGERS
THE STATE UNIVERSITY
OF NEW JERSEY

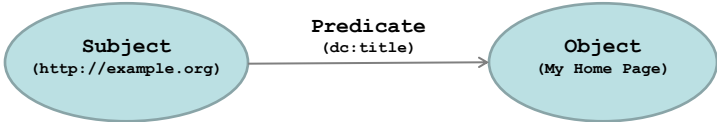
Using Linked Data to Organize Born Digital Government Information



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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



```
<rdf:Description rdf:about="http://example.org/">
  <dc:title>My Home Page</dc:title>
</rdf:Description>
```

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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


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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)

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Air Force Documents by Public... x +

govdocs.rutgers.edu/mil/airforce.php

Air Force Documents by Subject | Army Documents by Subject | Coast Guard Documents by Subject | Marine Corps Documents by Subject | Navy Documents by Subject | Search All Documents

Air Force Documents by Publication Series

- 01 Air Force Culture
- 10 Operations
- 11 Flying Operations
- 13 Nuclear, Space, Missile, or Command and Control Operations
- 14 Intelligence
- 15 Weather
- 16 Operations Support
- 20 Logistics
- 21 Maintenance
- 23 Materiel Management
- 24 Transportation
- 25 Logistics Staff
- 31 Security
- 32 Civil Engineering
- 33 Communications and Information
- 34 Services
- 35 Public Affairs
- 26 Personnel

<http://govdocs.rutgers.edu/mil/airforce.php>

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Documents by Subject

govdocs.rutgers.edu/mil/result.php?f=http%3A%2F%2Fgovdocs.

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Documents for Air Force Publication Series 60 (Standardization)

Air Force Documents for Subject Code 60

Document: <http://govdocs.rutgers.edu/mil/af/AFI60-101.pdf>
 Title: MATERIEL STANDARDIZATION
 Citation: AFI60-101
 Effective Date: 9/30/2014 12:00:00 AM
 Department: Department of the Air Force
 Downloaded from: http://static.e-publishing.af.mil/production/1/saf_aq/publication/afi60-101/afi60-101.pdf

Document: <http://govdocs.rutgers.edu/mil/af/AFI60-105.pdf>
 Title: JOINT ELECTRONICS TYPE DESIGNATION SYSTEM
 Citation: AFI60-105
 Effective Date: 8/21/2013 12:00:00 AM
 Department: Department of the Air Force
 Downloaded from: http://static.e-publishing.af.mil/production/1/saf_aq/publication/afi60-105/afi60-105.pdf

Document: <http://govdocs.rutgers.edu/mil/af/AFI60-106.pdf>
 Title: INTERNATIONAL MILITARY STANDARDIZATION (IMS) PROGRAM
 Citation: AFI60-106

Related Subjects for subject code 60

Army Publication Series 034
 Navy Standard Subject Identification Codes 4120

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Navy Documents by Standard ...

govdocs.rutgers.edu/mil/navy.php

Air Force Documents by Subject | Navy Documents by Subject | Coast Guard Documents by Subject | Marine Corps Documents by Subject | Navy Documents by Subject | Search All Documents |

Browse Navy Documents by Standard Subject Identification Code

1000-1999 Military Personnel | 2000-2999 Information Technology and Communications | 3000-3999 Operations and Readiness | 4000-4999 Logistics | 5000-5999 General Administration and Management | 6000-6999 Medicine and Dentistry | 7000-7999 Financial Management | 8000-8999 Ordnance Material | 9000-9999 Ships Design and Material | 10000-10999 General Material | 11000-11999 Facilities and Activities Ashore | 12000-12999 Civilian Personnel | 13000-13999 Aeronautical and Astronautical Material |

- 1000-1999 Military Personnel
 - 1000 - 1099 GENERAL
 - 1000 General (include Marine Corps Standard Operating Procedures (SOPs))
 - 1001 Reserve Policies and Programs
 - 1010 Inspections
 - 1020 Uniforms
 - 1040 Retention/Career Planning
 - 1050 Leave and Liberty
 - 1070 Personnel Records
 - 1080 Personnel Accounting
 - 1100 - 1199 RECRUITING
 - 1100 General
 - 1110 Administration and Logistics
 - 1111 Manpower
 - 1120 Plans and Policy
 - 1121 Policy
 - 1122 Research
 - 1123 Program Analysis
 - 1130 Operations

Search Results

govdocs.rutgers.edu/mil/search.php?titles=navy

Air Force Documents by Subject | Army Documents by Subject | Coast Guard Documents by Subject | Marine Corps Documents by Subject | Navy Documents by Subject | Search All Documents |

Search for 'navy' in title

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
 Subject: Navy Standard Subject Identification Codes 4491 (Requisitions and Other Material or Service Requests)

Document: http://govdocs.rutgers.edu/mil/cg/CI_1000_5F.pdf
 Title: ADMINISTRATION OF COAST GUARD AND NAVY OFFICERS ASSIGNED TO THE COAST GUARD/NAVY OFFICER EXCHANGE PROGRAMS
 Citation: CI 1000.5F
 Effective Date:
 Department: Department of the Coast Guard
 Downloaded From: http://www.uscg.mil/directives/ci/1000-1999/CI_1000_5F.pdf
 Subject: Navy Standard Subject Identification Codes 1000 (General (include Marine Corps Standard Operating Procedures (SOPs)))

Document: http://govdocs.rutgers.edu/mil/cg/CI_5420_23D.pdf
 Title: NAVY AND COAST GUARD (NAVARD) BOARD
 Citation: CI 5420.23D
 Effective Date:
 Department: Department of the Coast Guard
 Downloaded From: http://www.uscg.mil/directives/ci/5000-5999/CI_5420_23D.pdf
 Subject: Navy Standard Subject Identification Codes 5420 (Boards, Committees, Councils and Groups)

Documents by Subject

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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
 Downloaded from: http://www.uscg.mil/directives/ci/4000-4999/CI_4491_2.pdf

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
 Citation: CI 4491.1
 Effective Date:
 Department: Department of the Coast Guard
 Downloaded from: http://www.uscg.mil/directives/ci/4000-4999/CI_4491_1.pdf

Related Subjects for subject code 4491

Army Publication Series 725
 Navy Standard Subject Identification Codes 4490

Documents by Subject

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Air Force Documents by Subject | Army Documents by Subject | Coast Guard Documents by Subject | Marine Corps Documents by Subject | Navy Documents by Subject | Search All Documents |

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
 Downloaded from: http://www.apd.army.mil/pdffiles/r725_1.pdf

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

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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

Import Ontology dialog box content:

Ontology URL (http://...):

Message: **Importing an ontology from the web**
Please specify the URL that points to the document containing the ontology to be imported. The URL can be specified by typing it into the above text field, or it could be copied and pasted from a web browser for example.

Buttons: Back, Next >, Finish, Cancel

Background Interface Elements:

- Ontology Browser: [Ontology \(http://www.w3.org/2003/05/ntos\)](http://www.w3.org/2003/05/ntos)
- Individual Editor: <http://www.owl-ontologies.com/Ontology1440090705.owl>
- Property: rdfs:comment
- Namespace Prefixes:
 - owl: http://www.w3.org/
 - protégé: http://protege.stanford.edu/
 - rdfs: http://www.w3.org/
 - owl: http://www.w3.org/
 - owl: http://www.w3.org/
 - owl: http://www.w3.org/
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 - owl: http://www.w3.org/
 - owl: http://www.w3.org/
 - owl: http://www.w3.org/

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Protégé 3.4.7

Mapping Editor window content:

Comment	MM DSL expression	Sheet name	Start column	Finish column	Start row	Finish row
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			Retention/Career Planning
7			1050			Leave and Liberty
8			1070			Personnel Records
9			1080			Personnel Accounting
10			1100	1199		RECRUITING
11			1100			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			1131			Offices, Branches, etc.

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MappingMaster Expression

Comment

Sheet name: Sheet1

Start column: A

Finish column: B

Start row: 1

Finish row: 2263

Individual: @A* (rdf:ID skos:Concept)

Facts: skos:notation @A*, skos:inScheme NavySSIC, skos:prefLabel @B*

Cancel Ok

Open Close

Add Edit Delete

Refresh row

MappingMaster DSL

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

Error

Mapping error: error rendering expression
Individual @A* (rdf:ID skos:Concept)
Facts: skos:notation @A*, skos:inScheme NavySSIC, skos:prefLabel @B*
at sheet 'Sheet1', current column A, current row 1
error setting property skos:inScheme to value NavySSIC for subject Thing_2: invalid property value NavySSIC for object property skos:inScheme for subject Thing_2: value must be class or individual

OK

MappingMaster V0.9

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

Mapping Ontology

Open Save Save As... Close

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The screenshot shows the Protégé 3.4.7 interface with a mapping table. An information dialog box is displayed in the center, stating "Mappings performed successfully." with an "OK" button.

IRI	Label	Class
1000-1099	GENERAL	GENERAL (include Marine Corps Standard Operating Procedures (SOPs))
1000	General (include Marine Corps Standard Operating Procedures (SOPs))	Reserve Policies and Programs
1001	Reserve Policies and Programs	Inspections
1010	Inspections	Uniforms
1020	Uniforms	Retention/Career Planning
1040	Retention/Career Planning	Leave and Liberty
1050	Leave and Liberty	Personnel Records
1070	Personnel Records	Personnel Accounting
1090	Personnel Accounting	RECRUITING
1100-1199	GENERAL	GENERAL
1100	GENERAL	Administration and Logistics
1110	Administration and Logistics	Manpower
1111	Manpower	Plans and Policy
1120	Plans and Policy	Policy
1121	Policy	Research
1122	Research	Program Analysis
1123	Program Analysis	Operations
1130	Operations	Offshore Business
1131	Offshore Business	

Below the table, there are sections for "Mappings Control" and "Expressions". The "Mappings Control" section includes a "Map" button and a "MappingMaster V0.9" section with a link to documentation. The "Expressions" section contains dropdown menus for "Default Name Encoding", "Default Entity Type", "Default Property Type", "Default Property Value Type", and "Default Data Property Value Type".

The screenshot shows the Protégé 3.4.7 interface for the 'navy' ontology. The left pane shows a class hierarchy with 'Concept' selected. The middle pane shows a list of individuals from 1000 to 10260. The right pane shows the 'Annotations' view for the '1000' individual, displaying its description and property assertions.

Annotations: 1000

Annotations: `prof_label` (xsd:string)

General (include Marine Corps Standard Operating Procedures (SOPs))

Description: 1000

Types: Concept

Property assertions: 1000

- narrower 1001
- inScheme NavySSIC
- semanticRelation 1000-1099
- semanticRelation 1000-1999
- semanticRelation 1001
- narrower 1001
- broader 1000-1099
- narrowerTransitive 1001
- inScheme NavySSIC
- broaderTransitive 1000-1099
- broaderTransitive 1000-1999

Data property assertions:

- notation "1000"^^xsd:string

At the bottom, there is a URL: <http://govdocs.rutgers.edu/ontologies>