

SKOS, id.loc.gov and the World of Linked Data

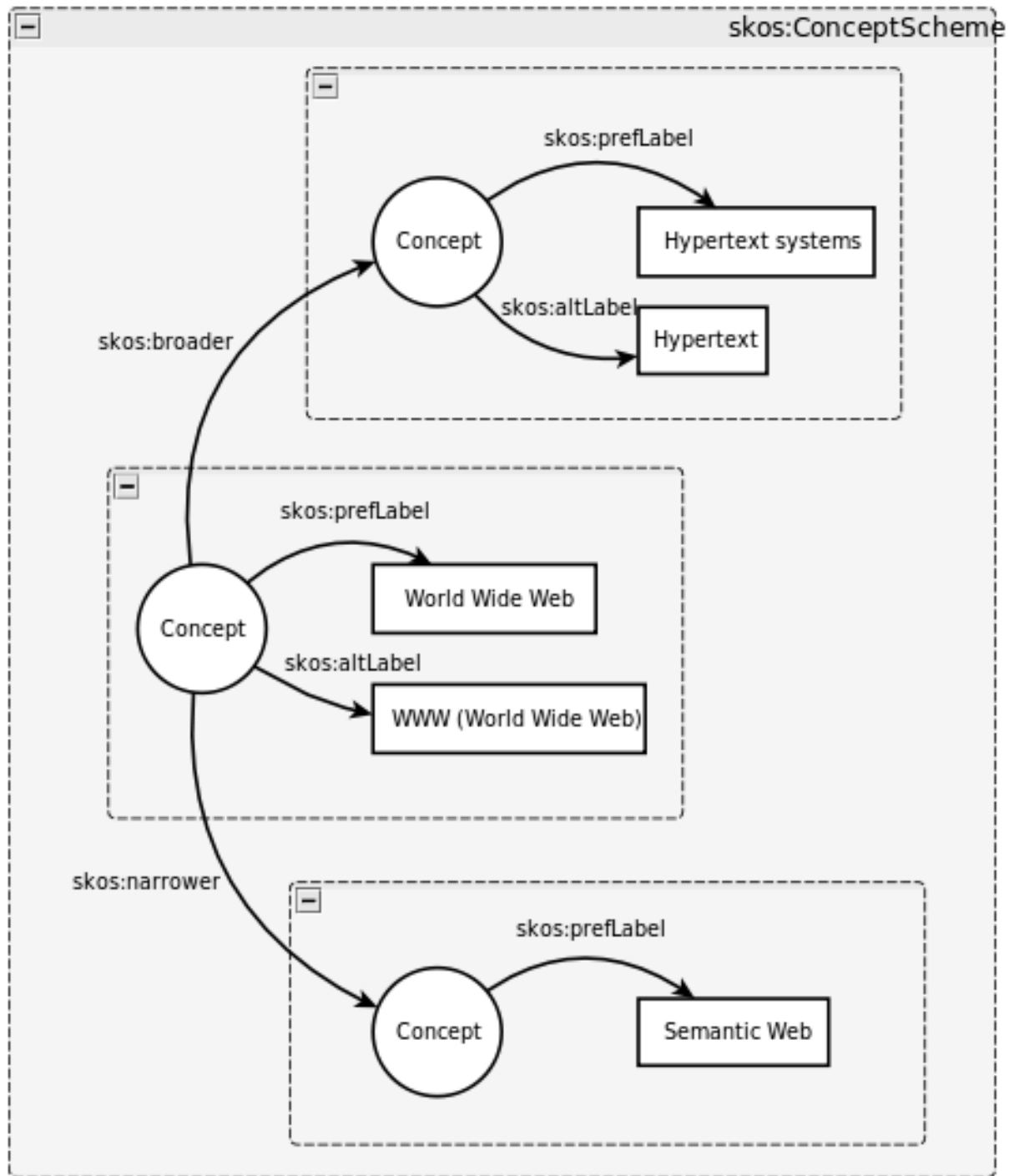
Ed Summers
Rebecca Guenther
Library of Congress

World Wide Web

UF: WWW (World Wide Web)

BT: Hypertext Systems

NT: Semantic Web



```
@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> .  
@prefix skos: <http://www.w3.org/2004/02/skos/core#> .  
  
<http://id.loc.gov/authorities/sh95000541#concept>  
  a skos:Concept ;  
  skos:prefLabel "World Wide Web"@en ;  
  skos:altLabel "WWW (World Wide Web)"@en ;  
  skos:broader <http://id.loc.gov/authorities/sh88002671#concept> ;  
  skos:narrower <http://id.loc.gov/authorities/sh2002000569#concept> .
```

```
<?xml version="1.0" encoding="utf-8"?>
<rdf:RDF
  xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
  xmlns:skos="http://www.w3.org/2004/02/skos/core#"
  <skos:Concept rdf:about="http://id.loc.gov/authorities/sh95000541#concept">
    <skos:altLabel xml:lang="en">WWW (World Wide Web)</skos:altLabel>
    <skos:broader rdf:resource="http://id.loc.gov/authorities/sh88002671#concept"/>
    <skos:narrower rdf:resource="http://id.loc.gov/authorities/sh2002000569#concept"/>
    <skos:prefLabel xml:lang="en">World Wide Web</skos:prefLabel>
  </skos:Concept>
</rdf:RDF>
```



SKOS Simple Knowledge Organization System Reference

W3C Recommendation 18 August 2009

This version:

<http://www.w3.org/TR/2009/REC-skos-reference-20090818/>

Latest version:

<http://www.w3.org/TR/skos-reference>

Previous versions:

<http://www.w3.org/TR/2009/PR-skos-reference-20090615/>

Editors:

[Alistair Miles](#), STFC Rutherford Appleton Laboratory / University of Oxford

[Sean Bechhofer](#), University of Manchester

Please refer to the [errata](#) for this document, which may include some normative corrections.

See also [translations](#).

Copyright © 2009 [W3C](#)® ([MIT](#), [ERCIM](#), [Keio](#)), All Rights Reserved. W3C [liability](#), [trademark](#) and [document use](#) rules apply.

Abstract



SKOS Simple Knowledge Organization System Primer

W3C Working Group Note 18 August 2009

This version:

<http://www.w3.org/TR/2009/NOTE-skos-primer-20090818/>

Latest version:

<http://www.w3.org/TR/skos-primer>

Previous version:

<http://www.w3.org/TR/2009/WD-skos-primer-20090615/>

Editors:

[Antoine Isaac](#), Vrije Universiteit Amsterdam

[Ed Summers](#), Library Of Congress

Please refer to the [errata](#) for this document, which may include some corrections.

See also [translations](#).

Copyright © 2009 [W3C](#)® ([MIT](#), [ERCIM](#), [Keio](#)), All Rights Reserved. W3C [liability](#), [trademark](#) and [document use](#) rules apply.

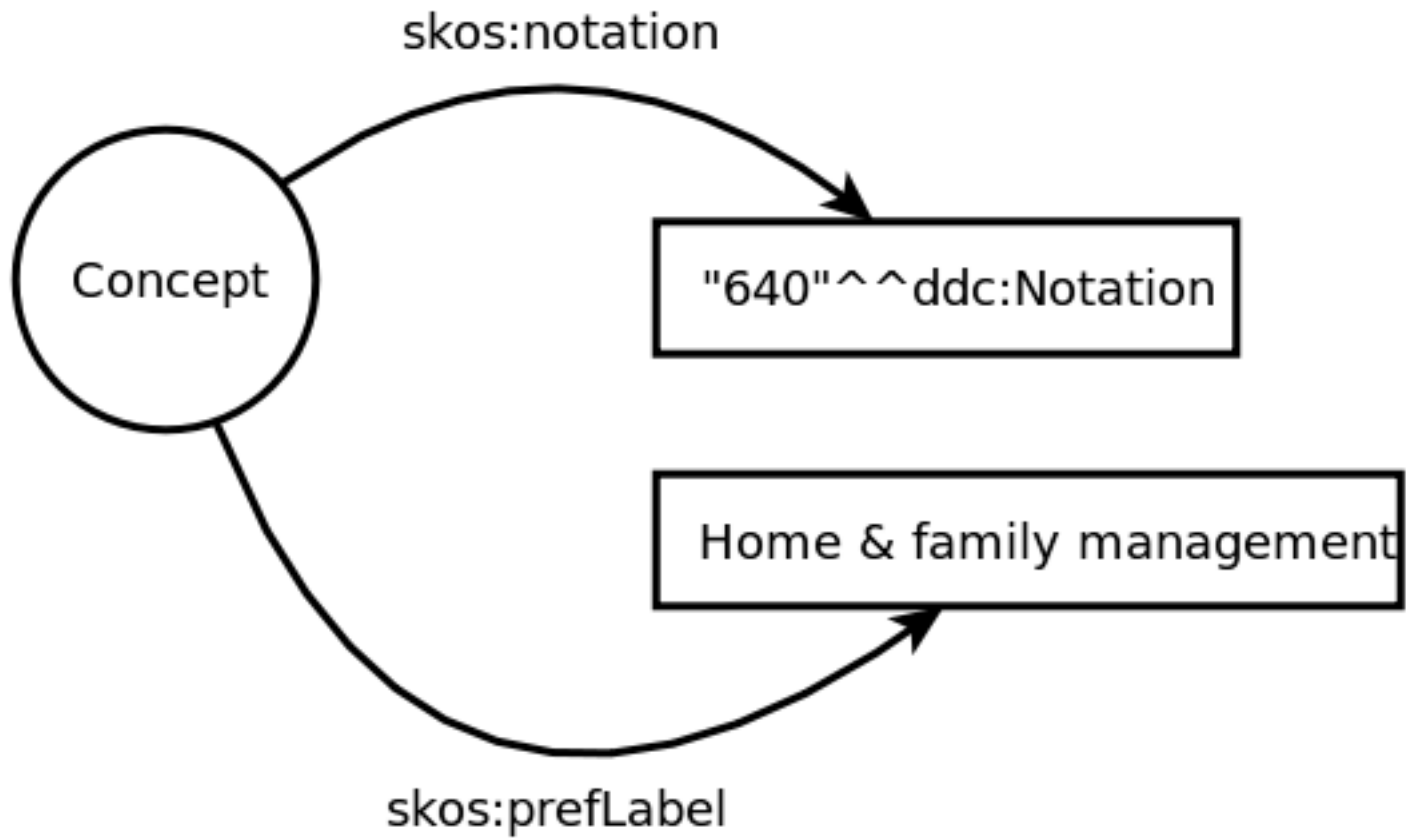
Abstract

SKOS—Simple Knowledge Organization System—provides a model for expressing the basic structure and content of concept schemes such as thesauri, classification schemes, subject heading lists,

<http://www.w3.org/2008/05/skos#>

<http://www.w3.org/2004/02/skos/core#>

Notations



Mapping Relations

- skos:closeMatch
- skos:exactMatch
- skos:broadMatch
- skos:narrowMatch
- skos:relatedMatch

Are now available in SKOS namespace, when previously they were only available in a separate experimental namespace at:

<http://www.w3.org/2004/02/skos/mapping>

Semantic Relations

Semantic relations are no longer transitive, but they extend properties that are transitive:

- `skos:broader` extends `skos:broaderTransitive`
- `skos:narrower` extends `skos:narrowerTransitive`



J. Gould del.

M. F. P. sculp.

SCOLOGLAUX ALBIFACIES.

Owlification of Classes

These classes are now of type owl:Class instead of rdf:Class

- skos:Concept
- skos:ConceptScheme
- skos:Collection
- skos:OrderedCollection

Owlification of Labels

Labels are now of type `owl:AnnotationProperty` **and** `rdf:Property`:

- `skos:prefLabel`
- `skos:altLabel`
- `skos:hiddenLabel`

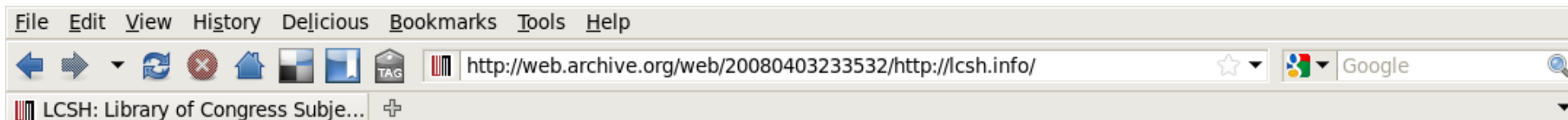
Owlification of Notes

Notes are now of type `owl:AnnotationProperty` **and** `rdf:Property`

- `skos:note`
- `skos:changeNote`
- `skos:definition`
- `skos:example`
- `skos:historyNote`
- `skos:scopeNote`
- `skos:editorialNote`







Library of Congress Subject Headings

This is an experimental service that makes the [Library of Congress Subject Headings](#) available as [linked-data](#) using the [SKOS](#) vocabulary. It is important to point out that this service uses authority data harvested from the [Library of Congress](#) by Simon Spero as part of his [Fred2.0](#) project. The goal of *lcs.info* is to encourage experimentation and use of LCSH on the web with the hopes of informing a similar effort at the Library of Congress to make a complete and continually updated version available. More information about the Linked Data effort can be found on the [W3C Wiki](#).

Following the principles laid out in [Cool URIs for the Semantic Web](#) you can reference LCSH concepts using a URI that contains the Library of Congress Control Number for the authority record: *http://lcs.info/{lccn}*. The server uses [content negotiation](#) to determine what representation of the concept to send: *application/rdf+xml*, *text/n3*, *application/json*, and otherwise *application/xhtml+xml*.

You can download the [entire dataset](#) if you like. Otherwise, here are a couple high level concepts, a couple fun concepts, and links to some linked data viewers to get you (or your bot) started on your travels:

Concept	Concept URI	Linked Data Viewers
Science	http://lcs.info/sh85118553	OpenLink Disco Zitgist
Humanities	http://lcs.info/sh85062913	OpenLink Disco Zitgist
Cataloging	http://lcs.info/sh85020816	OpenLink Disco Zitgist
World Wide Web	http://lcs.info/sh95000541	OpenLink Disco Zitgist

The code used to convert Simon's [MARCXML](#) to RDF, and provide this web service is available at <http://inkdroid.org/bzr/lcs> using [Bazaar](#). Questions, comments, criticisms to *ehs at pobox dot com*



File Edit View History Delicious Bookmarks Tools Help

http://lcsh.info/sh95000541

LCSH: World Wide Web

World Wide Web

Use For: W3 (World Wide Web), WWW (World Wide Web), Web (World Wide Web), World Wide Web (Information retrieval system),

Broader Terms: [Hypertext systems](#), [Multimedia systems](#),

Narrower Terms: [Semantic Web](#), [WebDAV \(Standard\)](#), [WebTV \(Trademark\)](#),

Related Terms: [Internet](#),

Editorial Notes:

- 94234135: Brown, S. The Internet via Mosaic and World Wide Web, c1994 (WWW, the Web) p. 35 (Although the WWW is primarily used on a global scale as a part of the Internet, it is feasible for a two-machine network to run the WWW client/server software)
- ASTI; Engr. index; Web. 3
- Internet publishing handbook, c1995: p. 15 (World-Wide Web system is known by its various names: WWW, W3, and Web)
- MAGS, Dec. 8, 1995: article by Robert M. Metcalfe (first generation of WWW based on Hypertext Transfer Protocol and Hypertext Transfer Markup Language)
- Work cat.: 94067520: December, J. The World Wide Web Unleashed, c1994 (WWW, the Web, a distributed hypermedia system, a collection of interconnected hardware, software, and networked systems, it is a concept, not a program, system, or protocol, it is an interface)

LC Classification: TK5105.888

Created: 2000-04-28

Last Modified: 2001-10-01T09:56:06

Done

<http://lcsb.info/sh95000541#concept>

<http://lcsb.info/sh95000541#concept>



LCSH.INFO

library linked data, past tense

[HOME](#) [ABOUT](#)

UNCOOL URIS

Posted on December 19, 2008, 10:32 pm, by Ed Summers, under [Uncategorized](#), [lcsh](#), [semweb](#).

On December 18th I was asked to shut off lcsh.info by the Library of Congress. As an LC employee I really did not have much choice other than to comply.

The lcsh.info domain was registered by me in order to demonstrate how the [Library of Congress Subject Headings](#) could be represented as a Semantic Web application using [SKOS](#). In particular I was eager to get feedback on how the data was being published with respect to [Linked Data](#) best practices. I got lots of great feedback, wrote a [paper](#) which I presented at [DC2008](#), and learned that other institutions like the W3C and the Royal Library of Sweden were beginning to use URIs for concepts from lcsh.info in their metadata.

It was always my intention for concept URIs at lcsh.info to be [cool](#). I advertised the service as 'experimental' and indicated it was going to hopefully inform the development of a similar continually updated service at LC. I had the good fortune to have a shared server with [Kevin Clarke](#), and others from the [code4lib](#) community where I could spend \$5.00/month on making the service available.

My thought was I could leave the service running until there was something similar at LC that I could redirect the concept URIs to. After a year or two when people had rewritten their data to point at loc.gov I could retire lcsh.info. I never

timbl says:

December 20, 2008 at 8:25 am

That is clearly a loss: the data is of great general interest around the world. Can you talk about the reasoning behind the decision? Were there serious issues of intellectual property rights being infringed, or other legal matter? Or was it a case of an organization not having that rare skill of being able to recognize and nurture innovation and the champion of forward ways of thinking? I ask partly to see whether other outside LoC could help, partly to understand whether an external group could acquire or extract the same thing and keep it running independently, maybe just as a frozen snapshot. What is the IPR on the data? As US government data is it presumably in the public domain?

patrickmi says:

Authorities & Vocabularies



- Authorities & Vocabularies
- About
- Technical Center
- Search & Download
- Contact Us

Authorities & Vocabularies



|| About ||

The Library of Congress Authorities and Vocabularies service enables both humans and machines to programmatically access authority data at the Library of Congress via URIs.

> [Read more...](#)

|| Available Authorities & Vocabularies ||

> [Library of Congress Subject Headings \(LCSH\)](#)

LCSH has been actively maintained since 1898 to catalog materials held at the Library of Congress. By virtue of cooperative cataloging other libraries around the United States also use LCSH to provide subject access to their collections. In addition LCSH is used internationally, often in translation.

> [Read more...](#)

Authorities & Vocabularies

[Return](#)

Search

Enter search terms...

World Wide Web

URI: <http://id.loc.gov/authorities/sh95000541#concept>

Type: Topical Term

Alternate Labels: W3 (World Wide Web); Web (World Wide Web); World Wide Web (information retrieval system); WWW (World Wide Web)

Broader Terms:

- [Hypertext systems](#)
- [Multimedia systems](#)

Narrower Terms:

- [Invisible Web](#)
- [Mashups \(World Wide Web\)](#)
- [Semantic Web](#)
- [Web 2.0](#)
- [WebDAV \(Standard\)](#)
- [WebTV \(Trademark\)](#)

<http://lcsb.info/sh95000541#concept>

**[http://id.loc.
gov/authorities/sh95000541#concept](http://id.loc.gov/authorities/sh95000541#concept)**

**http://id.loc.
gov/authorities/sh95000541#concept**

File Edit View Help

```
<?xml version="1.0" encoding="UTF-8"?>
<rdf:RDF
  xmlns:dcterms="http://purl.org/dc/terms/"
  xmlns:owl="http://www.w3.org/2002/07/owl#"
  xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
  xmlns:skos="http://www.w3.org/2004/02/skos/core#"
>
<rdf:Description rdf:about="http://id.loc.gov/authorities/sh95000541#concept">
  <skos:closeMatch rdf:resource="http://stitch.cs.vu.nl/vocabularies/rameau/ark:/12148/cb13319953j"/>
  <dcterms:created rdf:datatype="http://www.w3.org/2001/XMLSchema#dateTime">2000-04-28T00:00:00-04:00</dcterms:created>
  <skos:narrower rdf:resource="http://id.loc.gov/authorities/sh2002000569#concept"/>
  <skos:narrower rdf:resource="http://id.loc.gov/authorities/sh2007008319#concept"/>
  <skos:narrower rdf:resource="http://id.loc.gov/authorities/sh2007008317#concept"/>
  <skos:narrower rdf:resource="http://id.loc.gov/authorities/sh2008009697#concept"/>
  <skos:narrower rdf:resource="http://id.loc.gov/authorities/sh97003254#concept"/>
  <skos:narrower rdf:resource="http://id.loc.gov/authorities/sh2003001415#concept"/>
  <rdf:type rdf:resource="http://www.w3.org/2004/02/skos/core#Concept"/>
  <skos:related rdf:resource="http://id.loc.gov/authorities/sh92002816#concept"/>
  <owl:sameAs rdf:resource="info:lc/authorities/sh95000541"/>
  <skos:prefLabel xml:lang="en">World Wide Web</skos:prefLabel>
  <skos:broader rdf:resource="http://id.loc.gov/authorities/sh88002671#concept"/>
  <skos:broader rdf:resource="http://id.loc.gov/authorities/sh92002381#concept"/>
  <dcterms:source xml:lang="en">94234135: Brown, S. The Internet via Mosaic and World Wide Web, c1994 (WWW, the Web) p. 35 (Although the WWW is primarily
  <dcterms:source xml:lang="en">MAGS, Dec. 8, 1995: article by Robert M. Metcalfe (first generation of WWW based on Hypertext Transfer Protocol and Hyper
  <dcterms:source xml:lang="en">Work cat.: 94067520: December, J. The World Wide Web Unleashed, c1994 (WWW, the Web, a distributed hypermedia system, a c
  <dcterms:source xml:lang="en">Internet publishing handbook, c1995: p. 15 (World-Wide Web system is known by its various names: WWW, W3, and Web)</dcter
  <skos:inScheme rdf:resource="http://id.loc.gov/authorities#topicalTerms"/>
  <skos:inScheme rdf:resource="http://id.loc.gov/authorities#conceptScheme"/>
  <dcterms:modified rdf:datatype="http://www.w3.org/2001/XMLSchema#dateTime">2001-10-01T09:56:06-04:00</dcterms:modified>
  <skos:altLabel xml:lang="en">W3 (World Wide Web)</skos:altLabel>
  <skos:altLabel xml:lang="en">World Wide Web (Information retrieval system)</skos:altLabel>
  <skos:altLabel xml:lang="en">WWW (World Wide Web)</skos:altLabel>
  <skos:altLabel xml:lang="en">Web (World Wide Web)</skos:altLabel>
  <skos:editorialNote xml:lang="en">ASTI; Engr. index; Web. 3</skos:editorialNote>
</rdf:Description>
```

Line 18, Col 84

```
{
- http://id.loc.gov/authorities/sh2004002303#concept: {
  - http://www.w3.org/2004/02/skos/core#prefLabel: [
    - {
      lang: "en",
      type: "literal",
      value: "Music and the Internet"
    }
  ]
},
- http://id.loc.gov/authorities/sh95000541#concept: {
  - http://www.w3.org/2004/02/skos/core#prefLabel: [
    - {
      lang: "en",
      type: "literal",
      value: "World Wide Web"
    }
  ]
},
- http://id.loc.gov/authorities/sh2006007721#concept: {
  - http://www.w3.org/2004/02/skos/core#prefLabel: [
    - {
      lang: "en",
      type: "literal",
      value: "Language and the Internet"
    }
  ]
},
- http://id.loc.gov/authorities/sh2003008599#concept: {
  - http://www.w3.org/2004/02/skos/core#prefLabel: [
    - {
      lang: "en",
      type: "literal",
      value: "Art and the Internet"
    }
  ]
}
}
```



[Home](#) » [Specifications](#) » [OpenSearch](#) » [1.1](#) » [Draft 4](#)

Contents [\[hide\]](#)

- [1 Notice](#)
- [2 Overview](#)
- [3 Namespace](#)
- [4 OpenSearch description document](#)
 - [4.1 Overview](#)
 - [4.2 Examples](#)
 - [4.3 Type](#)
 - [4.4 Extensibility](#)
 - [4.5 OpenSearch description elements](#)
 - [4.5.1 The "OpenSearchDescription" element](#)
 - [4.5.2 The "ShortName" element](#)
 - [4.5.3 The "Description" element](#)
 - [4.5.4 The "Url" element](#)
 - [4.5.4.1 Url rel values](#)
 - [4.5.5 The "Contact" element](#)
 - [4.5.6 The "Tags" element](#)
 - [4.5.7 The "LongName" element](#)

Authorities & Vocabularies File Loading Report

Started	Finished	Filename	Username	Processed	Created	Updated	Deleted	Linked
2009-10-20 10:36:57	2009-10-20 10:37:00	v24.i42.records.xml.5	cred	94	94	0	0	94
2009-10-20 10:36:49	2009-10-20 10:36:54	v24.i42.records.xml.4	cred	200	200	0	0	200
2009-10-20 10:36:39	2009-10-20 10:36:44	v24.i42.records.xml.3	cred	200	200	0	0	200
2009-10-20 10:36:19	2009-10-20 10:36:31	v24.i42.records.xml.2	cred	200	153	46	1	199
2009-10-20 10:35:52	2009-10-20 10:36:13	v24.i42.records.xml.1	cred	200	1	198	1	199
2009-10-16 17:25:06	2009-10-16 17:25:09	v24.i41-4.records.xml	cred	112	112	0	0	112
2009-10-16 17:24:52	2009-10-16 17:24:58	v24.i41-3.records.xml	cred	200	200	0	0	200
2009-10-16 17:24:35	2009-10-16 17:24:43	v24.i41-2.records.xml	cred	200	195	4	1	199
2009-10-16 17:23:50	2009-10-16 17:24:23	v24.i41-1.records.xml	cred	200	108	68	24	176
2009-10-08 19:09:30	2009-10-08 19:09:37	v24.i40-4.records.xml	cred	242	242	0	0	242
2009-10-08 19:09:07	2009-10-08 19:09:13	v24.i40-3.records.xml	cred	200	200	0	0	200
2009-10-08 19:08:44	2009-10-08 19:08:57	v24.i40-2.records.xml	cred	200	167	15	18	182
2009-10-08 19:07:59	2009-10-08 19:08:31	v24.i40-1.records.xml	cred	200	4	194	2	198
2009-10-02 16:29:16	2009-10-02 16:29:22	v24.i39-3.records.xml	cred	178	166	10	2	176
2009-10-02 16:28:39	2009-10-02 16:28:53	v24.i39-2.records.xml	cred	200	51	145	4	196
2009-10-02 16:28:07	2009-10-02 16:28:24	v24.i39-1.records.xml	cred	200	0	180	20	180
2009-09-23 15:32:25	2009-09-23 15:32:30	v24.i38-4.records.xml	cred	199	199	0	0	199
2009-09-23 15:31:45	2009-09-23 15:31:50	v24.i38-3.records.xml	cred	200	200	0	0	200
2009-09-23 15:31:23	2009-09-23 15:31:32	v24.i38-2.records.xml	cred	200	196	1	3	197
2009-09-23 15:30:49	2009-09-23 15:31:09	v24.i38-1.records.xml	cred	200	63	135	2	198
2009-09-18 11:37:40	2009-09-18 12:18:56	v24.i37.records.xml	cred	670	617	51	2	668



Subscribe to this feed using

Live Bookmarks

Always use Live Bookmarks to subscribe to feeds.

Subscribe Now

Library of Congress Authorities

[Shipwrecks--Law and legislation](#)

10/19/2009 10:12 AM

[Sabre \(Jet fighter plane\)](#)

10/19/2009 10:11 AM

[Radio and television towers--California](#)

10/19/2009 09:55 AM

[Righteous Gentiles in the Holocaust](#)

10/19/2009 07:21 AM

[Arts facilities--Brazil](#)

10/19/2009 07:00 AM

[Mine safety--Law and legislation](#)

10/16/2009 02:58 PM

[Wint family](#)

10/16/2009 12:43 PM

```
<?xml version="1.0" encoding="utf-8"?>
<feed xmlns="http://www.w3.org/2005/Atom"
  xmlns:dcterms="http://purl.org/dc/terms/"
  xmlns:at="http://purl.org/atompub/tombstones/1.0">

  <title>Library of Congress Authorities</title>
  <link href="http://id.loc.gov/authorities/feed/" rel="self" />

  <link rel="next" href="http://id.loc.gov/authorities/feed/page/2/" />
  <link rel="last" href="http://id.loc.gov/authorities/feed/page/3645/" />
  <link rel="search" href="http://id.loc.gov/authorities/opensearch/" type="application/opensearchdescription+xml" />
  <id>info:lc/authorities/feed</id>
  <updated>2009-10-20T14:50:36-04:00</updated>

  <entry>
    <title>Shipwrecks--Law and legislation</title>
    <link rel="alternate" href="http://id.loc.gov/authorities/sh89005199" />
    <link rel="alternate" type="application/rdf+xml" href="http://id.loc.gov/authorities/sh89005199.rdf" />
    <link rel="alternate" type="application/json" href="http://id.loc.gov/authorities/sh89005199.json" />
    <id>info:lc/authorities/sh89005199</id>
    <author><name>Library of Congress</name></author>
    <updated>2009-10-19T10:12:51-04:00</updated>
    <dcterms:created>2004-10-04T00:00:00-04:00</dcterms:created>

  </entry>

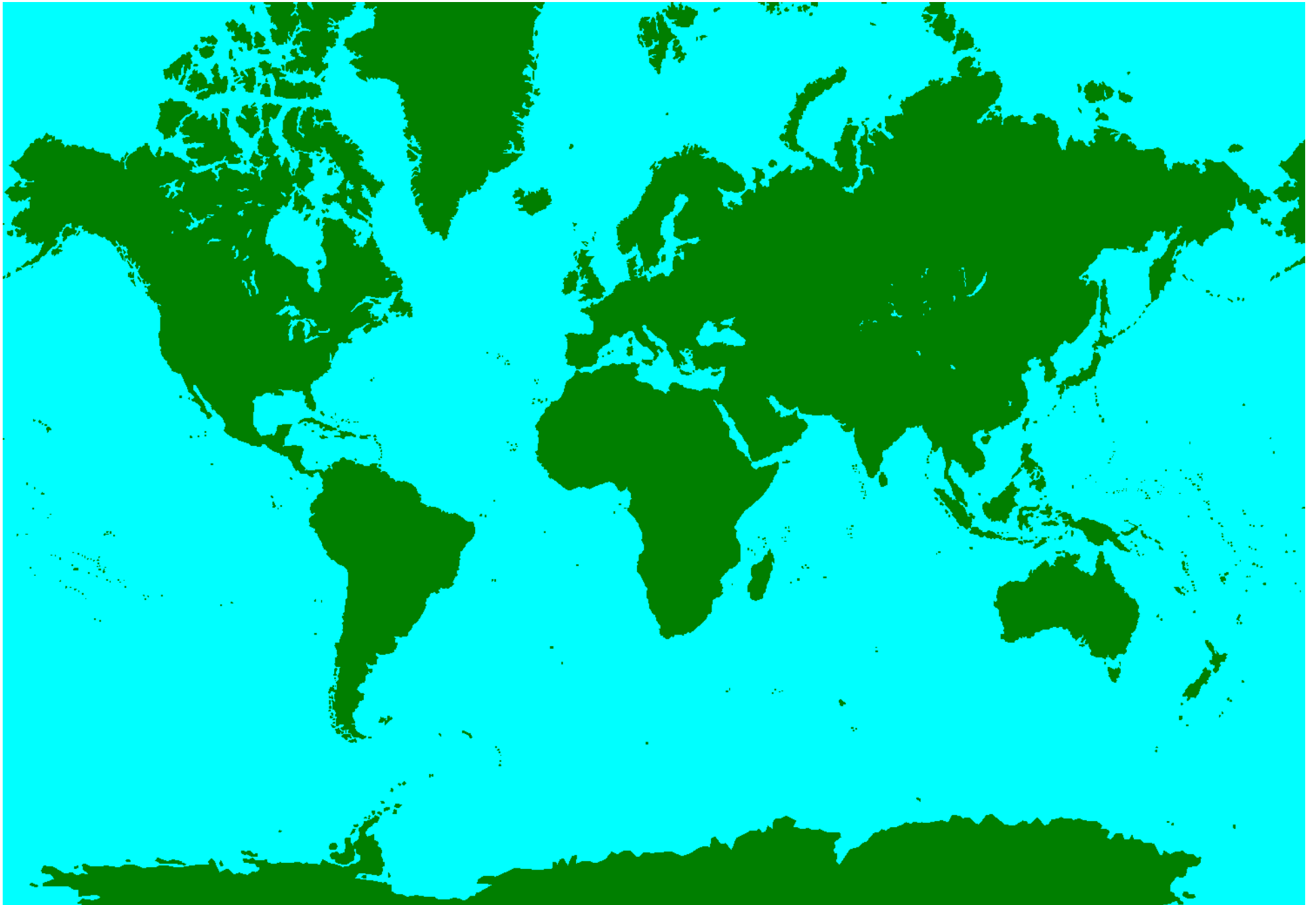
  <entry>
    <title>Sabre (Jet fighter plane)</title>
    <link rel="alternate" href="http://id.loc.gov/authorities/sh85116213" />
    <link rel="alternate" type="application/rdf+xml" href="http://id.loc.gov/authorities/sh85116213.rdf" />
    <link rel="alternate" type="application/json" href="http://id.loc.gov/authorities/sh85116213.json" />
    <id>info:lc/authorities/sh85116213</id>
    <author><name>Library of Congress</name></author>
    <updated>2009-10-19T10:11:56-04:00</updated>
    <dcterms:created>1986-02-11T00:00:00-04:00</dcterms:created>

  </entry>

</feed>
```

Future Work

- Coordination vocabulary
- Coordination rules
- Integration with Search
- Mapping techniques and integration tools



Dewey Decimal Classification: Summaries

What is dewey.info?

Dewey.info is an experimental space for linked DDC data. The initial data set available is a linked data version of the DDC Summaries in nine languages. The intention of the dewey.info prototype is to be a platform for Dewey data on the Web.

The ten main classes

000	Computer science, information & general works
100	Philosophy & psychology
200	Religion
300	Social sciences
400	Language
500	Science
600	Technology
700	Arts & recreation
800	Literature
900	History & geography

Highlights

- Access to the top three levels of the DDC in nine languages
- Actionable URIs for every class of the DDC Summaries
- Classification semantics encoded in SKOS
- Representations for machines (RDF) and for humans (XHTML+RDFa)
- Different RDF serializations (RDF/XML, Turtle, JSON)
- Exposed SPARQL [endpoint](#)
- Data is reusable under a Creative Commons BY-NC-ND license

500 Science

<http://dewey.info/scheme/e22/>

510 Mathematics

- 510 Mathematics
- 511 General principles of mathematics
- 512 Algebra
- 513 Arithmetic
- 514 Topology
- 515 Analysis
- 516 Geometry
- [517] [Unassigned]
- 518 Numerical analysis
- 519 Probabilities & applied mathematics



This work is licensed under a [Creative Commons Attribution-Noncommercial-No Derivative Works 3.0 Unported License](https://creativecommons.org/licenses/by-nc-nd/3.0/) by [OCLC Online Computer Library Center, Inc.](https://www.oclc.org/) Permissions beyond the scope of this license may be available at [here](#). All copyright rights in the Dewey Decimal Classification system are owned by OCLC. Dewey, Dewey Decimal Classification, DDC, OCLC and WebDewey are registered trademarks of OCLC.

Dewey Decimal Classification: Summaries Available languages: ar | de | en | es | fr | pt | ru | sv | zh

RDFa Triples Close

<http://dewey.info/class/51/2009/08/about.en> skos:prefLabel
 "Mathematics"
 .a4 rdf:type at

<http://dewey.info/schema/e22/>

510	Mathematics
511	General principles of mathematics
512	Algebra
513	Arithmetic
514	Topology
515	Analysis
516	Geometry
[517]	[Unassigned]
518	Numerical analysis
519	Probabilities & applied mathematics



This work is licensed under a [Creative Commons Attribution-Noncommercial-No Derivative Works 3.0 Unported License](http://creativecommons.org/licenses/by-nc-nd/3.0/) by [OCLC Online Computer Library Center, Inc.](http://www.oclc.org/) Permissions beyond the scope of this license may be available at [here](#). All copyright rights in the Dewey Decimal Classification system are owned by OCLC. Dewey, Dewey Decimal Classification, DDC, OCLC and WebDewey are registered trademarks of OCLC.

500 Ciencia <http://dewey.info/scheme/e22/>

510 Matemáticas

- 510 Matemáticas
- 511 Principios generales de las matemáticas
- 512 Álgebra
- 513 Aritmética
- 514 Topología
- 515 Análisis
- 516 Geometría
- [517] [No asignado]
- 518 Análisis numérico
- 519 Probabilidades y matemáticas aplicadas



This work is licensed under a [Creative Commons Attribution-Noncommercial-No Derivative Works 3.0 Unported License](https://creativecommons.org/licenses/by-nc-nd/3.0/) by [OCLC Online Computer Library Center, Inc.](https://www.oclc.org/) Permissions beyond the scope of this license may be available at [here](#). All copyright rights in the Dewey Decimal Classification system are owned by OCLC. Dewey, Dewey Decimal Classification, DDC, OCLC and WebDewey are registered trademarks of OCLC.

500 Ciência <http://dewey.info/scheme/e22/>

510 Matemática

- 510 Matemática
- 511 Princípios gerais de matemática
- 512 Álgebra
- 513 Aritmética
- 514 Topologia
- 515 Análise
- 516 Geometria
- [517] [Não assinalado]
- 518 Análise numérica
- 519 Probabilidades e matemática aplicada



This work is licensed under a [Creative Commons Attribution-Noncommercial-No Derivative Works 3.0 Unported License](https://creativecommons.org/licenses/by-nc-nd/3.0/) by [OCLC Online Computer Library Center, Inc.](https://www.oclc.org/) Permissions beyond the scope of this license may be available at [here](#). All copyright rights in the Dewey Decimal Classification system are owned by OCLC. Dewey, Dewey Decimal Classification, DDC, OCLC and WebDewey are registered trademarks of OCLC.

500 Science <http://dewey.info/scheme/e22/>

510 | Mathématiques

- 510 Mathématiques
- 511 Principes généraux des mathématiques
- 512 Algèbre
- 513 Arithmétique
- 514 Topologie
- 515 Analyse
- 516 Géométrie
- [517] [Vacant]
- 518 Analyse numérique
- 519 Probabilités et mathématiques appliquées



This work is licensed under a [Creative Commons Attribution-Noncommercial-No Derivative Works 3.0 Unported License](https://creativecommons.org/licenses/by-nc-nd/3.0/) by [OCLC Online Computer Library Center, Inc.](https://www.oclc.org/) Permissions beyond the scope of this license may be available at [here](#). All copyright rights in the Dewey Decimal Classification system are owned by OCLC. Dewey, Dewey Decimal Classification, DDC, OCLC and WebDewey are registered trademarks of OCLC.

500 Naturwissenschaften und Mathematik

<http://dewey.info/scheme/e22/>

510 | Mathematik

- 510 Mathematik
- 511 Allgemeine mathematische Prinzipien
- 512 Algebra
- 513 Arithmetik
- 514 Topologie
- 515 Analysis
- 516 Geometrie
- [517] [Unbesetzt]
- 518 Numerische Analysis
- 519 Wahrscheinlichkeitstheorien, mathematische Statistik



This work is licensed under a [Creative Commons Attribution-Noncommercial-No Derivative Works 3.0 Unported License](https://creativecommons.org/licenses/by-nc-nd/3.0/) by [OCLC Online Computer Library Center, Inc.](https://www.oclc.org/) Permissions beyond the scope of this license may be available at [here](#). All copyright rights in the Dewey Decimal Classification system are owned by OCLC. Dewey, Dewey Decimal Classification, DDC, OCLC and WebDewey are registered trademarks of OCLC.

500	Naturvetenskap	http://dewey.info/scheme/e22/
510	Matematik	
510	Matematik	
511	Matematikens allmänna principer	
512	Algebra	
513	Aritmetik	
514	Topologi	
515	Analys	
516	Geometri	
[517]	[Vakant]	
518	Numerisk analys	
519	Sannolikhetslära & tillämpad matematik	



This work is licensed under a [Creative Commons Attribution-Noncommercial-No Derivative Works 3.0 Unported License](https://creativecommons.org/licenses/by-nc-nd/3.0/) by [OCLC Online Computer Library Center, Inc.](https://www.oclc.org/) Permissions beyond the scope of this license may be available at [here](#). All copyright rights in the Dewey Decimal Classification system are owned by OCLC. Dewey, Dewey Decimal Classification, DDC, OCLC and WebDewey are registered trademarks of OCLC.

500	Наука	http://dewey.info/scheme/e22/
510	Математика	
510	Математика	
511	Общие принципы математики	
512	Алгебра	
513	Арифметика	
514	Топология	
515	Математический анализ	
516	Геометрия	
[517]	[Не используется]	
518	Численный анализ	
519	Теория вероятностей и прикладная математика	



This work is licensed under a [Creative Commons Attribution-Noncommercial-No Derivative Works 3.0 Unported License](https://creativecommons.org/licenses/by-nc-nd/3.0/) by [OCLC Online Computer Library Center, Inc.](https://oclc.org/) Permissions beyond the scope of this license may be available at [here](#). All copyright rights in the Dewey Decimal Classification system are owned by OCLC. Dewey, Dewey Decimal Classification, DDC, OCLC and WebDewey are registered trademarks of OCLC.

<http://dewey.info/scheme/e22/>

500 العلوم.

510 الرياضيات.

510 الرياضيات.

511 الأسس العامة للرياضيات.

512 الجبر.

513 الحساب.

514 الطوبوغرافيا.

515 التحليل.

516 الهندسة.

[517] (لم يخصص بعد).

518 التحليل العددي.

519 الإحتمالات والرياضيات التطبيقية.



500 科学 <http://dewey.info/scheme/e22/>

510 | 数学

- 510 数学
- 511 数学的一般原理
- 512 代数
- 513 算数
- 514 拓扑学
- 515 数学分析
- 516 几何
- [517] [Unassigned 未指定数位]
- 518 数值分析
- 519 概率 & 应用数学



This work is licensed under a [Creative Commons Attribution-Noncommercial-No Derivative Works 3.0 Unported License](https://creativecommons.org/licenses/by-nc-nd/3.0/) by [OCLC Online Computer Library Center, Inc.](https://www.oclc.org/) Permissions beyond the scope of this license may be available at [here](#). All copyright rights in the Dewey Decimal Classification system are owned by OCLC. Dewey, Dewey Decimal Classification, DDC, OCLC and WebDewey are registered trademarks of OCLC.

t4gm.info — Abstract paintings

[About](#) — [Validation](#) — [Distillation](#) — [Help](#)

Preferred label

Abstract paintings

Broader terms

[Abstract works](#)

[Paintings](#)

Change note

Formerly TGMI term &
TGMII term.

File Edit View History Delicious Bookmarks Tools Help

← → ↻ × 🏠 🖼️ 📄 TAG ☆ 📄

sub RDFa Highlight

📧 Gmail - I... 📍 Hostels ... 📄 Google ... 📄 SKOS an... 📄 Pipelinin... 📄 http...com/ 📄 Internati... 📄 File:Worl... 📄 AGROVO... 📄 t4g...

t4gm.info — Abstract paintings

[About](#) — [Validation](#) — [Distillation](#) — [Help](#)

RDFa Triples

Pre `<t4gm-abstract-paintings> skos:prefLabel "Abstract paintings"`

Abstract paintings

Broader terms

Abstract works

Paintings

Change note

Formerly TGMI term & TGMII term.



Deutsch

- Descriptor list
- Download
- Other versions

- ▶ A General descriptors
- ▶ B Business economics
- ▶ G Geographic names
- ▶ N Related subject areas
- ▶ P Commodities
- ▶ V Economics
- ▶ W Economic sectors

STW Thesaurus for Economics

Subthesauri

- A General descriptors
- B Business economics
- G Geographic names
- N Related subject areas
- P Commodities
- V Economics
- W Economic sectors

The *STW Thesaurus for Economics* might be helpful while searching ZBW's **ECONIS catalogue on economic issues (simply via  icon).**

The thesaurus provides vocabulary on any economic subject: about 5,800 standardized subject headings and about 17,000 entry terms to support individual keywords. You can also find technical terms used in law, sociology, or politics, and geographic names. When selecting terms from this vocabulary, you are sure to get results matching your search query.

The information on the web pages is also embedded as [data \(RDFa\)](#) in order to support multiple re-use in the economics and business communities and within the semantic web.

- Home
- Alphabetical descriptor list

- ▶ A General descriptors
- ▶ B Business economics
- ▶ G Geographic names
- ▶ N Related subject areas
- ▶ P Commodities
- ▶ V Economics
- ▶ W Economic sectors

G Geographic names

G Geographische Begriffe (german)


narrower

- G.00 Geographic Names
- G.01 Europe
- G.02 Asia
- G.03 Africa
- G.04 America
- G.05 Australia and Oceania
- G.06 Political and Economic Regions

Persistent Identifier (for bookmarking and linking)

- <http://zbw.eu/stw/thsys/g>





Deutsch

RDFa Triples Close

<http://zbw.eu/stw/thsys/g> skos:prefLabel "G Geographic names"

- Home
- Alphabetical descriptor list
- A General descriptors
- B Business economics
- G Geographic names
- N Related subject areas
- P Commodities
- V Economics
- W Economic sectors

G Geographic names

G Geographische Begriffe (german)

narrower

- G.00 Geographic Names
- G.01 Europe
- G.02 Asia
- G.03 Africa
- G.04 America
- G.05 Australia and Oceania
- G.06 Political and Economic Regions

Persistent Identifier (for bookmarking and linking)

- http://zbw.eu/stw/thsys/g



RAMEAU

Répertoire d'autorité-matière encyclopédique et alphabétique unifié


S'informer | Utiliser et enrichir le langage | Former et se former

RAMEAU (Répertoire d'autorité-matière encyclopédique et alphabétique unifié) est un langage d'indexation matière. Ce langage documentaire est utilisé, en France, par la Bibliothèque nationale de France, les bibliothèques universitaires, de nombreuses bibliothèques de lecture publique ou de recherche ainsi que plusieurs organismes privés.

Nouveau!

Parution du Journal RAMEAU des créations et des modifications n°23

Ce numéro recense les changements intervenus dans la Liste d'autorité entre octobre 2008 et mars 2009.

 **Télécharger** le Journal RAMEAU

Rubriques

S'informer

Informations générales sur RAMEAU :

- [Actualités](#)
- [Langage d'indexation](#)
- [Réseau national](#)

Former et se former

Aides à la formation et à l'autoformation au langage RAMEAU.

- [Répertoire national des formateurs](#)
- [Documents pédagogiques](#)



<< Back to Index

Concept information

URI	http://stitch.cs.vu.nl/vocabularies/rameau/ark:/12148/cb12337059x	
prefLabel	x-notation	FRBNF123370593
	fr	Internet
altLabel	fr	Net (réseau d'ordinateurs)
	fr	Sites Internet
scopeNote	fr	Voir aussi la subdivision Ressources Internet [+ subd. géogr.] à tous sujets noms communs et noms propres pour les ressources électroniques sur ces sujets disponibles sur Internet
note	fr	Domaine : 621
inScheme	Rameau	
	Rameau - Noms Communs	

narrower	Édition sur le Web
	Moteurs de recherche sur Internet
	Webdiffusion
	Navigateurs (logiciels)
	Netscape Communicator (logiciel)
	Bases de données sur le Web
	Services Web
	Web sémantique
	Blogger (logiciel)
Web 2.0	
related	Langages de balisage

Mappings (simple SKOS statements)

Mapping Relation	Concept
closeMatch	http://id.loc.gov/authorities/sh95000541#concept

Mappings (OAEI cells)

Authorities & Vocabularies

[Return](#)

Search

Enter search terms...

GO

Details

Visualize

World Wide Web

URI: <http://id.loc.gov/authorities/sh95000541#concept>

Type: Topical Term

Alternate Labels: W3 (World Wide Web); Web (World Wide Web); World Wide Web (Information retrieval system); WWW (World Wide Web)

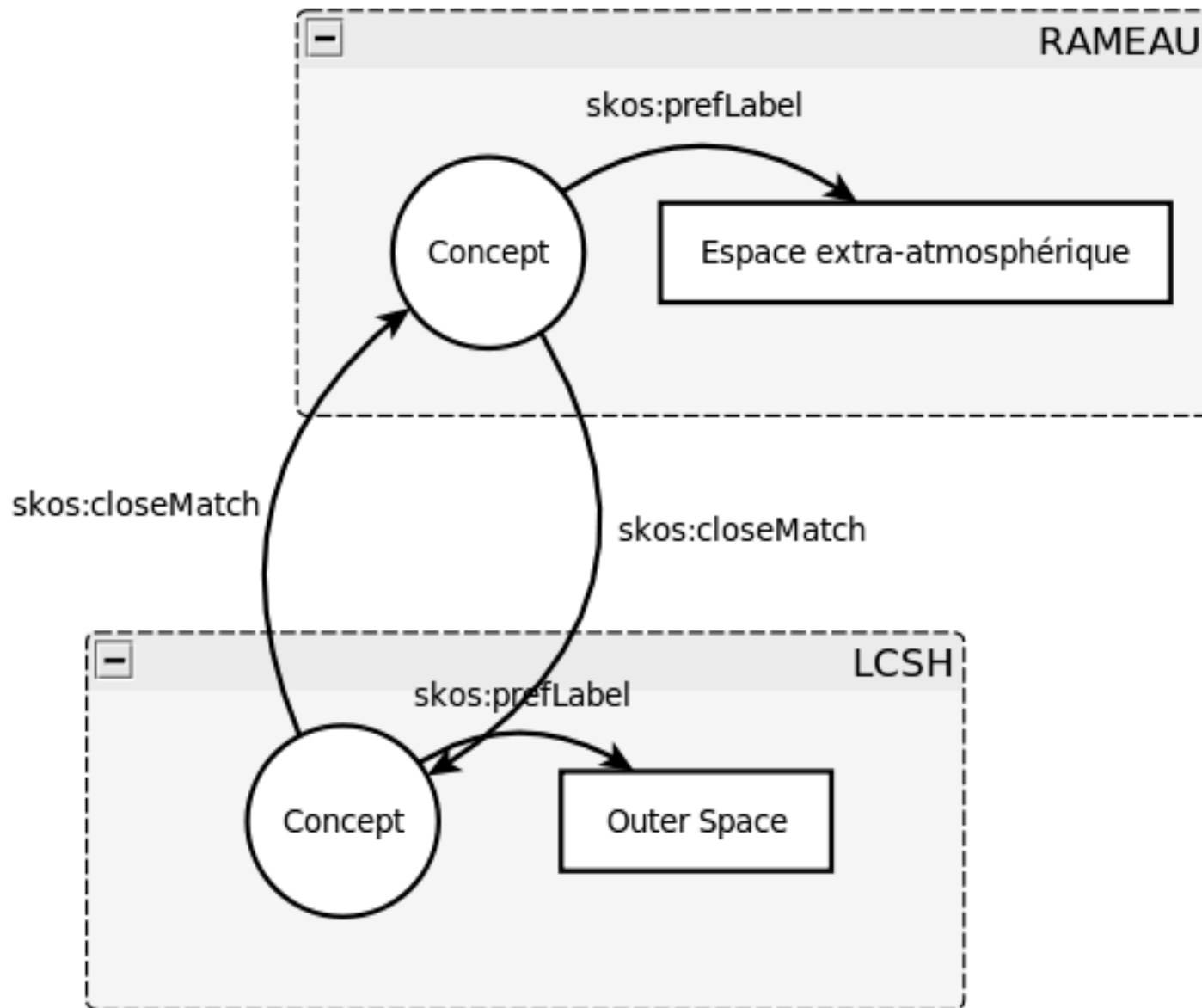
Broader Terms:

- [Hypertext systems](#)
- [Multimedia systems](#)

Narrower Terms:

[Visible Web](#)

<http://stitch.cs.vu.nl/vocabularies/rameau/ark:/12148/cb11931367t>



<http://id.loc.gov/authorities/sh85096156#concept>



SKOS Implementation Report

May 19th 2009

This version:

<http://www.w3.org/2006/07/SWD/SKOS/reference/20090315/implementation.html>

Editors:

[Alistair Miles](#), STFC Rutherford Appleton Laboratory / University of Oxford
[Sean Bechhofer](#), University of Manchester

Copyright © 2008 [W3C](#)® ([MIT](#), [INRIA](#), [Keio](#)), All Rights Reserved. W3C [liability](#), [trademark](#), [document use](#) and [software licensing](#) rules apply.

Abstract

This document summarises implementation experience reported to the Semantic Web Deployment Working Group relating to SKOS.

Status of this document

[W3C home](#) > [Mailing lists](#) > [Public](#)

public-lod@w3.org Mail Archives

Maintaining Activity: [Semantic Web Activity](#)

List Purpose: The public-lod@w3.org mailing list provides a discussion forum for members of the [Linking Open Data project](#) and the broader Linked Data community. The Linking Open Data project is a grassroots community effort founded in February 2007 as a W3C [Semantic Web Education and Outreach Interest Group](#) Community Project. The aim of the project is to identify datasets that are available under open licenses, re-publish these in RDF on the Web and interlink them with each other.

The [Linking Open Data project wiki pages](#) provide additional background information about the project. The project's mailing list was hosted by the [MIT SIMILE](#) project until Spring 2008; MIT also maintains an [archive](#) of the list until that point.

About this list: [[Indices by calendar periods](#)] [[Latest messages](#)] [[Mailbox format](#)] [[RSS](#)]
Mail actions: [[mail a new topic](#)] [[subscribe to this list](#)] [[unsubscribe from this list](#)]
Help: [[How to use the archives](#)] [[Search in the archives](#)]

Search this list for

<i>period</i>	<i>re-sorted</i>	<i>messages</i>
October 2009	by thread by author by subject	69
September 2009	by thread by author by subject	177
August 2009	by thread by author by subject	169
July 2009	by thread by author by subject	389
June 2009	by thread by author by subject	450
May 2009	by thread by author by subject	336

Find: Highlight all Match case



- Themes
- Speakers
- Talks
- Translations **NEW**

- Joining TED
- TED Conferences
- About TED
- TED Community
- TED Prize
- TED Blog
- TED Fellows

[Sign In](#) | [Register](#)

Talks Tim Berners-Lee on the next Web

Filmed Feb 2009; Posted Mar 2009



00:20 | 16:20 [Share](#) [Rate](#)

About this talk [Open interactive transcript »](#)

20 years ago, Tim Berners-Lee invented the World Wide Web. For his next project, he's building a web for open, linked data that could do for numbers what the Web did for words, pictures, video: unlock our data and reframe the way we use it together.

About Tim Berners-Lee

Tim Berners-Lee invented the World Wide Web. He leads the World Wide Web Consortium, overseeing the Web's standards and development. [Full bio and more links](#)

About our sponsor

Toyota is proud to sponsor TED. [Learn more »](#) **TOYOTA**
We see beyond cars.

What to watch next

TED2006 Hans Rosling shows the