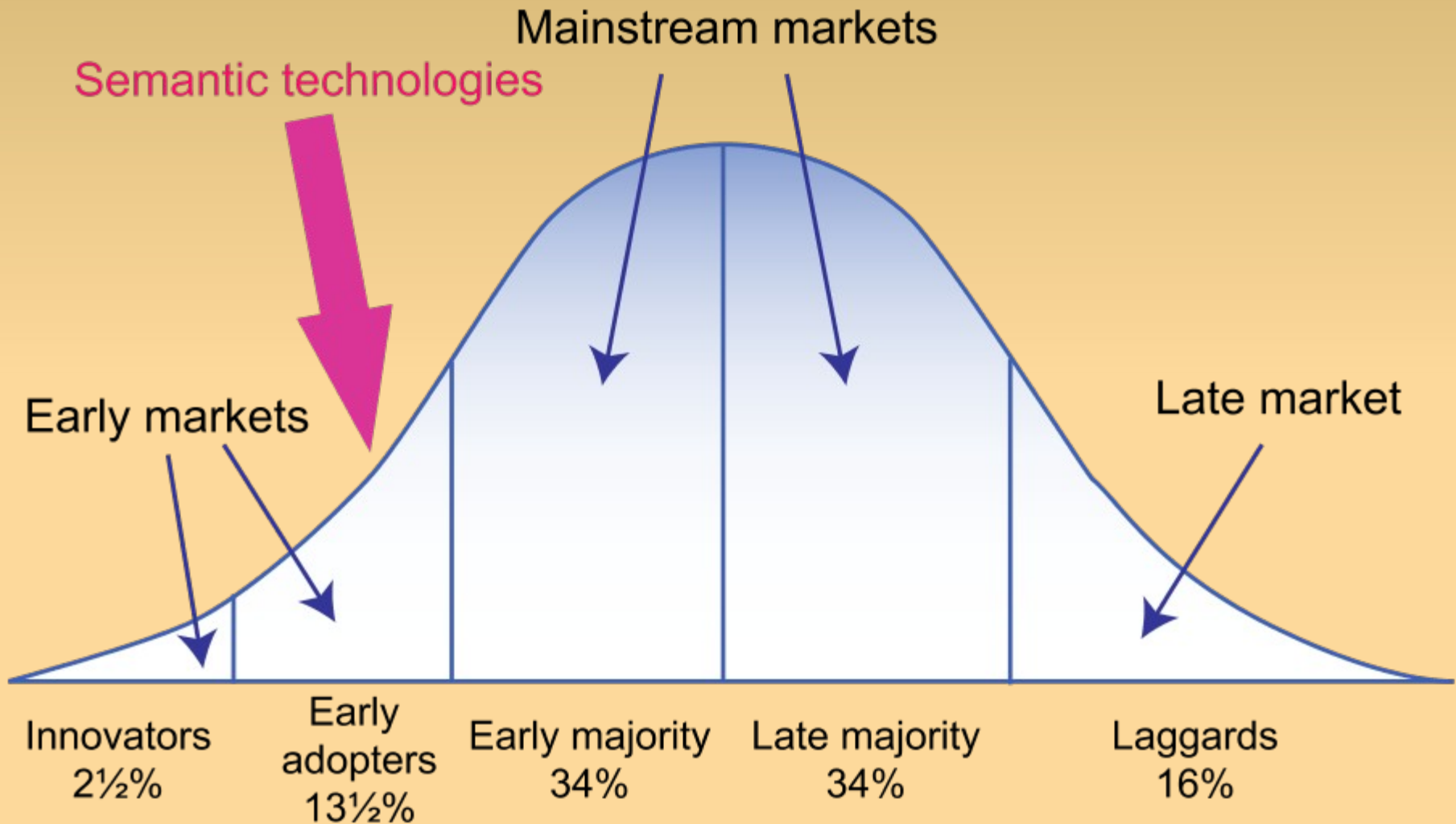


**What is being done today?**

**Ivan Herman, W3C**

**Deutsche Telekom Workshop  
Darmstadt, Germany  
2009-12-14**

# Technology adoption life cycle



# The 2007 Gartner predictions

3

During the next 10 years, Web-based technologies will improve the ability to embed semantic structures [... it] will occur in multiple evolutionary steps...

By 2017, we expect the vision of the Semantic Web [...] to coalesce [...] and the **majority of Web pages are decorated with some form of semantic hypertext.**

By **2012, 80% of public Web sites will use some level of semantic hypertext to create SW documents [...]** 15% of public Web sites will use more extensive Semantic Web-based ontologies to create semantic databases

(note: “semantic hypertext” refers to, eg, RDFa, microformats with possible GRDDL, etc.)

# The “corporate” landscape is moving

- Major companies offer (or will offer) Semantic Web tools or systems using Semantic Web: Adobe, Oracle, IBM, HP, Software AG, GE, Northrop Gruman, Altova, Microsoft, Dow Jones, ...
- Others are using it (or consider using it) as part of their own operations: Novartis, Pfizer, Telefónica, ...
- Some of the names of active participants in W3C SW related groups: HP, Agfa, SRI International, Fair Isaac Corp., Oracle, Boeing, IBM, Chevron, Siemens, Nokia, Pfizer, Sun, Eli Lilly, Deutsche Telekom, ...

# Lots of Tools (not an exhaustive list!)

- Categories:
  - Triple Stores
  - Inference engines
  - Converters
  - Search engines
  - Middleware
  - CMS
  - Semantic Web browsers
  - Development environments
  - Semantic Wikis
  - ...
- Some names:
  - Jena, AllegroGraph, Mulgara, Sesame, flickurl, ...
  - TopBraid Suite, Virtuoso environment, Falcon, Drupal 7, Redland, Pellet, ...
  - Disco, Oracle 11g, RacerPro, IODT, Ontobroker, OWLIM, Talis Platform, ...
  - RDF Gateway, RDFLib, Open Anzo, DartGrid, Zitgist, Ontotext, Protégé, ...
  - Thetus publisher, SemanticWorks, SWI-Prolog, RDFStore...
  - ...

# May start with specific communities

- The needs of a deployment application area:
  - have serious problem or opportunity
  - have the intellectual interest to pick up new things
  - have motivation to fix the problem
  - its data connects to other application areas
  - have an influence as a showcase for others
- The high energy physics community played this role for the Web in the 90's

# Some deployment communities

- Major communities pick the technology up: digital libraries, defense, eGovernment, energy sector, financial services, health care, oil and gas industry, life sciences, publishing ...
  - Health care and life science sector is also active at W3C
    - also at W3C, in the form of an Interest Group

# Some deployment communities

- Semantic Web also appear in the “Web 2.0/Web 3.0” applications (whatever that means 😊)
  - exchange of social data
  - personal “space” applications
  - dynamic Web site backends
  - multimedia asset management
  - etc



# W3C's use case collection

- W3C is actively collecting SW use cases and case studies
  - use case: prototype applications within the enterprise
  - case study: deployed applications, either in an enterprise, community, governmental, etc sites

# SWEO's use case collection

- At present there are
  - 24 case studies and 12 use cases (March 2009)
  - from countries around the globe
  - activity areas include: automotive, broadcasting, financial institution, health care, oil & gas industry, pharmaceutical, public and governmental institutions, publishing, telecommunications, ...
  - usage areas include: data integration, portals with improved local search, business organization, B2B integration, ...
- Remember this URI:  
**<http://www.w3.org/2001/sw/UseCases/>**

# So how do applications look like?

# Application patterns

- It is fairly difficult to “categorize” applications
- With this caveat, some of the application patterns:
  - data integration
  - intelligent (specialized) Web sites (portals) with improved local search
  - content and knowledge organization
  - knowledge representation, decision support
  - X2X integration (often combined with Web Services)
  - data registries, repositories
  - collaboration tools (eg, social network applications)

# Applications are not always very complex...

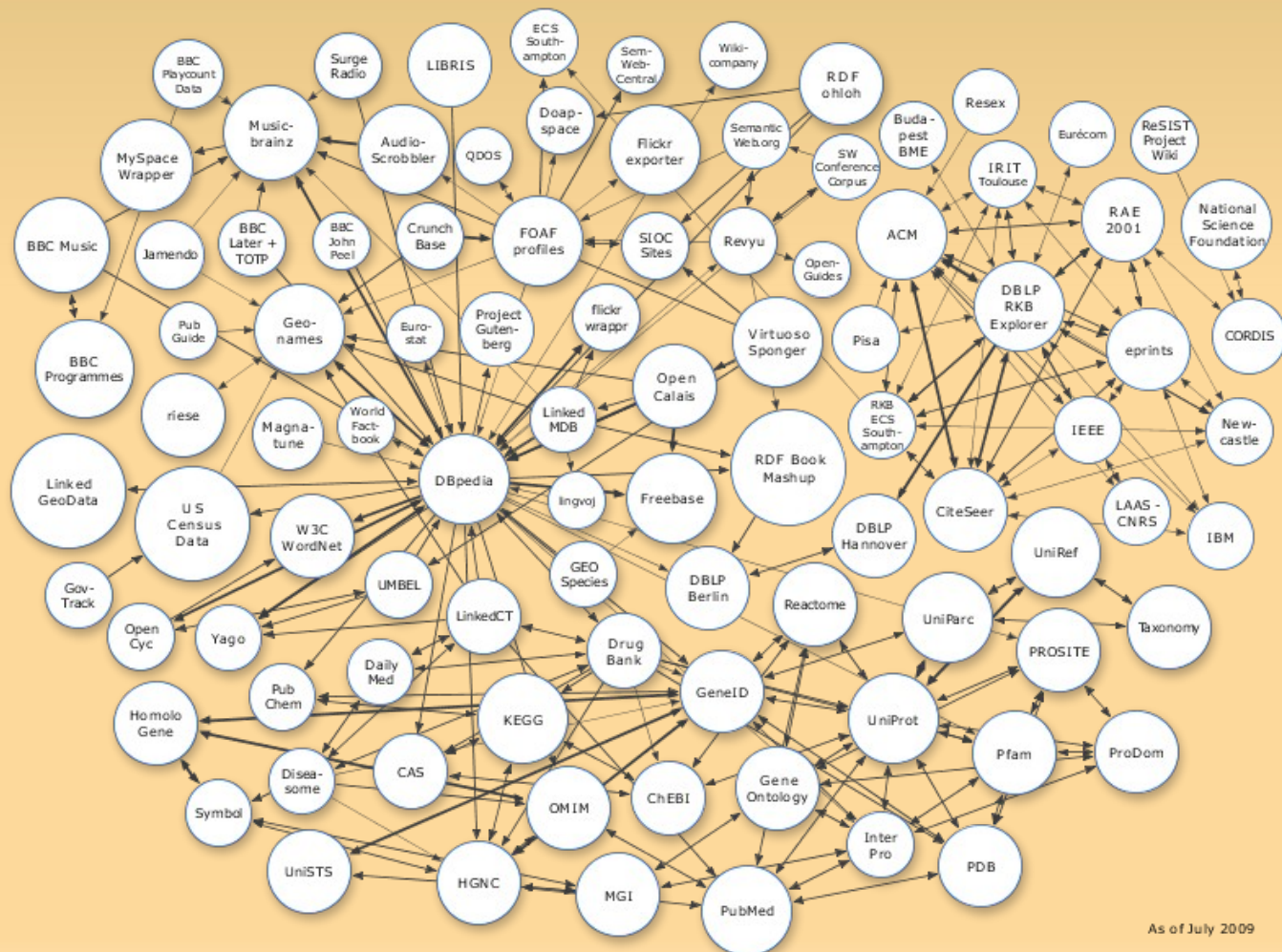
- Eg: simple semantic annotations of data provides easy integration (eg, with MusicBrainz, Wikipedia, geographic data sets, etc)
- What is needed: some simple vocabularies, simple annotation
  - annotation can be generated by a server automatically, or
  - added by the user via some user interface
- This extra data can be in some microformats, in RDFa, ...

# To “seed” a Web of Data...

- Data has to be published, ready for integration
- And this is now happening!
  - Linked Open Data project
  - eGovernmental initiatives in, eg, UK, USA, France,...
  - Various institutions publishing their data

# Linking Open Data Project

- Goal: “expose” open datasets in RDF
- Set *RDF links among the data items* from different datasets
- Set up SPARQL endpoints
- Billions triples, millions of “links”



As of July 2009

# Example data source: DBpedia

- **DBpedia** is a community effort to
  - extract structured (“infobox”) information from Wikipedia
  - provide a SPARQL endpoint to the dataset
  - interlink the DBpedia dataset with other datasets on the Web



UNIVERSITÄT LEIPZIG





# Extracting structured data from Wikipedia

17

Amsterdam	
	
The Keizersgracht at dusk	
Location of Amsterdam	
Coordinates:  <span><span><span><span>52°22′23″N</span> <span>4°53′32″E</span></span></span></span>	
Country	Netherlands
Province	North Holland
Government	
<span> </span> - <span> </span> Type	Municipality
<span> </span> - <span> </span> Mayor	Job Cohen <sup>[1]</sup> (PvdA)
<span> </span> - <span> </span> Aldermen	Lodewijk Asscher Carolien Gehrels Tjeerd Herrema Maarten van Poelgeest Marijke Vos
<span> </span> - <span> </span> Secretary	Erik Gerritsen
Area <sup>[2][3]</sup>	
<span> </span> - <span> </span> City	219 <span> </span> km <sup>2</sup> (84.6 <span> </span> sq <span> </span> mi)
<span> </span> - <span> </span> Land	166 <span> </span> km <sup>2</sup> (64.1 <span> </span> sq <span> </span> mi)
<span> </span> - <span> </span> Water	53 <span> </span> km <sup>2</sup> (20.5 <span> </span> sq <span> </span> mi)
<span> </span> - <span> </span> Urban	1,003 <span> </span> km <sup>2</sup> (387.3 <span> </span> sq <span> </span> mi)
<span> </span> - <span> </span> Metro	1,815 <span> </span> km <sup>2</sup> (700.8 <span> </span> sq <span> </span> mi)
Elevation <sup>[4]</sup>	2 <span> </span> m (7 <span> </span> ft)
Population <span>(1 October 2008)</span> <sup>[5][6]</sup>	
<span> </span> - <span> </span> City	765,269
<span> </span> - <span> </span> Density	4,459/km <sup>2</sup> (11,548.8/sq <span> </span> mi)
<span> </span> - <span> </span> Urban	1,364,422
<span> </span> - <span> </span> Metro	2,158,372
<span> </span> - <span> </span> Demonym	Amsterdammer
Time zone	CET (UTC+1)
<span> </span> - <span> </span> Summer (DST)	CEST (UTC+2)
Postcodes	1011 – 1109
Area code(s)	020
Website: <a href="http://www.amsterdam.nl">www.amsterdam.nl</a> 	

```
@prefix dbpedia <http://dbpedia.org/resource/>.
@prefix dbterm  <http://dbpedia.org/property/>.
```

```
dbpedia:Amsterdam
```

```
dbterm:officialName "Amsterdam" ;
```

```
dbterm:longd "4" ;
```

```
...
```

```
dbterm:leaderName dbpedia:Job_Cohen ;
```

```
...
```

```
dbterm:areaTotalKm "219" ;
```

```
...
```

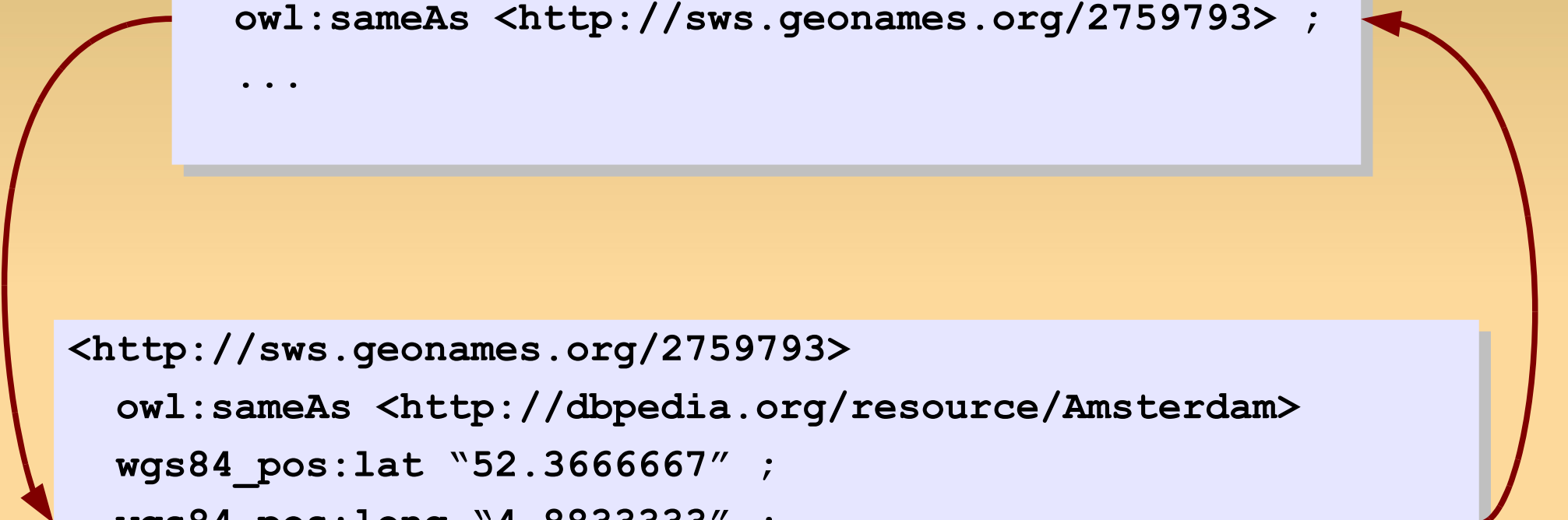
```
dbpedia:ABN_AMRO
```

```
dbterm:location dbpedia:Amsterdam ;
```

```
...
```

# Automatic links among open datasets

```
<http://dbpedia.org/resource/Amsterdam>  
  owl:sameAs <http://rdf.freebase.com/ns/...> ;  
  owl:sameAs <http://sws.geonames.org/2759793> ;  
  ...
```

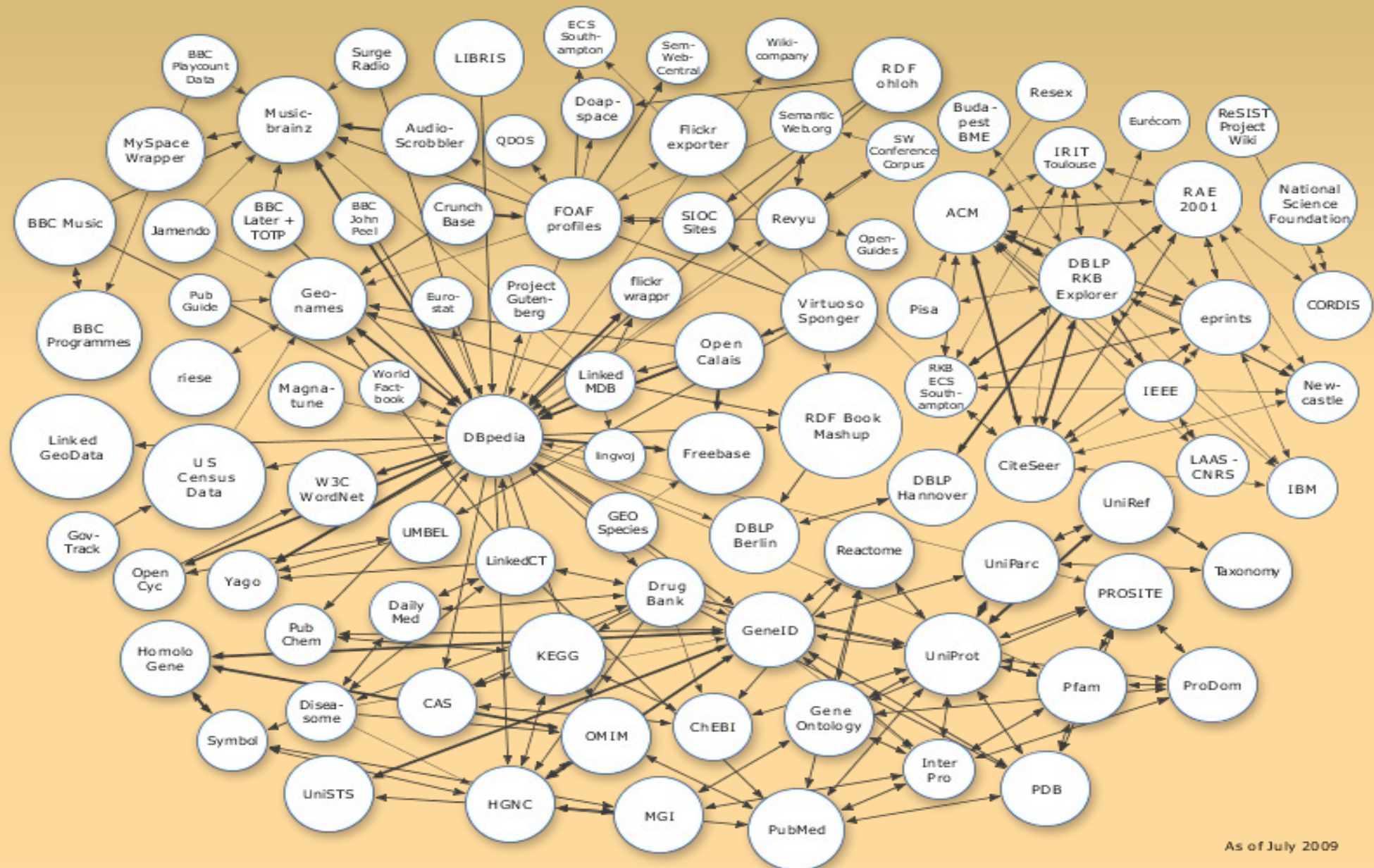


```
<http://sws.geonames.org/2759793>  
  owl:sameAs <http://dbpedia.org/resource/Amsterdam>  
  wgs84_pos:lat "52.3666667" ;  
  wgs84_pos:long "4.8833333" ;  
  geo:inCountry <http://www.geonames.org/countries/#NL> ;  
  ...
```

Processors can switch automatically from one to the other...

# Linking Open Data Project (cont)

19

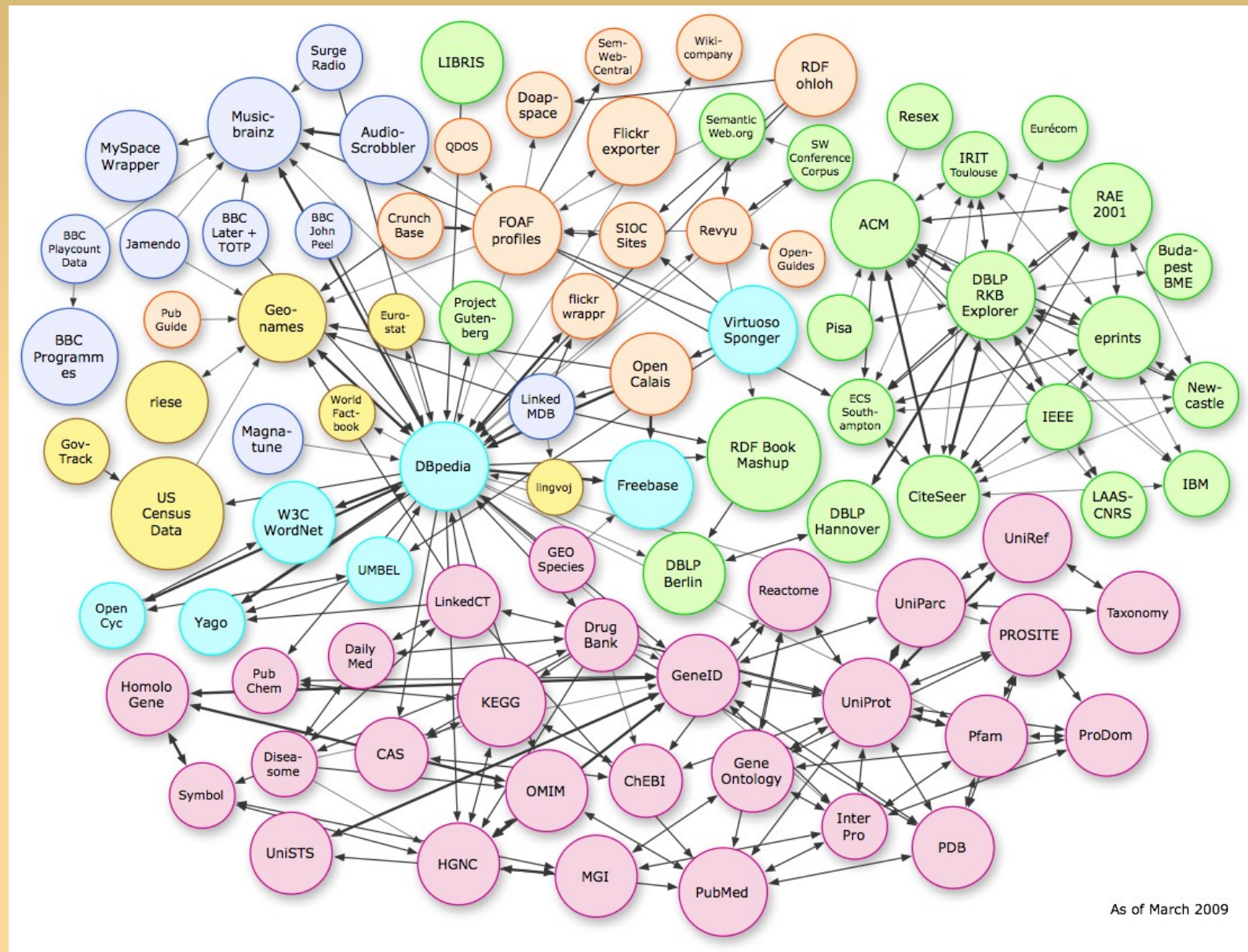


As of July 2009

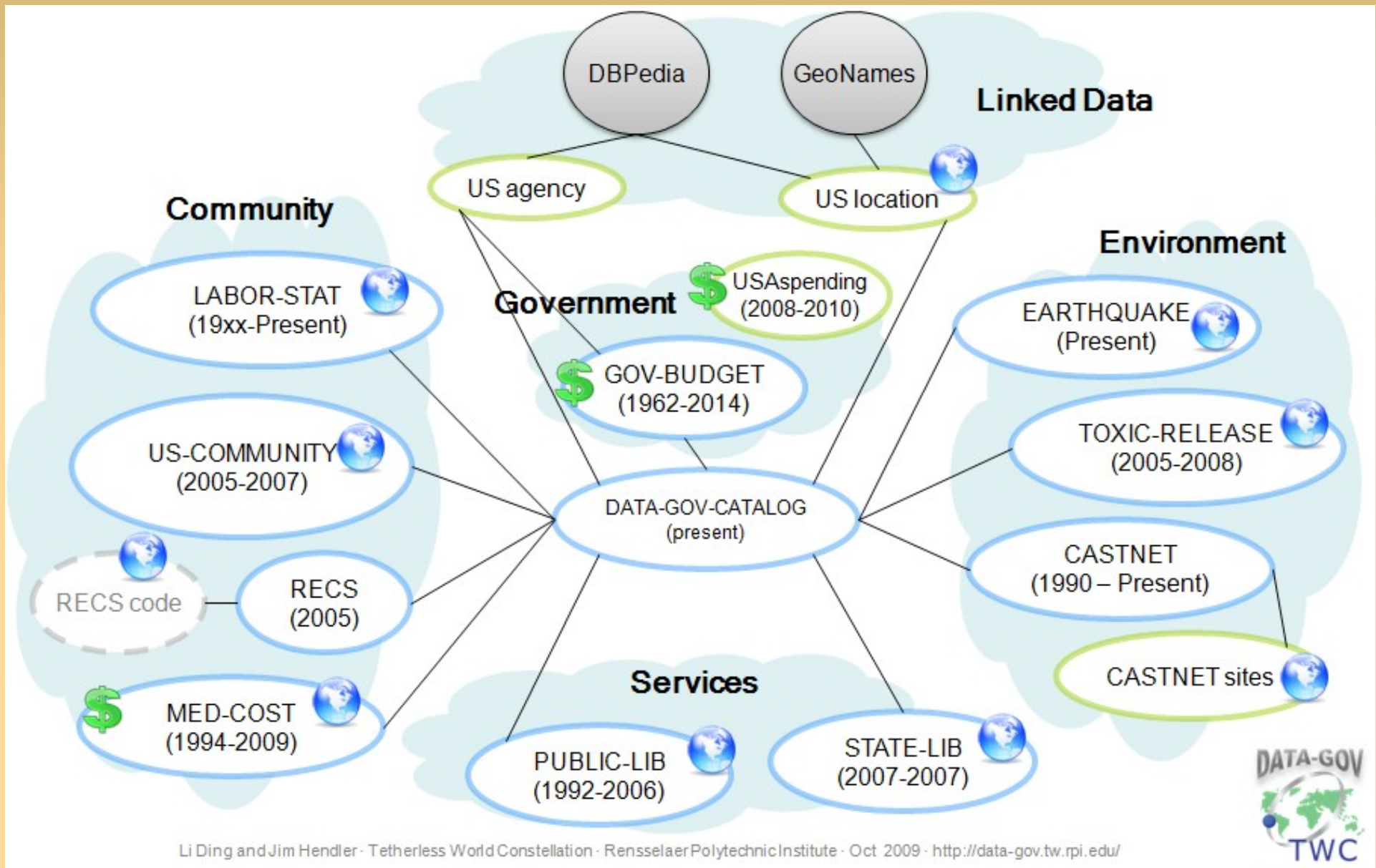


# Linking Open Data Project (cont)

20



# Linked Open eGov Data





# Publication of data (with RDFa): London Gazette

22

The screenshot shows the London Gazette website in a Mozilla Firefox browser window. The address bar displays the URL: <http://www.gazettes-online.co.uk/ViewGazetteDocument.aspx?atdocid=5437822&Ge>. The page features a sidebar on the left with the London Gazette logo and navigation links: Home, About the Gazette, Browse, Search Tools, My Account, My Notices, Services, Placing a Notice, and Help. The main content area is titled "Search Results" and shows "Results 0 of 14 gazette documents". A "Back to results" button is visible. Below this, document details are listed: Date: 31 October 2008, Issue Number: 58870, Page number: 16858, Publication Date: Friday, 31 October 2008, Notice Code: 1901, Water Resources, and Environment Agency. A red circle highlights the RDFa icon in the browser's status bar at the bottom right.

# Publication of data (with RDFa): London Gazette

http://www.w3.org/2007/08/pyRdfa/extract?uri=http://www.gazettes-online.co.uk/ViewGazetteDocument.aspx?atdocid=5437822&GeoType=London&categorydocids=144&lastissuecount=10

GeoType=London&categorydocids=144&lastissuecount=10

http://www.gazettes-online.co.uk/ViewGazetteDocument.aspx?atdocid=5437822&GeoType=London&categorydocids=144&lastissuecount=10  
London Gazette: Issue dated 31 October 2008: Notice 650554

stylesheet	http://www.gazettes-online.co.uk/Styles/gazettes.css
Creator	TSO (The Stationery Office)
Identifier	http://www.london-gazette.co.uk/issues/2008-10-31/notices/650554
Language	Member Of ISO 639-2 value eng
Publisher	TSO (The Stationery Office), St Crispins, Duke Street, Norwich, NR3 1PD, 01603 622211, customer.services@tso.co.uk
Subject	Member Of IPSV value Water Resources
Title	London Gazette: Issue dated 31 October 2008: Notice 650554
Date Issued	2008-10-31
Date Modified	2008-08-20
Administrator	Grant Wilson
Authority	Environment Agency
Category Code	1901
Notice Number	650554
Publication Date	2008-10-31
is In Issue	http://www.london-gazette.co.uk/issues/2008-10-31
type	Water Resources Notice
Issue Number	58870
Publication Date	2008-10-31
is Known As	Environment Agency
type	Authority Public Institution
Forename	Grant
Surname	Wilson
type	Person

Done

# Publication of data (with RDFa & SKOS): Library of Congress Subject Headings

The screenshot shows a Mozilla Firefox browser window with the title "Authorities & Vocabularies (Library of Congress): Semantic Web". The address bar displays the URL <http://id.loc.gov/authorities/sh2002000569>. The page header includes the Library of Congress logo and navigation links: "ASK A LIBRARIAN", "DIGITAL COLLECTIONS", and "LIBRARY CATALOGS". A breadcrumb trail reads "The Library of Congress > Authorities & Vocabularies > Semantic Web".

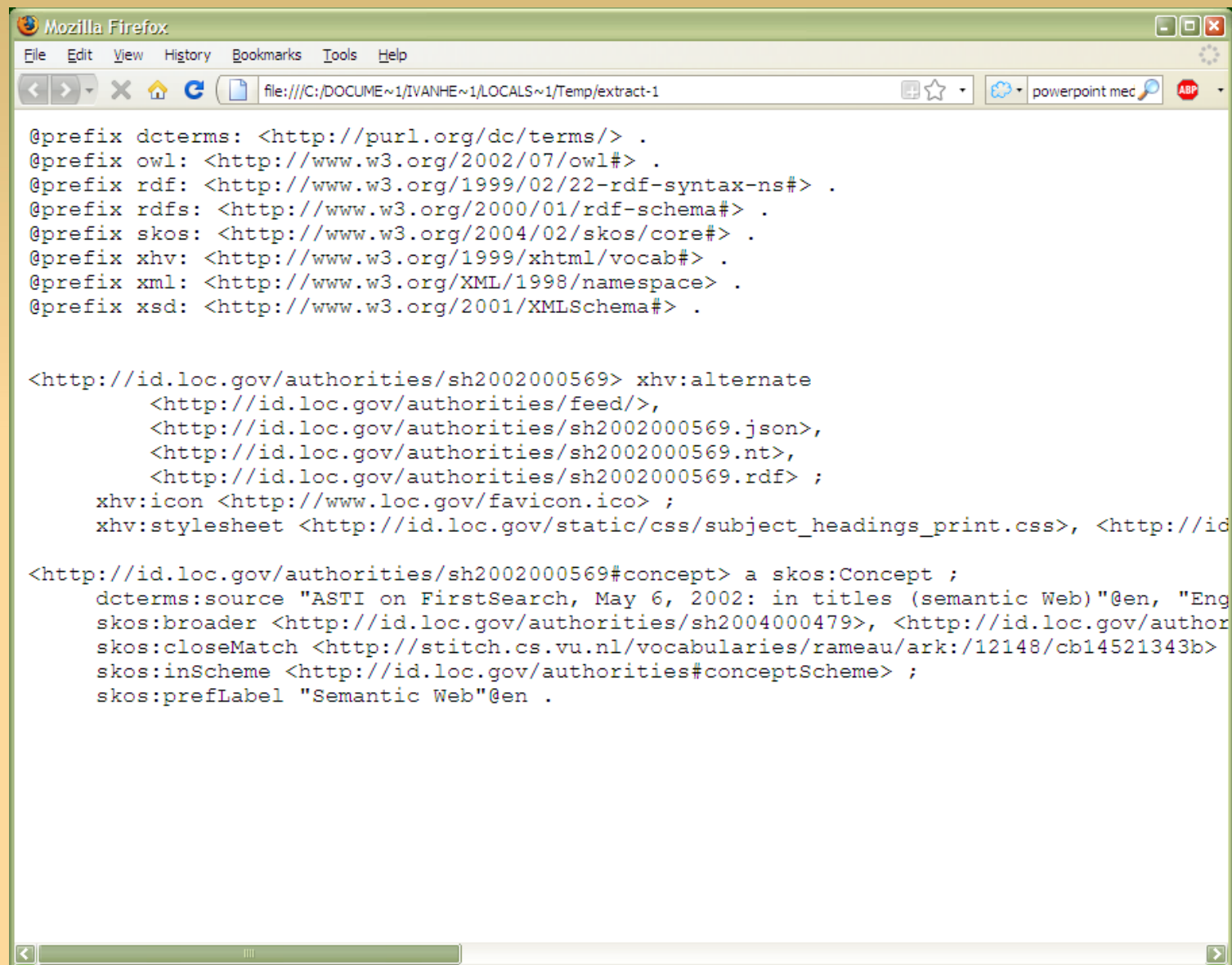
The main content area is titled "Authorities & Vocabularies" and includes a "Return" link with a left arrow icon. Below this is a "Search" section with a text input field labeled "Enter search terms..." and a "GO" button.

Two tabs are visible: "Details" (selected) and "Visualize". The "Details" tab displays the following information:

- Semantic Web**
- URI:** `<http://id.loc.gov/authorities/sh2002000569#concept>`
- Type:** Topical Term
- Broader Terms:**
  - Semantic integration (Computer systems)
  - Semantic networks (Information theory)
  - World Wide Web
- Sources:**
  - Work cat.: 2002070545: The Semantic Web--ISWC 20002, 2002.
  - ASTra FirstSearch, May 6, 2002: in title (semantic Web)



# Publication of data (with RDFa & SKOS): Library of Congress Subject Headings<sup>25</sup>



```
@prefix dcterms: <http://purl.org/dc/terms/> .
@prefix owl: <http://www.w3.org/2002/07/owl#> .
@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> .
@prefix rdfs: <http://www.w3.org/2000/01/rdf-schema#> .
@prefix skos: <http://www.w3.org/2004/02/skos/core#> .
@prefix xhv: <http://www.w3.org/1999/xhtml/vocab#> .
@prefix xml: <http://www.w3.org/XML/1998/namespace> .
@prefix xsd: <http://www.w3.org/2001/XMLSchema#> .

<http://id.loc.gov/authorities/sh2002000569> xhv:alternate
    <http://id.loc.gov/authorities/feed/>,
    <http://id.loc.gov/authorities/sh2002000569.json>,
    <http://id.loc.gov/authorities/sh2002000569.nt>,
    <http://id.loc.gov/authorities/sh2002000569.rdf> ;
xhv:icon <http://www.loc.gov/favicon.ico> ;
xhv:stylesheet <http://id.loc.gov/static/css/subject_headings_print.css>, <http://id

<http://id.loc.gov/authorities/sh2002000569#concept> a skos:Concept ;
dcterms:source "ASTI on FirstSearch, May 6, 2002: in titles (semantic Web)"@en, "Eng
skos:broader <http://id.loc.gov/authorities/sh2004000479>, <http://id.loc.gov/author
skos:closeMatch <http://stitch.cs.vu.nl/vocabularies/rameau/ark:/12148/cb14521343b>
skos:inScheme <http://id.loc.gov/authorities#conceptScheme> ;
skos:prefLabel "Semantic Web"@en .
```

# Publication of data (with RDFa & SKOS):<sup>26</sup> Economics Thesaurus

The screenshot shows a web browser window displaying the ZBW STW Thesaurus for Economics. The browser's address bar shows the URL <http://zbw.eu/stw/versions/8.04/descriptor/24859-1/about.en.html>. The page features the ZBW logo (German National Library of Economics) and a search bar. A left sidebar contains a navigation menu with links to Home, Alphabetical descriptor list, and a list of general descriptors (A, B, G, N, P, V, W). The main content area is titled 'Payment behaviour' and includes a German translation 'Zahlungsmoral (german)', a description 'used for: Payment behavior, Payment practices', and a list of related terms: Collection operations, Corporate liquidity, Insolvency, Legal compliance, Tax compliance, and Willingness to pay. Below this, it lists subject categories, specifically 'B.02 Corporate Finance and Investment Policy'. A persistent identifier (URI) is provided for bookmarking and linking: <http://zbw.eu/stw/descriptor/24859-1>. The footer contains version information (v 8.04, 2009-02-16), contact details for the thesaurus team, and a Creative Commons Attribution-Noncommercial-Share Alike 3.0 Germany license logo.

STW Thesaurus for Econo... x

Google

http://zbw.eu/stw/versions/8.04/descriptor/24859-1/about.en.html

VeriSign PIP Netvibes Twitter Facebook Zemanta Private accesses Twines Faviki SW RDFa it! Other bookmarks

ZBW  
German National Library  
of Economics

Deutsch

Home  
Alphabetical descriptor list

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

**Payment behaviour**

**Zahlungsmoral** (german)  
used for: Payment behavior, Payment practices

Related Terms

- Collection operations
- Corporate liquidity
- Insolvency
- Legal compliance
- Tax compliance
- Willingness to pay

Subject Categories

- B.02 Corporate Finance and Investment Policy

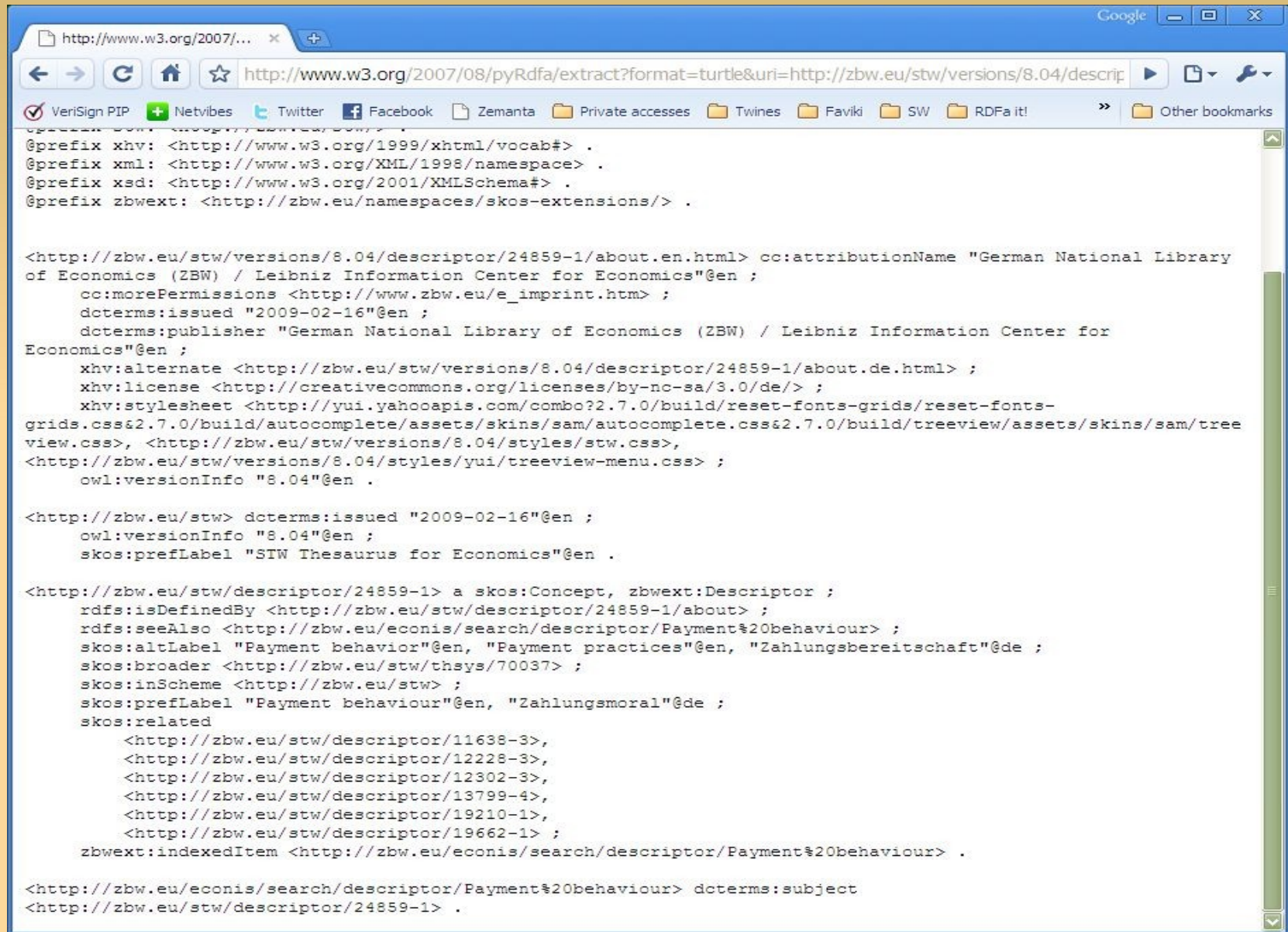
Persistent Identifier (for bookmarking and linking)

- <http://zbw.eu/stw/descriptor/24859-1>

STW Thesaurus for Economics (v 8.04, 2009-02-16) • Suggestions and comments to the thesaurus team  
German National Library of Economics (ZBW) / Leibniz Information Center for Economics - Imprint

The STW Thesaurus for Economics is licensed under a Creative Commons Attribution-Noncommercial-Share Alike 3.0 Germany License. Permissions beyond the scope of this license are available at ZBW.

# Publication of data (with RDFa & SKOS): Economics Thesaurus<sup>27</sup>



The screenshot shows a web browser window with the address bar displaying `http://www.w3.org/2007/08/pyRdfa/extract?format=turtle&uri=http://zbw.eu/stw/versions/8.04/descrip`. The browser's bookmark bar includes entries like VeriSign PIP, Netvibes, Twitter, Facebook, Zemanta, Private accesses, Twines, Faviki, SW, RDFa it!, and Other bookmarks. The main content area displays an RDFa extract in Turtle syntax. The extract includes namespace declarations for `xhv`, `xml`, `xsd`, and `zbwext`. It describes the German National Library of Economics (ZBW) / Leibniz Information Center for Economics, including its URI, license, and version information. It also defines a `skos:Concept` for `Payment behavior`, with related concepts like `Zahlungsbereitschaft` and `Zahlungsmoral`.

```
@prefix xhv: <http://www.w3.org/1999/xhtml/vocab#> .
@prefix xml: <http://www.w3.org/XML/1998/namespace> .
@prefix xsd: <http://www.w3.org/2001/XMLSchema#> .
@prefix zbwext: <http://zbw.eu/namespaces/skos-extensions/> .

<http://zbw.eu/stw/versions/8.04/descriptor/24859-1/about.en.html> cc:attributionName "German National Library
of Economics (ZBW) / Leibniz Information Center for Economics"@en ;
cc:morePermissions <http://www.zbw.eu/e_imprint.htm> ;
dcterms:issued "2009-02-16"@en ;
dcterms:publisher "German National Library of Economics (ZBW) / Leibniz Information Center for
Economics"@en ;
xhv:alternate <http://zbw.eu/stw/versions/8.04/descriptor/24859-1/about.de.html> ;
xhv:license <http://creativecommons.org/licenses/by-nc-sa/3.0/de/> ;
xhv:stylesheet <http://yui.yahooapis.com/combo?2.7.0/build/reset-fonts-grids/reset-fonts-
grids.css&2.7.0/build/autocomplete/assets/skins/sam/autocomplete.css&2.7.0/build/treeview/assets/skins/sam/tree
view.css>, <http://zbw.eu/stw/versions/8.04/styles/stw.css>,
<http://zbw.eu/stw/versions/8.04/styles/yui/treeview-menu.css> ;
owl:versionInfo "8.04"@en .

<http://zbw.eu/stw> dcterms:issued "2009-02-16"@en ;
owl:versionInfo "8.04"@en ;
skos:prefLabel "STW Thesaurus for Economics"@en .

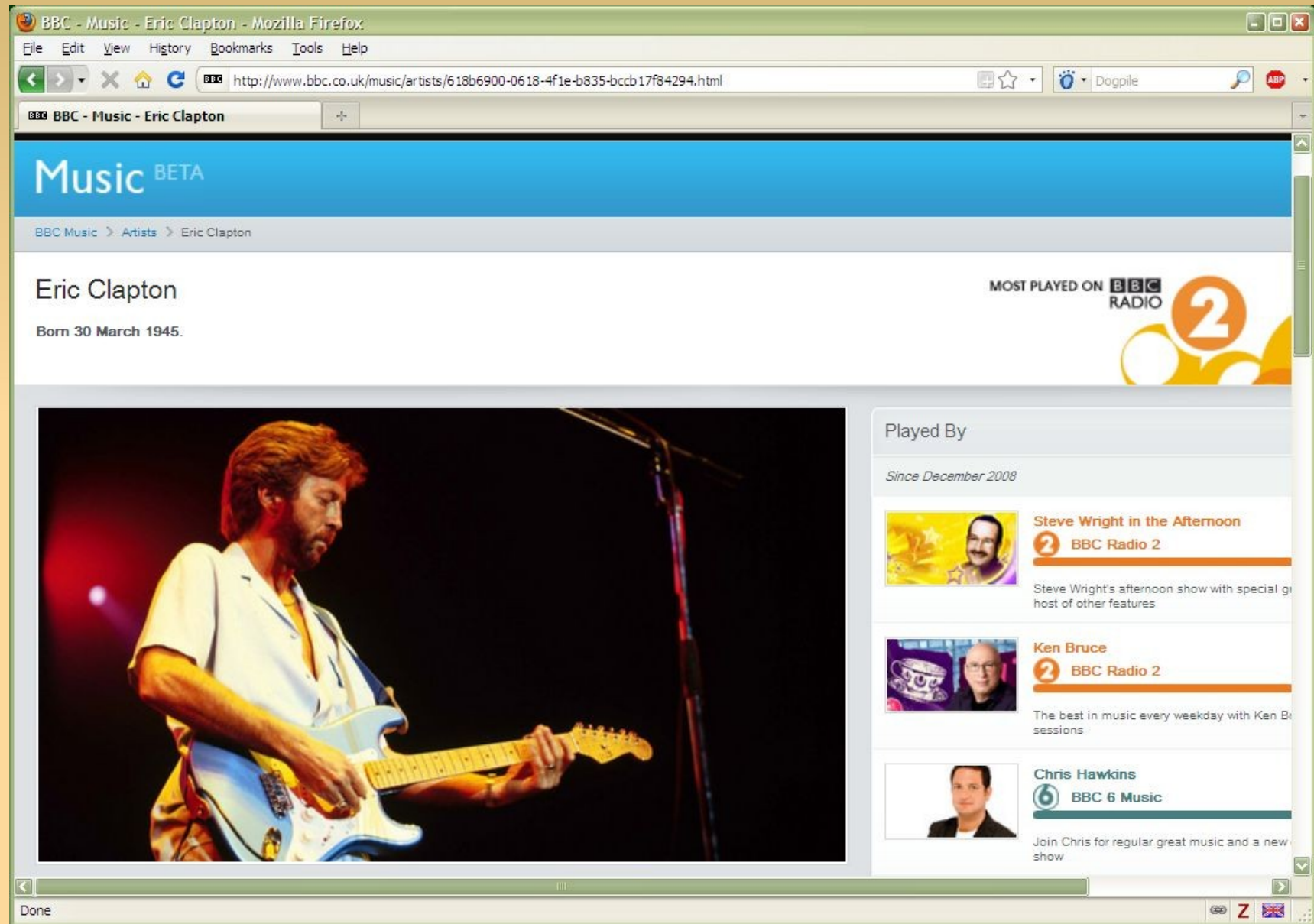
<http://zbw.eu/stw/descriptor/24859-1> a skos:Concept, zbwext:Descriptor ;
rdfs:isDefinedBy <http://zbw.eu/stw/descriptor/24859-1/about> ;
rdfs:seeAlso <http://zbw.eu/econis/search/descriptor/Payment%20behaviour> ;
skos:altLabel "Payment behavior"@en, "Payment practices"@en, "Zahlungsbereitschaft"@de ;
skos:broader <http://zbw.eu/stw/thsys/70037> ;
skos:inScheme <http://zbw.eu/stw> ;
skos:prefLabel "Payment behaviour"@en, "Zahlungsmoral"@de ;
skos:related
  <http://zbw.eu/stw/descriptor/11638-3>,
  <http://zbw.eu/stw/descriptor/12228-3>,
  <http://zbw.eu/stw/descriptor/12302-3>,
  <http://zbw.eu/stw/descriptor/13799-4>,
  <http://zbw.eu/stw/descriptor/19210-1>,
  <http://zbw.eu/stw/descriptor/19662-1> ;
zbwext:indexedItem <http://zbw.eu/econis/search/descriptor/Payment%20behaviour> .

<http://zbw.eu/econis/search/descriptor/Payment%20behaviour> dcterms:subject
<http://zbw.eu/stw/descriptor/24859-1> .
```

# Applications using this data come to the fore...



# Using the LOD to build Web site: BBC



# Using the LOD to build Web site: BBC

The screenshot shows the BBC Music website for Eric Clapton. The browser window is titled "BBC - Music - Eric Clapton - Mozilla Firefox". The address bar shows the URL: <http://www.bbc.co.uk/music/artists/618b6900-0618-4f1e-b835-bccb17f84294.html>. The page features a header with a quote and a small image of Eric Clapton. Below the header is a section titled "Credits" with a table listing roles, artists, and releases. To the right of the credits is a list of "Connected Artists" including Blind Faith, Cream, Derek and the Dominos, John Mayall & The Bluesbreakers, and The Yardbirds. At the bottom right is a section titled "Links" with various external links to Eric Clapton's official homepage, fanpage, Wikipedia article, MySpace, Last.fm, and MusicBrainz entry. Two red circles highlight the "Connected Artists" and "Links" sections.

**Credits**

ROLE	ARTIST	RELEASE
Instrument	<a href="#">George Harrison</a>	All Things Must Pass (1987)
Instrument	<a href="#">Roger Waters</a>	The Pros and Cons of Hitch Hiking (1984)
Performer	<a href="#">T.D.F.</a>	Retail Therapy

Credits comes from MusicBrainz. You can add or edit information about Eric Clapton at [musicbrainz.org](http://musicbrainz.org). Find out more about our use of this data.

**Connected Artists**

COLLABORATED ON

- [J.J. Cale & Eric Clapton](#)
- [Eric Clapton & The Immediate All Stars](#)
- [Eric Clapton & The Impressions](#)

Connected artists information comes from MusicBrainz. You can add or edit info at [musicbrainz.org](http://musicbrainz.org). Find out more about our use of this data.

**Links**

- [Official homepage at ericclapton.com](#)
- [Fanpage at whereseric.com](#)
- [Wikipedia article on Eric Clapton](#)
- [MySpace at mspace.com/ericclapton](#)
- [Last.fm page on Eric Clapton](#)
- [MusicBrainz entry on Eric Clapton](#)

# Using the LOD to build Web site: BBC

```

<mo:musicbrainz rdf:resource="http://musicbrainz.org/artist/618b6900-0618-4f1e-b835-bccb17f84294.html"/>
<foaf:homepage rdf:resource="http://www.ericclapton.com"/>
<mo:fanpage rdf:resource="http://www.whereseric.com"/>
<mo:wikipedia rdf:resource="http://en.wikipedia.org/wiki/Eric_Clapton"/>
<mo:myspace rdf:resource="http://www.myspace.com/ericclapton"/>
<mo:member_of rdf:resource="/music/artists/53fa91ca-a2b9-463d-b78e-daca9894082a#artist"/>
<mo:member_of rdf:resource="/music/artists/04cd0cfd-bfd1-4c36-bc38-95c35e2c045f#artist"/>
<mo:member_of rdf:resource="/music/artists/2155a81a-f0c6-417a-9b16-2f86f98bb8bc#artist"/>
<mo:member_of rdf:resource="/music/artists/4756395c-57ed-4a63-afb2-01117f14dff6#artist"/>
<mo:member_of rdf:resource="/music/artists/191de76f-a224-445d-b041-54df16d65bf7#artist"/>
- <foaf:made>
- <mo:Record>
  <dc:title>Me and Mr. Johnson</dc:title>
  <mo:musicbrainz rdf:resource="http://musicbrainz.org/release/cf83ac25-374f-4cd4-9872-c6c00aaced92.html"/>
  <rev:hasReview rdf:resource="/music/reviews/5dqv#review"/>
</mo:Record>
</foaf:made>
- <foaf:made>
- <mo:Record>
  <dc:title>Martin Scorsese Presents the Blues: Eric Clapton</dc:title>
  <mo:musicbrainz rdf:resource="http://musicbrainz.org/release/a36c1d21-5669-44d6-969c-179fb6039359.html"/>
  <rev:hasReview rdf:resource="/music/reviews/6jxm#review"/>
</mo:Record>
</foaf:made>
</mo:MusicArtist>
<mo:MusicArtist rdf:about="/music/artists/53fa91ca-a2b9-463d-b78e-daca9894082a#artist">
  <foaf:name>Blind Faith</foaf:name>
</mo:MusicArtist>
- <mo:MusicArtist rdf:about="/music/artists/04cd0cfd-bfd1-4c36-bc38-95c35e2c045f#artist">
  <foaf:name>Cream</foaf:name>
</mo:MusicArtist>
- <mo:MusicArtist rdf:about="/music/artists/2155a81a-f0c6-417a-9b16-2f86f98bb8bc#artist">

```

# Using the LOD cloud on an iPhone

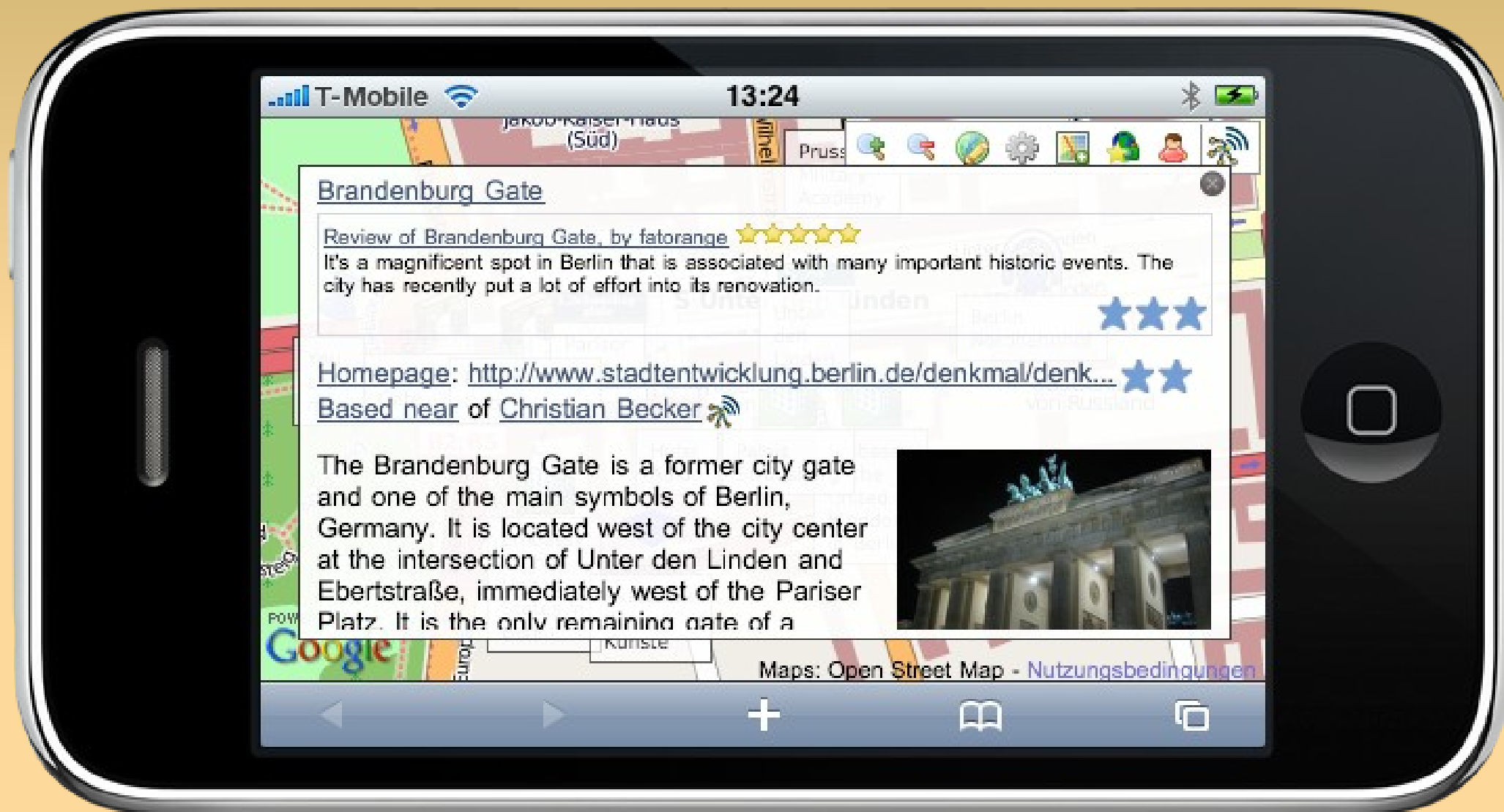
32





# Using the LOD cloud on an iPhone

33

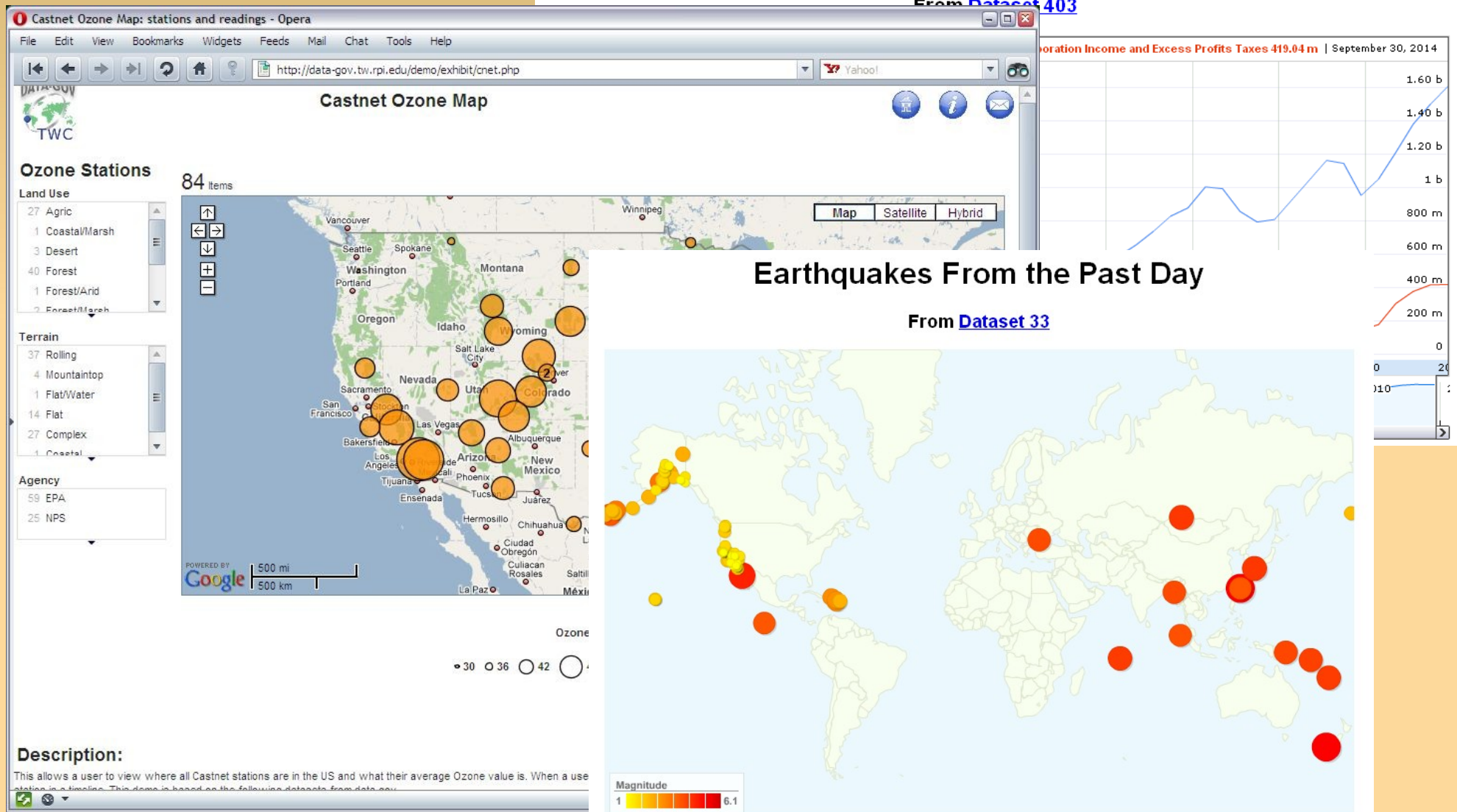




# You publish the raw data, we use it...

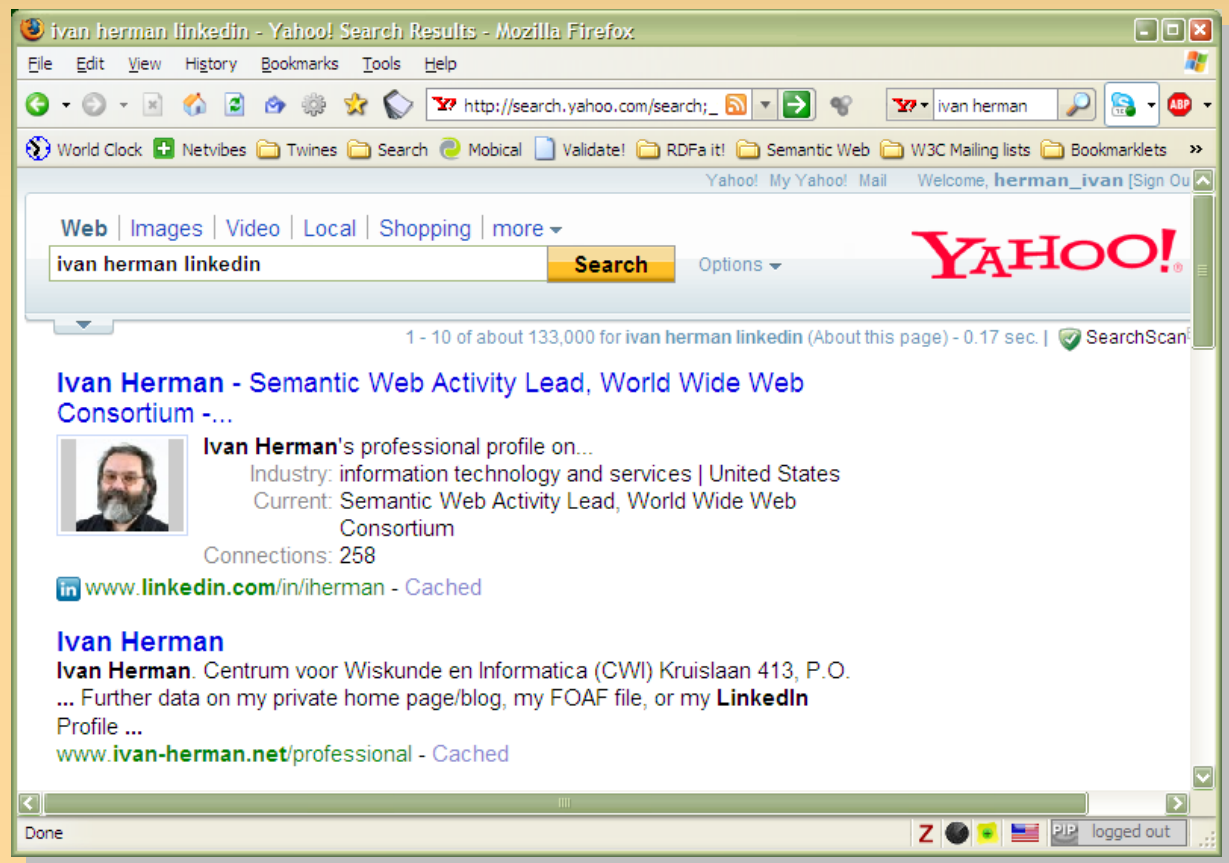
## Individual and Corporate Tax Receipts

From [Dataset 403](#)



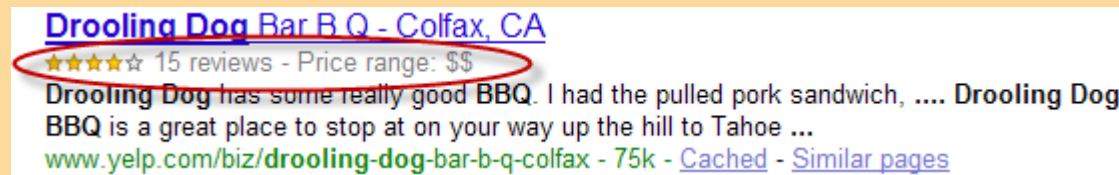
# Yahoo's SearchMonkey

- Search based results may be customized via small applications
- Metadata embedded in pages (in RDFa, eRDF, etc) are reused
- Publishers can export extra (RDF) data via other formats
  - Yahoo Boss also indexes these



# Google's rich snippet

- Embedded metadata (in microformat or RDFa) is used to improve search result page
  - at the moment only a few vocabularies are recognized, but that will evolve over the years

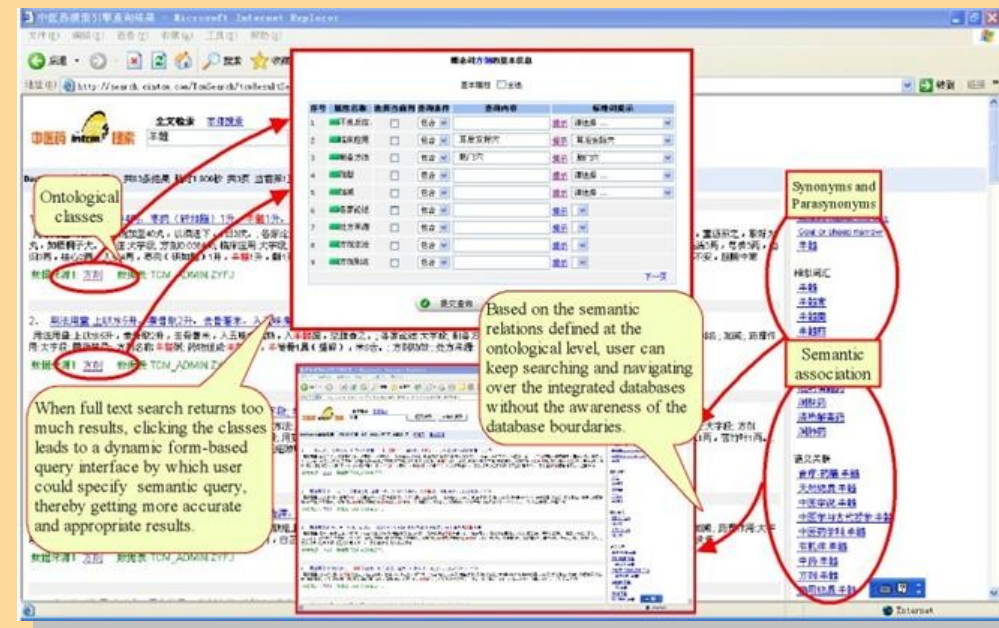
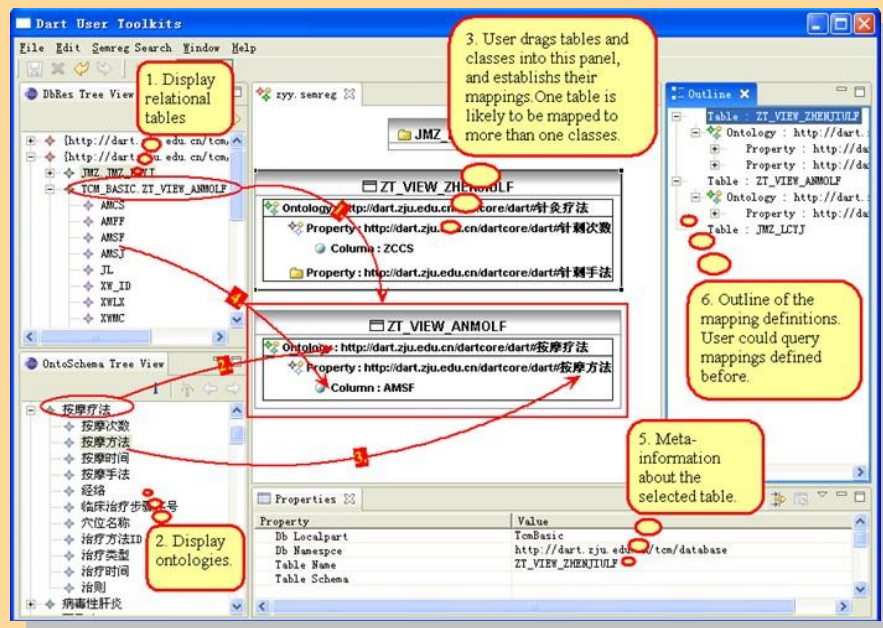


# Other applications examples...



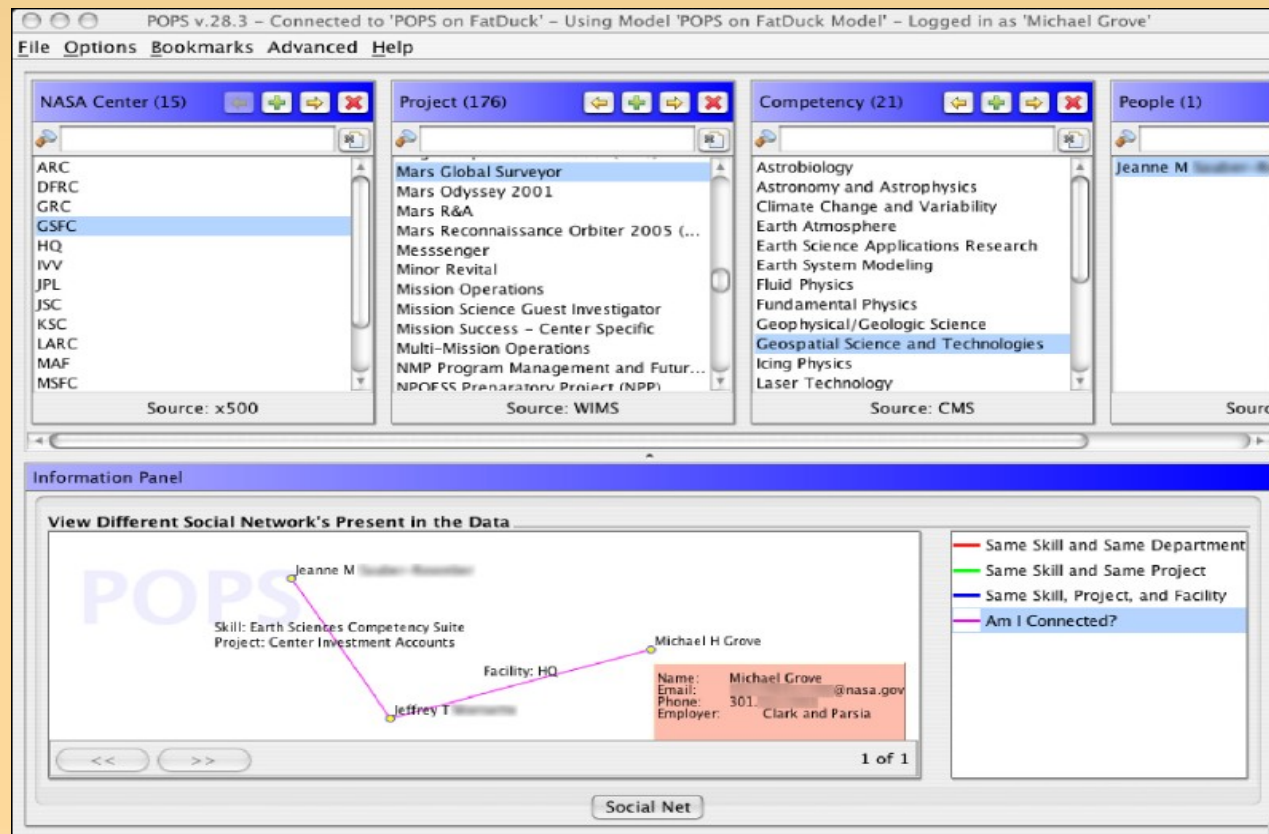
# Integrate knowledge for Chinese Medicine

- Integration of a large number of TCM databases
  - around 80 databases, around 200,000 records each
- A visual tools for the end users
  - mapping, query building



# Find the right experts at NASA

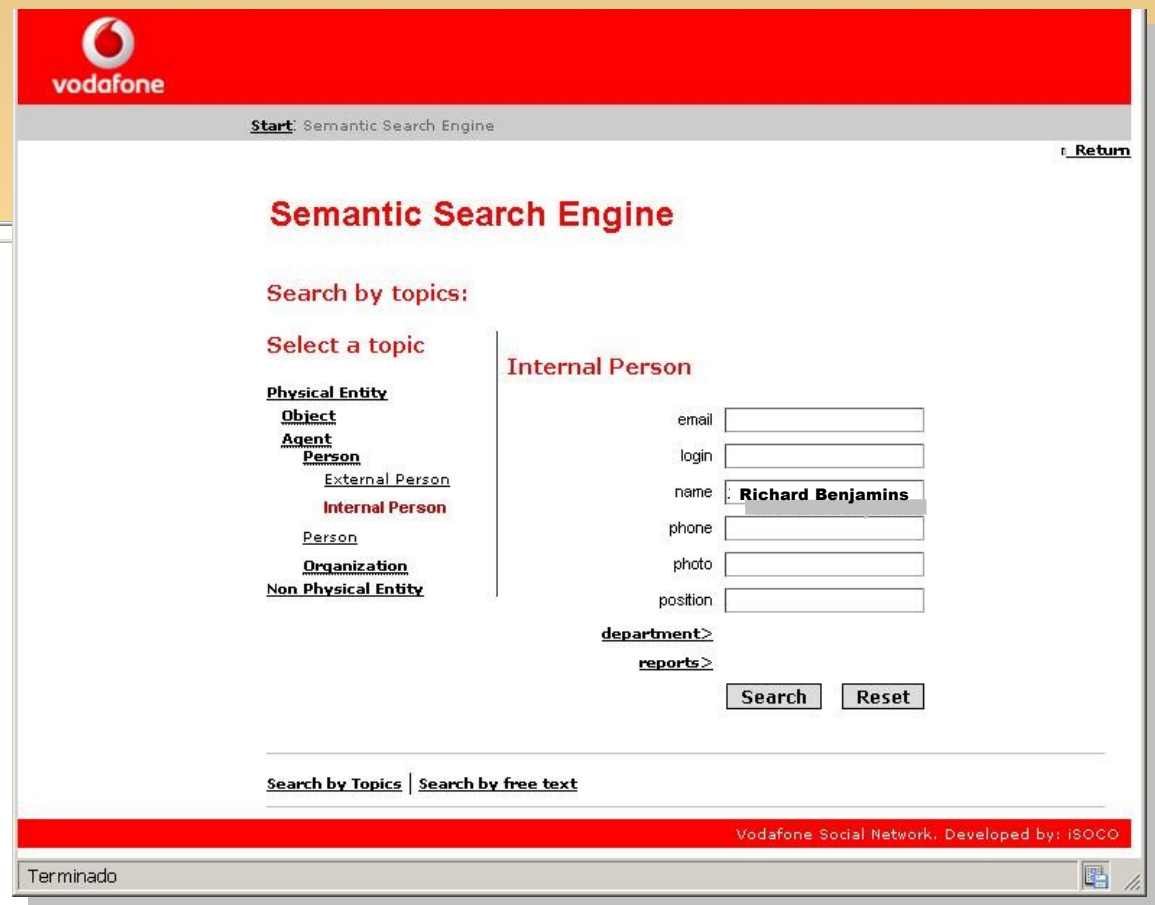
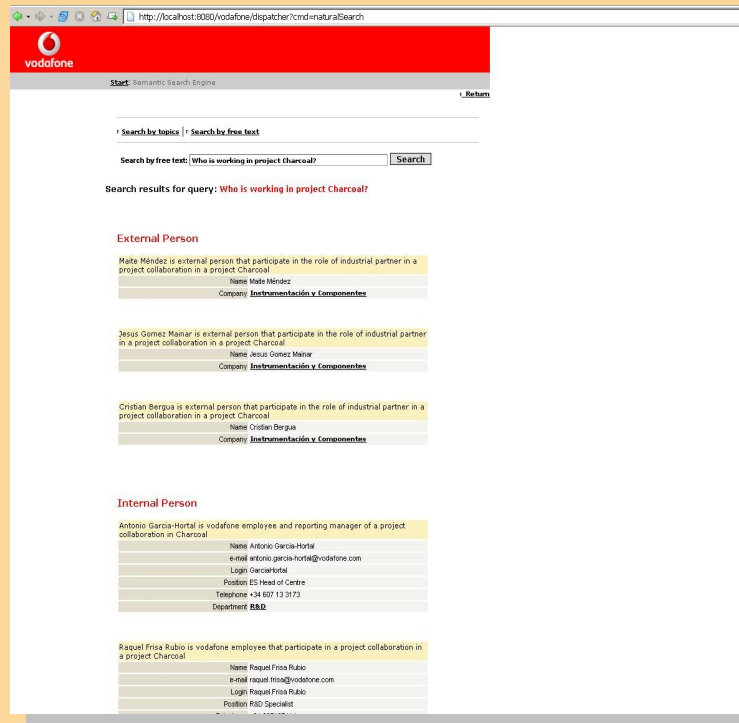
- Expertise locator for nearly 70,000 NASA civil servants
  - over 6 or 7 geographically distributed databases, data sources, and web services...





# Find the right experts at Vodafone

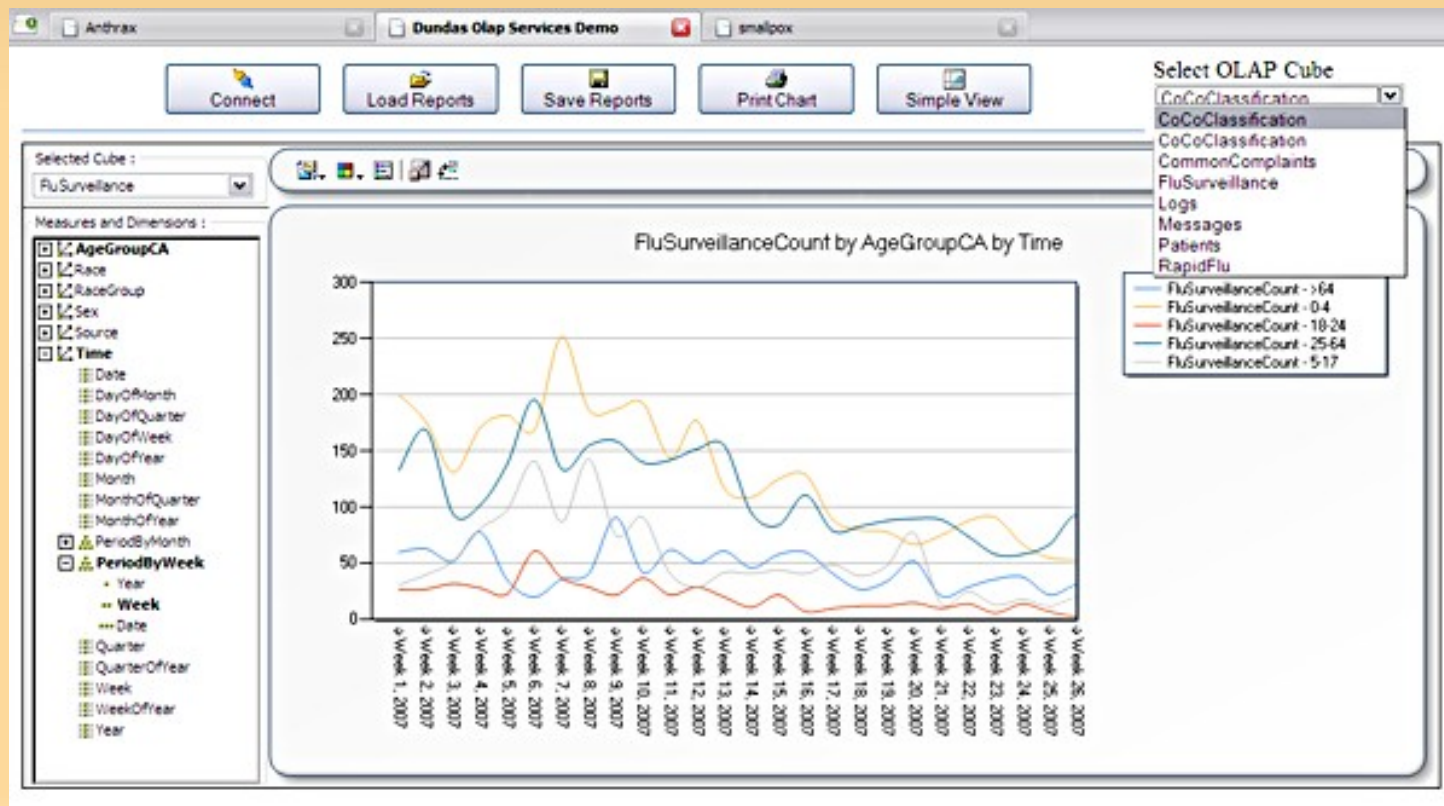
- Very similar to the NASA application, though with different technologies...



# Public health surveillance (Sapphire)

42

- Integrated biosurveillance system (biohazards, bioterrorism, disease control, etc)
- Integrates multiple data sources
  - new data can be added easily



# A frequent paradigm: intelligent portals

- “Portals” collecting data and presenting them to users
- They can be public or behind corporate firewalls  
Portal’s internal organization makes use of semantic data, ontologies
  - integration with external and internal data
  - better queries, often based on controlled vocabularies or ontologies...

# Help in choosing the right drug regimen

- Help in finding the best drug regimen for a specific case, per patient
- Integrate data from various sources (patients, physicians, Pharma, researchers, ontologies, etc)
- Data (eg, regulation, drugs) change often, but the tool is much more resistant against change

Optimized Regimens | Current Regimen | Survey Summary | Survey Set-up

PharmaSURVEYOR

PharmaSURVEY for Abby

Survey 1 | Version 2

Optimized | Differences | Ranges | Common | Severe | All | Custom

Current Regimen

Safety Optimized Profiles

Severity	Adverse Drug Effect	v2	1	2
ADE	Moderate Muscle Weakness (Nyasthenia)	✓		
ADE	Minor Excessive Sweating (Diaphoresis)	✓		
ADE	Moderate Heart Throbbing or Pounding (Palpitations)	✓		
ADE	Moderate Hives (Urticaria)	✓		
ADE	Major Bladder Inflammation (Cystitis)	✓		
ADE	Major Urinary Tract Infection	✓		

row(s) 1 - 6 of 6

Export to Excel



# Portal to aquatic resources

**AQUARING** Bringing European resources on the aquatic world to you

Home Search Tag cloud Map Exhibitions Video Join About

Language selected: User type selected: None

Select a topic: General Species Land Habitats Fishing areas Vessels Education

**Contents:**

- Jumping striped dolphin  
Acquario di Genova  
[ID: 136]
- three striped dolphins  
Acquario di Genova  
[ID: 138]
- bottlenose dolphin  
Acquario di Genova  
[ID: 139]
- bottlenose dolphin with puppy  
Acquario di Genova  
[ID: 140]
- Harbour Seal sound

**Related topics:**

You have selected: MAMMALIA

Select a topic:

ATL.ANTARCTC PHOCIDAE CETOLOGY **MARINE MAMMALS**

NW PACIFIC MEDITERRANEAN PHOCOENA PHOCOENA ANIMAL POPULATIONS

E INDIAN O. SE ATLANTIC PISCES LIGURIA PINNIPEDIA TEMPERATE

**MARINE HABITATS** WATERS HALICHOERUS GRYPUS NE ATLANTIC MARINE ENVIRONMENT

DELPHINIDAE BALTIC SEA

MYSTICETI PAC.ANTARCTC EC ATLANTIC MARINE ORGANISMS SPECIES

EXTINCTION NE PACIFIC AMPHIBIA, REPTILIA NW ATLANTIC EC

PACIFIC AQUATIC ANIMALS WWC ATLANTIC CAPTIVITY WWC PACIFIC

**Relations:**

MAMMALIA lies in ...

- ESTUARIES
- NE ATLANTIC
- SE ATLANTIC
- EC PACIFIC
- MEDITERRANEAN
- MARINE HABITATS

is studied by ...

- ECOLOGY
- CETOLOGY
- BIOACOUSTICS
- ETHOLOGY
- VERTEBRATE ZOOLOGY
- ENVIRONMENTAL

is affected by ...

- ORGANIC MATTER

# Help for deep sea drilling operations

- Integration of experience and data in the planning and operation of deep sea drilling processes

- Discover relevant experiences that could affect current or planned drilling operations

- uses an ontology backed search engine

The screenshot displays the AKSIO search interface. At the top, there is a search bar with the text "leak in barrier elements" and a search button. Below the search bar, the interface is divided into two main sections: "Search filters" and "Results 1 - 7 of 7".

**Search filters:**

- discipline:** (dropdown menu)
- operation:** (dropdown menu)
- equipment:** (dropdown menu)
- state:** (dropdown menu with checkboxes)
  - ☒ Corrosion (1)
  - ☒ Erosion (2)
  - ☒ Lack Of Maintenance (2)
  - ☒ Leak in barrier elements (5)
  - ☒ Scale Deposition (4)
  - ☒ Too High Mud Density (1)
  - ☒ Well Integrity Problem (7)
- keywords\_ref:** (dropdown menu)
- wellbore\_id\_ref:** (dropdown menu)
- field\_id:** (dropdown menu with checkboxes)
  - ☒ EXPLORATION (1)
  - ☒ GULLFAKS (1)
  - ☒ GULLFAKS SØR (1)
  - ☒ HEIDRUN (1)
  - ☒ HULDRA (1)
  - ☒ MIDGARD (2)
  - ☒ RIMFAKS (1)
  - ☒ SNORRE (1)
  - ☒ VISUND (2)

**Results 1 - 7 of 7:**

- Top plug/20" EZSY** 55% [annotate](#) [comment](#)

**Description:** Experience: In a "standard" OPR design, the upper cement plug would cover the 13 3/8" cut as well as...

EXPLORATION NO 6406/1-1 PA PLUGBACK/KICK-OFF

2007-06-12T07:05:58Z

Cementing Network Sementeringsnettverk Directional Drilling Network Directional Drilling Network Bronnintegritet Well Integrity

Casing Foringsør Deep set tubing plug Deep set tubing plug Liner top packer Liner top packer Mechanical tubular plugs Well Integrity Problem Well Integrity Problem
- RIH with drill stem teststring.** 50% [annotate](#) [comment](#)

**Description:** RIH with drill stem teststring. Took weight when entering 7" liner with test string. Worked same pss...

RIMFAKS NO 34/10-J-4 H DST DRILL STEM TEST

2007-06-12T07:05:58Z

Bronnintegritet Well Integrity

Snubbing Snubbing

Completion string component Completion string component Downhole tester valve Downhole tester valve Borestring Drilling Subsea production tree Subsea test tree Surface test tree Surface test tree Well test packer Well test string Well test string Well test string components

Erosion Erosion Lack Of Maintenance Lack Of Maintenance Leak in barrier elements Leak in barrier elements Well Integrity Problem Well Integrity Problem
- Flowing well.** 47% [annotate](#) [comment](#)

**Description:** The well was temporary handed back to production during changeover from slick line to 5/16" cable fo...

HEIDRUN NO 6507/7-A-20 WIREL Høli Trond OTHER

2007-06-12T07:05:58Z

Cementing Network Sementeringsnettverk Technical Sidetrack Tekniske Sidesteg Bronnintegritet Well Integrity

Snubbing safety head Snubbing safety head USD none return valve USD none return valve

Corrosion Corrosion Erosion Erosion Lack Of Maintenance Lack Of Maintenance Leak in barrier elements Leak in barrier elements Scale Deposition Scale Deposition Too High Mud Density Too high mud density Well Integrity Problem Well Integrity Problem
- Fill drop sub assy prior to making up packer for barrier assy to avoid possible trapped pressure.** 35% [annotate](#) [comment](#)

**Description:** Fill drop sub assy prior to making up packer for barrier assy to avoid possible trapped pressure...

HULDRA NO 30/2-A-6 8 1/2" Rodvelt Knut T/A PLUGS & MECH. PLUGS

2007-06-12T07:05:58Z

Cementing Network Sementeringsnettverk Bronnintegritet Well Integrity

Deep set tubing plug Deep set tubing plug

Leak in barrier elements Leak in barrier elements Scale Deposition Scale Deposition Well Integrity Problem Well Integrity Problem

# eTourism: provide personalized itinerary

47

The screenshot displays the Zaragoza Turismo website interface. At the top, there's a navigation bar with 'Zaragoza TURISMO' and a header with 'THE CITY COUNCIL', 'FOR PEOPLE', and 'THE CITY'. A sidebar on the left lists various services like 'Tourist Services', 'What to visit', 'Guided Visit', etc. The main content area is titled 'ITINERARY FOR 17/06/08' and includes a 'Proposed route' section. This section shows a list of tourist sites for the morning and afternoon, each with a time slot and a status (e.g., 'Basilica of the Pilar' at 10:10). A map of Zaragoza is shown at the bottom, with a highlighted route and a detailed view of the Basilica of the Pilar. The interface also includes a 'Back to Create' button and a 'Zaragoza street plan' section.

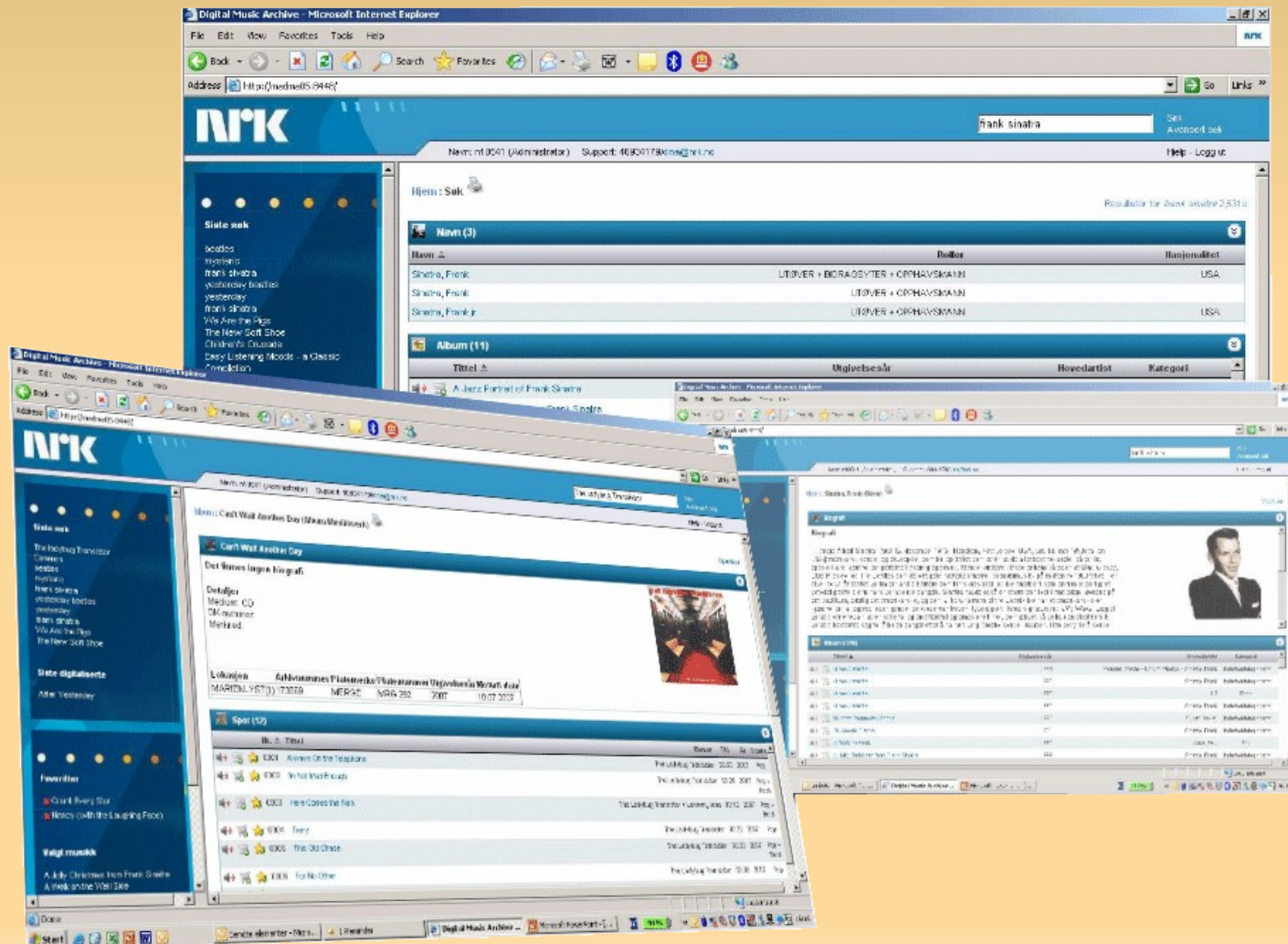
- Integration of relevant data in Zaragoza (using RDF and ontologies)
- Use rules on the RDF data to provide a proper itinerary



# Digital music asset portal at NRK

48

- Used by program production to find the right music in the archive for a specific show





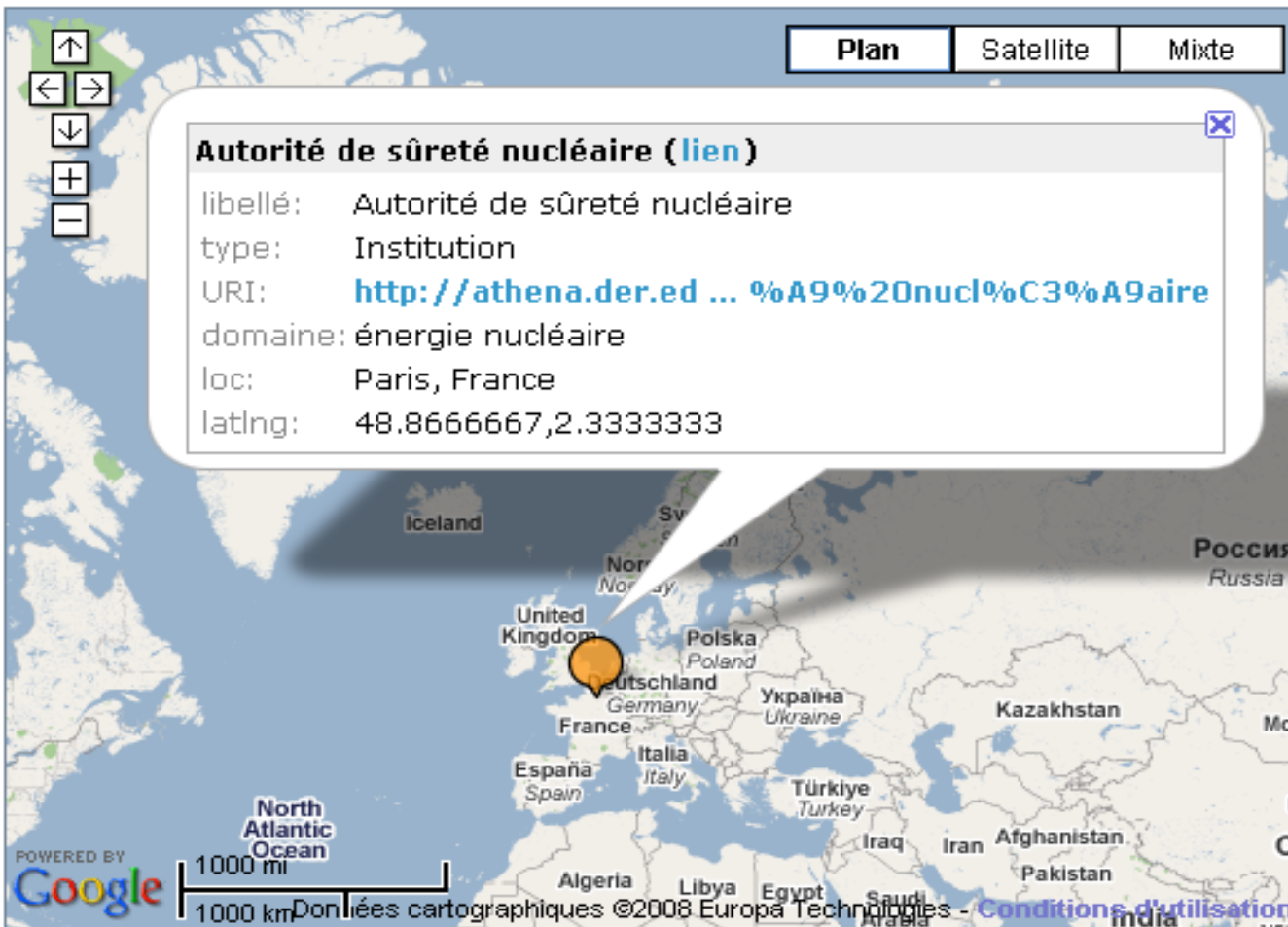
# Integration of “social” software data

- Internal usage of wikis, blogs, RSS, etc, at EDF
  - goal is to manage the flow of information better
- Items are integrated via
  - RDF as a unifying format
  - simple vocabularies like SIOC, FOAF, MOAT (all public)
  - internal data is *combined* with linked open data like Geonames
  - SPARQL is used for internal queries
- Details are hidden from end users (via plugins, extra layers, etc)

# Integration of “social” software data

BLOCS • **CARTE**

1 Institution filtrés sur un total de 173 items ([Réinitialiser tous les filtres](#))



**Autorité de sûreté nucléaire (lien)**

libellé: Autorité de sûreté nucléaire  
 type: Institution  
 URI: <http://athena.der.ed ... %A9%20nucl%C3%A9aire>  
 domaine: énergie nucléaire  
 loc: Paris, France  
 latlng: 48.8666667,2.3333333

**Type**

1	Type	1	<input checked="" type="checkbox"/>
2	Entreprise		<input type="checkbox"/>
1	Institution		<input checked="" type="checkbox"/>
1	Personne		<input type="checkbox"/>

**Domain**

1	Domain	1	<input checked="" type="checkbox"/>
	financières		<input type="checkbox"/>
1	Energie		<input type="checkbox"/>
1	énergie nucléaire		<input checked="" type="checkbox"/>
2	Protection de l'environnement		<input type="checkbox"/>

**Localisation**

1	Localisation	1	Paris, France
---	--------------	---	---------------

POWERED BY Google

1000 mi  
1000 km

Données cartographiques ©2008 Europa Technologies - [Conditions d'utilisation](#)

# Yahoo! portals

- “Back-end” is built using SW tools
  - common (RDF) data model for data, metadata, relationships,...
  - constraints expressed in OWL, Rules
  - uses public (DC, PRISM) and private vocabularies

The image displays two screenshots of Yahoo! portals side-by-side. The left screenshot shows the 'Yahoo! Kids' portal, featuring a green navigation bar with links to Games, Music, Movies, Ask Earl, Jokes, Sports, and Ecards. A large advertisement for 'Kermit and Fozzie Talk About The Muppet Show Season 3 DVD' is prominent. The right screenshot shows the 'Yahoo! Finance' portal, featuring a blue navigation bar with links to Home, Investing, News & Opinion, Personal Finance, My Portfolios, and Tech Ticker. It includes a 'Market Summary' section with a line graph for the Dow Jones index and a 'Top Stories' section with headlines about oil prices and retirement.

**Yahoo! Kids**

Kids HOME  
GAMES MUSIC MOVIES ASK EARL JOKES SPORTS ECARDS HORROR

EXTENDED AC FROM KUNG FU  
ONLY AT YAHOO! KIDS  
KERMIT AND FOZZIE TALK ABOUT THE MUPPET SHOW SEASON 3 DVD  
WATCH NOW!

**Yahoo! Finance**

Hi, herman\_ivan Sign Out Help

HOME INVESTING NEWS & OPINION PERSONAL FINANCE MY PORTFOLIOS TECH TICKER

GET QUOTES Finance Search

Mon, May 26, 2008, 8:34AM ET - U.S. Markets closed for Memorial Day.

Free Stock Symbol Lookup - Scottrade: Leading stock research

**MARKET SUMMARY**

	US	EUROPE	ASIA
Dow	12,479.63	-145.99	-1.16%

May 23, 3:59pm

12650  
12600  
12550  
12500  
12450

10am 12pm 2pm 4pm

Nasdaq 2,444.67 -19.91 -0.81%  
S&P 500 1,375.93 -18.42 -1.32%  
10 Yr Bond(%) 3.8310% -0.0900

View more indices  
View more bonds  
Customize summary

Weekly Recap - Week ending 23-May-08  
Entering the week the S&P 500 was up 13% from its low on March 17, which was the day of the orchestrated bailout of Bear Stearns. In May alone the market had...

**TOP STORIES** As of 56 minutes ago

**Oil prices rise to near \$133 a barrel** - AP  
Oil rose to near \$133 a barrel Monday in Asia on persistent worries about global petroleum supplies and the outlook for the U.S. dollar.

- Plenty of 'For Sale' signs but actual sales lagging - AP
- Investors will return from holiday with same fears - AP
- US official says credit crunch easing - AP
- UK's largest union to join United Steelworkers - AP

View more top stories

**FOCUS ON RETIREMENT** brought to you by Fidelity

**The Price of Keeping Your Nest Egg Safe**  
When the market gets rocky, you might be tempted to protect your principal in a money market or cash fund. But be sure to look before you leap...

More Retirement Stories...

**VIDEOS**

**Marcin on the Markets**  
Provided by: FOX

Credit Cards for Teens - Money Talks  
Technology - Netflix Player - NYTimes.com  
Tailor-made is back in fashion - CNN News

View all videos

**QUOTES**  
Recent Quotes My Portfolios

Your most recently viewed tickers will automatically show up here if you type a

logged out

Transferring data from us.i1.yimg.com...

W3C Semantic Web

# Improved Search via Ontology (GoPubMed)

- Search results are re-ranked using ontologies
- Related terms are highlighted, usable for further search

The screenshot shows the GoPubMed website interface. On the left, a sidebar titled 'what' contains a tree of categories. The 'Diseases' category is expanded, and a red oval highlights the following items: Tinnitus [959], Hearing Loss [424], Vertigo [170], and Hearing Loss, Sensorineural [165]. The main content area shows search results for the query 'tinnitus', which has returned 1,000 articles. The top result is '5: Pros and cons of tinnitus retraining therapy.' by Hatanaka A et al., with PMID 18368566. The text of the article snippet highlights 'tinnitus' and 'Tinnitus Handicap Inventory (THI)'. Below it is '1: Gabapentin effectiveness on the sensation of subjective idiopathic tinnitus : a pilot study.' by Bakhshaei M et al., with PMID 17960408. The snippet highlights 'tinnitus' and 'laboratory test'. The third result is '3: Algorithm for evaluation of pulsatile tinnitus.' by Mattox DE et al., with PMID 18368578. The snippet highlights 'tinnitus' and 'sigmoid sinus diverticulum'. The fourth result is '4: Functional imaging of unilateral tinnitus using fMRI.' by Lanting CP et al., with PMID 18368576. The snippet highlights 'tinnitus' and 'inferior colliculus'. A blue arrow points from the 'tinnitus' term in the first article snippet to the 'tinnitus' term in the search bar.



# Improved Search via Ontology (Go3R)

53

- Same dataset, different ontology
  - (ontology is on non-animal experimentation)

The screenshot displays the Go3R web application interface within a Mozilla Firefox browser window. The interface is divided into two main sections: a left sidebar and a main content area.

**Left Sidebar (what):**

- 3R Relevance Filters (Beta)**
  - Top categories**
    - Diseases & Symptoms [601]
      - Tinnitus [547]
      - Hearing Loss [248]
      - Vertigo [98]
      - Disease [118]
      - Hearing Loss, Sensorineural [95]
    - more
    - Methodology [408]
    - Life Sciences [503]
    - Body Systems & Structures [401]
    - Bioethics [102]
    - Reduction [90]
    - more
    - Statistics [125]
    - Substances, Preparations & Products [277]
    - Biological Material & Organisms for Animal U
    - Method Specification [36]
    - Animal Species [40]
    - Product Properties & Effects [62]
    - Product Testing & Assessment [20]
    - 3Rs Methods in the Life Sciences [6]
    - Animal Experiment [6]
    - 3Rs Relevant [5]
    - In Vitro Experimental Design [20]
    - In Vivo Experimental Design [5]
    - Animal Condition, Physiological or Psycholog
    - Animal Care & Handling [3]
    - Toxic Actions of Substances [7]
    - Unclassified [390]
  - Find related categories ...
  - My last 5 queries
  - Clipboard [0]

**Main Content Area:**

- Search bar:  [find it!](#) [i](#)
- Results: **1,000 articles**
- Summary: differences ( $P > 0.05$ ).
- Article list:
  - 2: Microvascular decompression of cochleovestibular nerve.** PMID: 18389269 Related Articles  
Yap L et al., Eur Arch Otorhinolaryngol., 2008  
This report provides a review of all the published studies on MVD of the eighth (8th) nerve in alleviating cochleovestibular symptoms and presents three additional patients who underwent MVD of the eighth nerve for tinnitus or vertigo.
  - 3: Algorithm for evaluation of pulsatile tinnitus.** PMID: 18368578 Related Articles  
Mattox DE et al., Acta Otolaryngol, 128 (4): 427-31, 2008  
Among patients with arterial tinnitus, carotid atherosclerotic disease was the most common.
  - 4: Functional imaging of unilateral tinnitus using fMRI.** PMID: 18368576 Related Articles  
Lanting CP et al., Acta Otolaryngol, 128 (4): 415-21, 2008  
This article shows that the inferior colliculus plays a key role in unilateral subjective tinnitus.
  - 5: Pros and cons of tinnitus retraining therapy.** PMID: 18368566 Related Articles  
Hatanaka A et al., Acta Otolaryngol, 128 (4): 365-8, 2008  
A significant reduction in the Tinnitus Handicap Inventory (THI) was obtained as early as 1 month after implementation of tinnitus retraining therapy (TRT).
  - 6: Mass casualty incident management, triage, injury distribution of casualties and**



# Same problem, different solution...

54

How do I use Anatomy Lens? [BASIC](#) [ADVANCED](#) Best viewed in Firefox at 1280 x 1024

## ANATOMY LENS: Semantic Search Over PubMed

**PUBMED SEMANTIC QUERY**

Search Stop Clear All

**Specify Medical Subject Heading(s) (MeSH):**

**Specify Anatomical Part(s) (FMA):**

Lung

[Lung \(FMA\\_7195\)](#)

[Remove](#)

**Specify Genetic Process(es) (GO):**

respiratory tube development

[respiratory tube development \(GO\\_0030323\)](#)

[Remove](#)

Published between  and

Result Limit

**Query Results**

23 result(s) found between 2005 and 2008 in 1.612 seconds [Continue semantic search on additional related concepts?](#)

Compare results with standard PubMed search on [Lung respiratory tube development](#).

2005 [Lysyl oxidase is essential for normal development and function of the respiratory system and for the integrity of elastic and collagen fibers in various tissues.](#) [A]

2005 [Nmyc plays an essential role during lung development as a dosage-sensitive regulator of progenitor cell proliferation and differentiation.](#) [A]

2005 [Pathophysiologic consequences following inhibition of a CFTR-dependent developmental cascade in the lung.](#) [A]

2005 [The transcription factor gene Nfib is essential for both lung maturation and brain development.](#) [A]

2005 [Vascular endothelial growth factor co-ordinates proper development of lung epithelium and vasculature.](#) [A]

6 articles found related to **[Lung]** and **[alveolus development]** [Why?](#) Rate:

**Date PubMed Article**

2007 [Fgf10 dosage is critical for the amplification of epithelial cell development.](#)

2007 [Foxp2 and Foxp1 cooperatively regulate lung and esophagus](#)

2007 [Respiratory distress and neonatal lethality in mice lacking G](#)

2006 [Alterations in gene expression in T1 alpha null lung: a model](#)

2005 [Inactivation of tensin3 in mice results in growth retardation ar](#)

2005 [Vascular endothelial growth factor gene therapy increases su](#)

2005 [hyperoxia-induced lung injury: evidence that angiogenesis pa](#)

**Annotations on Article**

**MeSH Terms:** [abnormalities, Epithelial Cells, Male, embryology, Mice, Transgenic, Animals, Newborn, Gene Dosage, metabolism, Heterozygote, Myocytes, Smooth Muscle, Gene Expression Regulation, Developmental, Embryonic Stem Cells, Vascular Endothelial Growth Factor A, Mice, Knockout, Fibroblast Growth Factor 10, growth & development, Female, Lac Operon, Wnt Proteins, Mesoderm, cytology, Phenotype, Pregnancy, Animals, genetics, Lung, Platelet-Derived Growth Factor, Mice]

**FMA Concepts:** [Embryonic stem cell, Mesoderm, Lung]

Close

**Result Explanation**

These articles talk about **alveolus development** which is related to the queried term **respiratory tube development**

This is because...

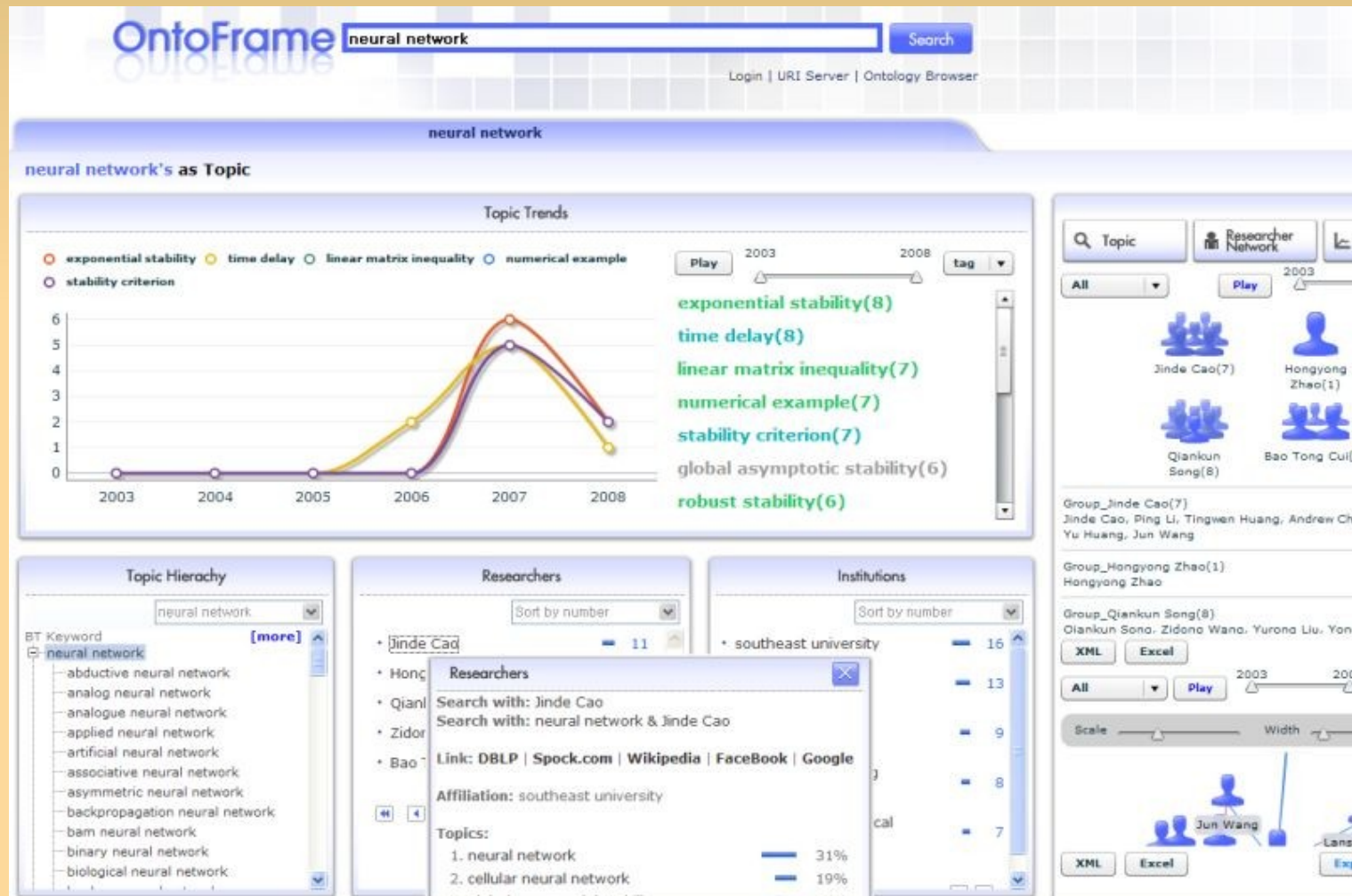
[alveolus development](#) is a [part\\_of](#) [lung development](#)

[lung development](#) is a [part\\_of](#) [respiratory tube development](#)

[lung development](#) is [Transitive](#)

# Portal for researchers

- “Ontology-based” search is combined with keyword search to find information on scientific publications

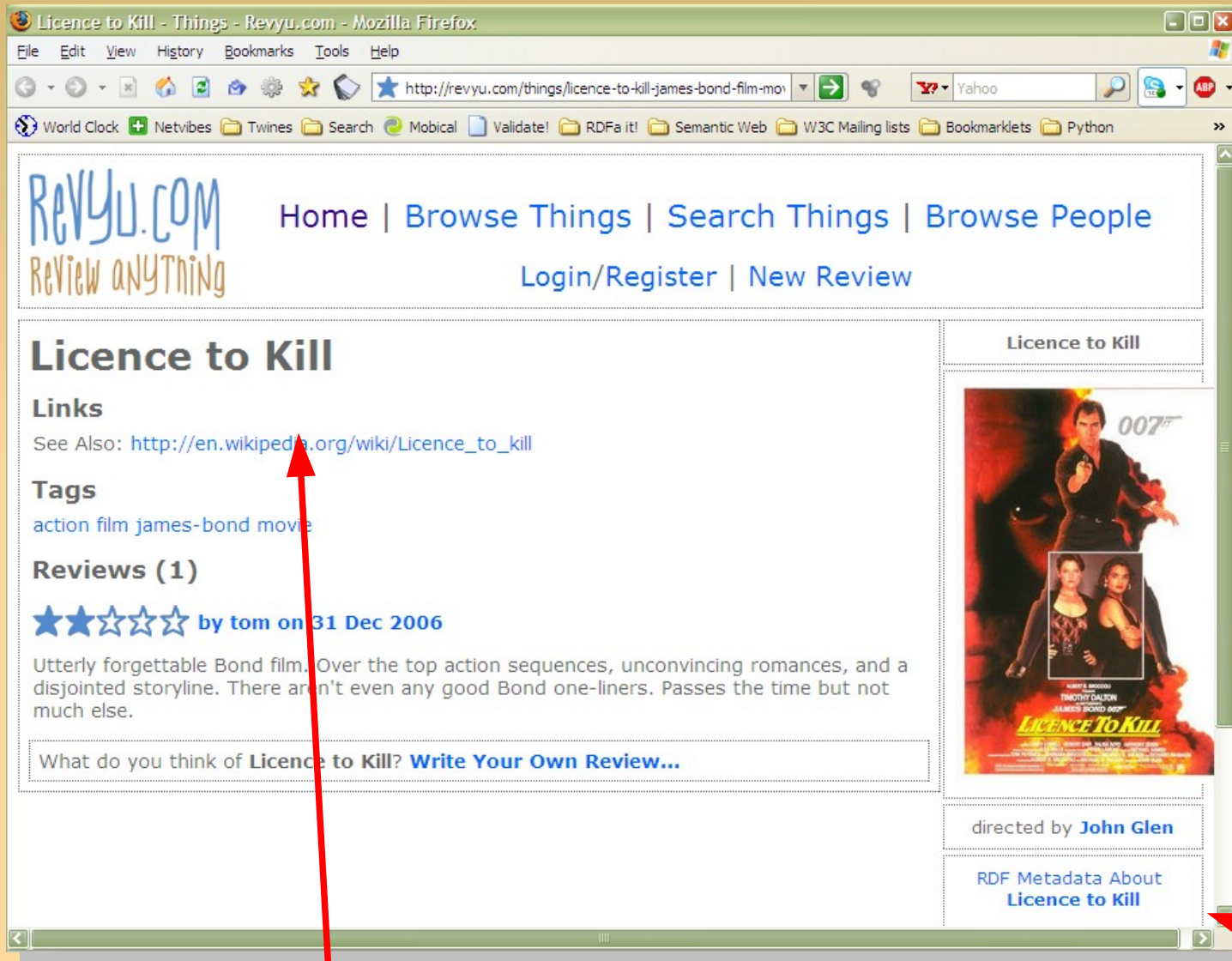


# New type of Web 2.0 applications

- New Web 2.0 applications come every day
- Some begin to look at Semantic Web as possible technology to improve their operation
  - more structured tagging, making use of external services
  - providing extra information to users
  - etc.
- Some examples: Twine, Revyu, Faviki, ...

# “Review Anything”

57



enhance  
output with  
linked data

links to, eg, (DB/Wiki)Pedia

data in RDF



# Faviki: social bookmarking, semantic tagging

- Social bookmarking system (a bit like del.icio.us) but with a controlled set of tags
  - tags are terms extracted from Wikipedia/DBpedia
  - tags are categorized using the relationships stored in DBpedia
  - tags can be multilingual, DBpedia providing the linguistic bridge
- The tagging process itself is done via a user interface hiding the complexities



# Faviki Example

Sviatoslav Richter, legendary pianist - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://www.fanfaire.com/transitions/richter.html

TRANSITIONS  
SVIATOSLAV RICHTER

SVIATOSLAV RICHTER  
20 March  
Le

...the only

That was how one critic was compelled to describe Sviatoslav Richter when he wrote how Clara Schumann spoke of the venerable Franz Liszt. The musical world must have known a great artist, indisputably one of the greatest pianists of the 20th century. Richter with his exquisite mastery of the keyboard ever since the 1960s when he first met the Soviet bloc countries where he had been renowned for years. He consistently played the legend in the process. With his compatriots, cellist Mstislav Rostropovich and violinist David Oistrakh, he was responsible for the robust Soviet-American cultural exchange that began in the 1970s.

He was born in Zhitomir in the Ukraine to a family of German ancestry. His father was a respected pianist and piano teacher and his mother an amateur musician who was one of the early admirers of Debussy and Scriabin. He had his first music lessons with his father, becoming a master of the keyboard at the age of 8. The family later moved to Odessa where the young Sviatoslav enrolled at the Odessa Conservatory. In his teens, he was attracted to a career in conducting and at the astoundingly young age of 15 became a conductor for the Odessa Opera and the Ballet Theater, a post he held for four years. He gave his first piano recital at age 19 also in Odessa. Cognizant of his extraordinary talent, his superiors convinced him to study in Moscow with one of Russia's foremost piano teachers, Heinrich Neuhaus. He did so at the age of 22 and soon after completed his studies with the great piano teacher, who later wrote of his star student: "I must say in all honesty that there was nothing more I could teach Richter."

Start to type, then choose from the list or search by Google: [help >](#)

add new tag

Tags you added:

Classical music Sviatoslav Richter

Suggested tags My recent tags

Anne-Sophie Mutter Jean-Pierre Rampal Ravi Shankar  
ARIA Music Awards Fabio (DJ) Anoushka Shankar Mario (singer)  
Joan Sutherland

powered by Google™ and Zemanta

edit title, my note, privacy...

Save

Close

faviki

Buy sheet music  
sheetmusicplus  
\*\*\*\*\*.com

Sign up:  
EMAIL UPDATE  
FREE CD!

fanfare  
STORE  
STORE

# Faviki Example

Sviatoslav Richter, legendary pianist - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://www.fanfaire.com/transitions/richter.html

Start to type, then choose from the list or search by Google: help >

russian mu

- Russian Museum
- Russian music
- Russian Music Competition
- Russian Musical Society

**Suggested tags**      **My recent tags**

Anne-Sophie Mutter   Jean-Pierre Rampal   Ravi Shankar  
 ARIA Music Awards   Fabio (DJ)   Anoushka Shankar   Mario (singer)  
 Joan Sutherland

powered by Google™ and Zemanta

edit title, my note, privacy...

Save

Close

faviki

Buy sheet music  
 sheetmusicplus  
 \*\*\*\*\*.com

Sign up:  
 EMAIL UPDATE  
 FREE CD!

fanfaire  
 STORE  
 STORE

**TRANSITIONS**  
**SVIATOSLAV RICHTER**

**SVIATOSLAV RICHTER**

20 March

Le

...the only

That was how one critic was compelled to describe Sviatoslav Richter when he was asked how Clara Schumann spoke of the venerable Franz Liszt. The musical world must have known a great artist, indisputably one of the greatest pianists of the 20th century. Richter's reputation with his exquisite mastery of the keyboard ever since the 1960s when he first made his name in the bloc countries where he had been renowned for years. He consistently played to a large audience legend in the process. With his compatriots, cellist Mstislav Rostropovich and violinist David Oistrakh, he was responsible for the robust Soviet-American cultural exchange that began in the 1970s.

He was born in Zhitomir in the Ukraine to a family of German ancestry. His father was a respected pianist and piano teacher and his mother an amateur musician who was one of the early admirers of Debussy and Scriabin. He had his first music lessons with his father, becoming a master of the keyboard at the age of 8. The family later moved to Odessa where the young Sviatoslav enrolled at the Odessa Conservatory. In his teens, he was attracted to a career in conducting and at the astoundingly young age of 15 became a conductor for the Odessa Opera and the Ballet Theater, a post he held for four years. He gave his first piano recital at age 19 also in Odessa. Cognizant of his extraordinary talent, his superiors convinced him to study in Moscow with one of Russia's foremost piano teachers, Heinrich Neuhaus. He did so at the age of 22 and soon after completed his studies with the great piano teacher, who later wrote of his star student: "I must say in all honesty that there was nothing more I could teach Richter."



# Faviki Example

61

Classical music | Faviki. Tags that make sense. - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://www.faviki.com/tag/Classical\_music

faviki BETA TAGS THAT MAKE SENSE. edit profile sign out ivan friends

## Classical music

PEOPLE: TAGS: Classical music; G Search

OR AND

close all rss

This Month

ivan Sviatoslav Richter, legendary pianist Dec 02  
Classical music: Sviatoslav Richter: [1 person]

ivan Sviatoslav Richter pages Dec 02  
Page on Richter  
Classical music: German: Jew: Keyboard instrument: Piano: Sviatoslav Richter: Ukrainian: [1 person]

November

ivan YouTube entries with Gabriela Montero Nov 16  
Classical music: Gabriela Montero: Improvisation: [1 person]

Janos.Haits MUSOLIFE.COM: Classical Music News for Enthusiasts, Professionals and Students Nov 14  
MUSOLIFE.COM  
Classical music: Social web: Web 2.0: [1 person]

October

ivan france musique Oct 12  
Classical music: France Musique: Radio: Radio France: [1 person]

### tag

Classical music

16 bookmarks

Classical music is a broad term that usually refers to mainstream music produced in, or rooted in the traditions of Western liturgical and secular music, encompassing a broad period from roughly the 9th century to present times.

**Topics:**

- Music genres
- Classical music
- European music

W Read more on Wikipedia

### related tags

- Takashi Yoshimatsu
- Sviatoslav Richter
- András Schiff
- Social web
- Frédéric Chopin
- Web 2.0
- Igor Stravinsky

# Faviki Example

62

Russian classical pianists (topic) | Faviki. Tags that make sense. - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://www.faviki.com/topic/Russian\_classical\_pianists

faviki BETA TAGS THAT MAKE SENSE. edit profile sign out ivan friends

## Russian classical pianists (topic)

PEOPLE: TAGS: Search

OR AND

close all rss

This Month

ivan Sviatoslav Richter, legendary pianist Dec 02  
Classical music : Sviatoslav Richter : [1 person]

ivan Sviatoslav Richter pages Dec 02  
Page on Richter  
Classical music : German : Jew : Keyboard instrument : Piano : Sviatoslav Richter : Ukrainian : [1 person]

May

matejr YouTube - Korsakov-Rachmaninov: Hummelflug (Bumble Bee)Evgeny Kissin May 30  
Evgeny Kissin : Flight of the Bumblebee : Piano : [1 person]

April

jerry YouTube - Rachmaninov plays Rachmaninov Apr 17  
wow!  
Piano : Prelude in C-sharp minor (Rachmaninoff) : Sergei Rachmaninoff : [1 person]

topic

Russian classical pianists

4 bookmarks

Tags:  
Evgeny Kissin  
Sergei Rachmaninoff  
Sviatoslav Richter

this page topics:

- 1873 births
- 1892 works
- 1915 births
- 1943 deaths
- 1971 births
- 1997 deaths
- 20th century classical composers
- American classical pianists
- American composers
- Ancient peoples
- Chordophones
- Classical pianists

# Other application areas come to the fore

- Content management
- Business intelligence
- Collaborative user interfaces
- Sensor-based services
- Linking virtual communities
- Grid infrastructure
- Multimedia data management
- Etc



# CEO guide for SW: the “DO-s”

- **Start small:** Test the Semantic Web waters with a pilot project [...] before investing large sums of time and money.
- **Check credentials:** A lot of systems integrators don't really have the skills to deal with Semantic Web technologies. Get someone who's savy in semantics.
- **Expect training challenges:** It often takes people a while to understand the technology. [...]
- **Find an ally:** It can be hard to articulate the potential benefits, so find someone with a problem that can be solved with the Semantic Web and make that person a partner.

# CEO guide for SW: the “DON’T-s”

- **Go it alone:** The Semantic Web is complex, and it's best to get help. [...]
- **Forget privacy:** Just because you can gather and correlate data about employees doesn't mean you should. Set usage guidelines to safeguard employee privacy.
- **Expect perfection:** While these technologies will help you find and correlate information more quickly, they're far from perfect. Nothing can help if data are unreliable in the first place.
- **Be impatient:** One early adopter at NASA says that the potential benefits can justify the investments in time, money, and resources, but there must be a multi-year commitment to have any hope of success

# Thank you for your attention!

- These slides are publicly available via:

<http://www.w3.org/2009/Talks/1214-Darmstadt/>