

---

★ make your stuff available on the web  
(whatever format)

---

★★ make it available as structured data (e.g.  
excel instead of image scan of a table)

---

★★★ non-proprietary format (e.g. csv instead of  
excel)

---

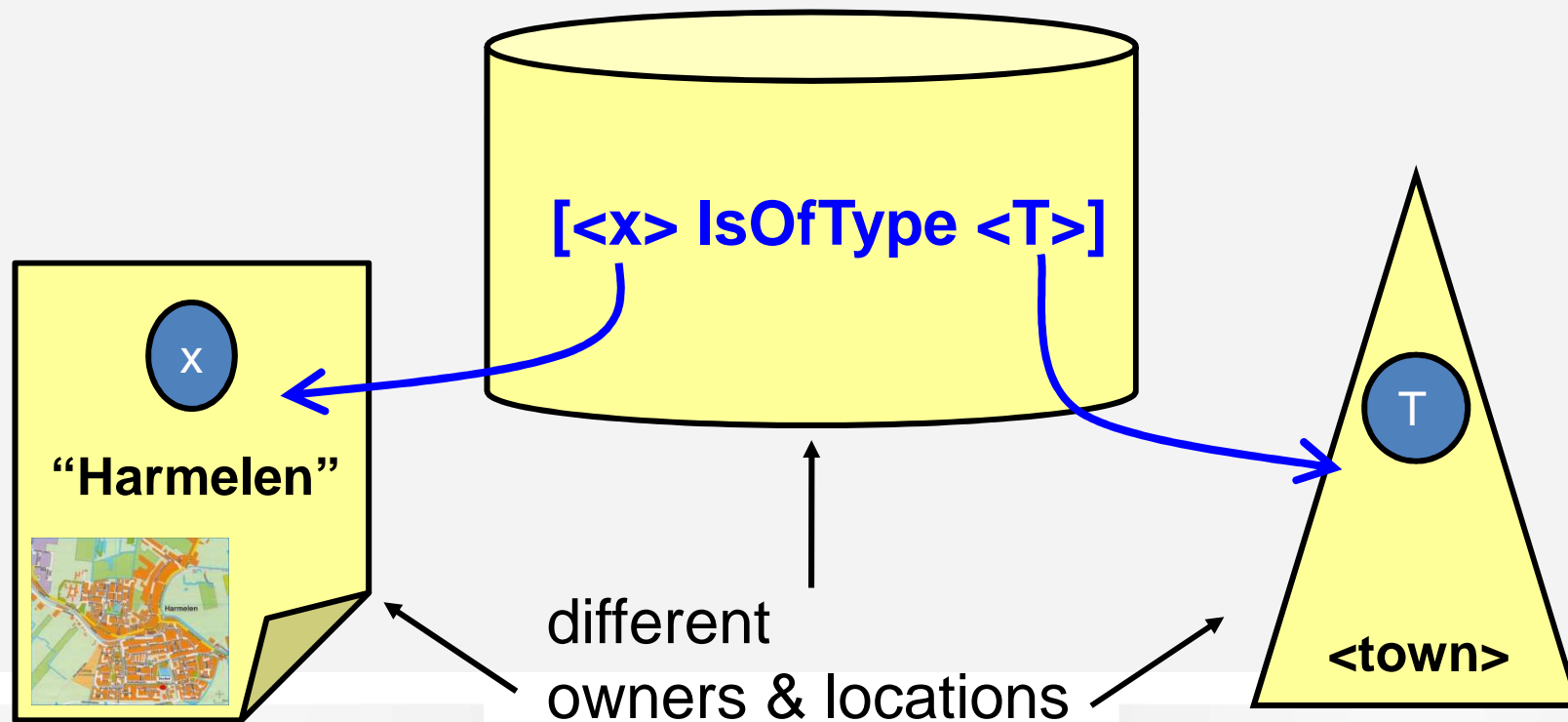
★★★★ use URLs to identify things, so that people  
can point at your stuff

---

★★★★★ link your data to other people's data to  
provide context



# On the Web, anybody can say anything about anything





### Open

#### Data Formats

**Open Standards, Web-enabled: XML, RDF**

#### Communication Protocols

**Open Standards, Web-enabled: HTTP, SPARQL**

#### Shared vocabularies

- **FOAF for social relations**
- **GeoRSS for geospatial data**
- **Dublin Core for documents**
- **COVO for statistical datasets**
- **SKOS for categories & concepts**



## 4 steps

**Publish**

**Publish data items as Web objects**

**Link**

**Allow relations between data-items as web-links**

**Describe**

**Use shared vocabularies to describe data & relations**

**Interoperate**

**Simple open standards for data formats & protocols**



## Implications for Government agencies

**Don't just publish documents  
but publish the underlying data**

**Don't just build a website  
but publish the underlying data**

**Enable others  
to build applications and websites  
with your data**



### Fact or Fiction?

### Status in US: data.gov

### Data.gov

in one year

- growth from 47 datasets to 250.000 datasets from 250 agencies
- 200+ applications built by third parties
- 97.6 million hits

But: much of it not in RDF, not web-enabled

Students of RPI in 8 months:

web-enabled 6.4 billion facts

created applications for:

- plot broadband capacity against internet use
- faceted browsing on all of data.gov
- plotting postal service expenditure against performance (effectiveness)
- plotting wildland fires against agency budgets (effectiveness)
- uncover interstate migration from tax forms
- plot family income against medicare claims
- compare agency budgets across three public budget datasets
- plot social networks of people visiting the White House



# Open Data for Open Government

Semantic, Linked, Open





# Open Data for Open Government

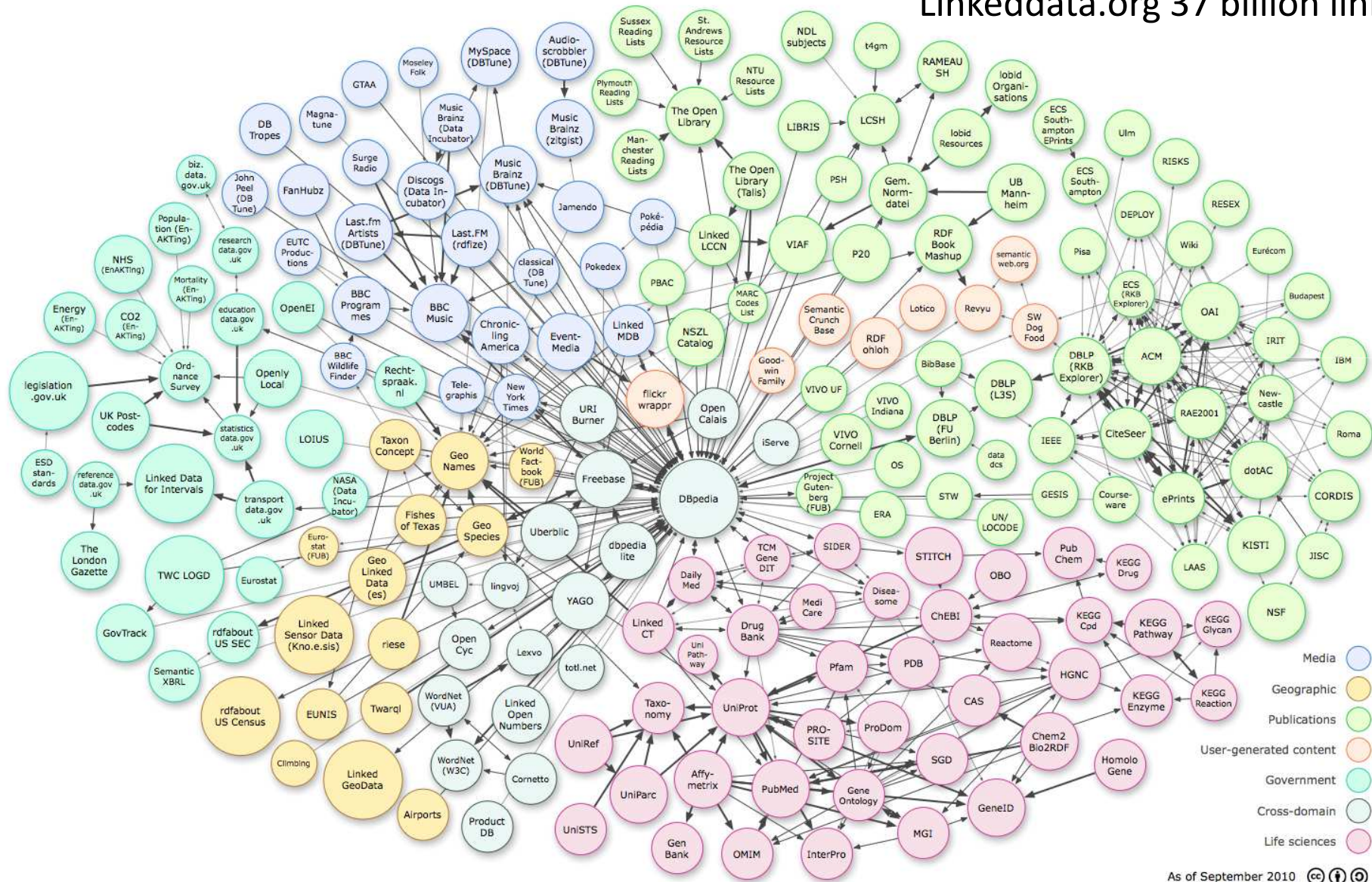
Semantic, Linked, Open

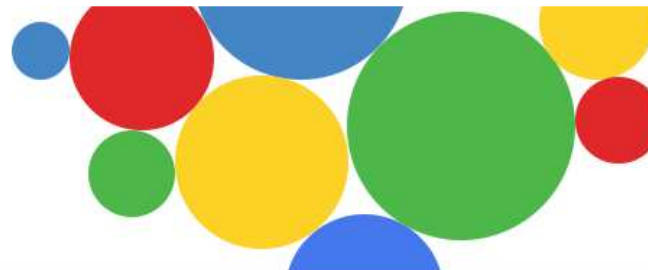




# Outside government

Linkeddata.org 37 billion links





Search

## Introducing schema.org: Search engines come together for a richer web

June 2, 2011 at 1:00 PM

(Cross-posted on the [Inside Search Blog](#))

Today we're announcing [schema.org](#), a new initiative from Google, Bing and Yahoo! to create and support a common vocabulary for structured data markup on the web. With [schema.org](#), site owners and developers can learn about structured data to improve how their sites appear in major search engines. The site is a central resource for webmasters looking to add markup to their pages.

Search engines have been working independently for a few years now. We [introduced rich snippets](#) to help you find better summaries of [reviews](#) and [local listings](#). We've also introduced new kinds of rich snippets, including [video](#) and [events](#). Content creators across the web are adding their pages, and today more than ever before, times as often as before.

We want

we

In addition to support, [schema.org](#) includes new categories, including [business](#), [places](#) and more. As webmasters, you can develop richer search experiences for your sites. Sites are able to regularly publish new schemas for sites to be used in queries with rich results. For webmasters who have already published for RDFa currently supported by rich snippets, their sites will continue to show rich snippets on Google. You can learn more on our [Webmaster Central Help Center](#) and on [schema.org](#).

Connect with us  
Subscribe to this blog:



[Help Forum](#)



Search

About 30,400,000 results (0.31 seconds)

Web

Showing results for **amersfoort**

Search instead for amersfoort

Images

Maps

Videos

News

Shopping

More

Amsterdam

Change location

Show search tools

**Gemeente Amersfoort**

[www.amersfoort.nl/](http://www.amersfoort.nl/) - Translate this page

Officiële website van de gemeente **Amersfoort** met producten en diensten, nieuws, en informatie over wonen en leven in **Amersfoort**, stad met een hart.

[Burgerzaken](#) - [Contact](#) - [Paspoort](#) - [Digitaal Loket](#)

**Amersfoort - Wikipedia, the free encyclopedia**

[en.wikipedia.org/wiki/Amersfoort](http://en.wikipedia.org/wiki/Amersfoort)

**Amersfoort** [aː.ˈmɛrs.ˌfoːrt] is a municipality and the second largest city of the province of Utrecht in central Netherlands. The city is growing quickly but has a ...

[Population centres](#) - [History](#) - [Culture](#) - [Topography](#)

**Amersfoort - Wikipedia**

[nl.wikipedia.org/wiki/Amersfoort](http://nl.wikipedia.org/wiki/Amersfoort) - Translate this page

**Amersfoort** is een groeistad, en vervult economisch een regiofunctie met een sterk gegroeid bedrijfsleven, heeft één van de grootste spoorwegknooppunten van ...

**VVV site Amersfoort**

[www.vvamersfoort.nl/](http://www.vvamersfoort.nl/) - Translate this page

Bijna elke dag kunt u een stadswandeling doen met Gilde **Amersfoort**. ... Kom ook naar de Floriade in Venlo en koop uw kaartje alvast bij VVV **Amersfoort**.

**Images for amersfoort** - Report images



**Amersfoort**



Amersfoort is a municipality and the second largest city of the province of Utrecht in central Netherlands. The city is growing quickly but has a well-preserved and protected medieval centre. [Wikipedia](#)

**Area:** 63.78 km²

**Weather:** 11° C, Wind NW at 8 km/h, 82% Humidity

**Local time:** 11:45pm Tuesday (CEST)

**Province:** [Utrecht](#)

[Feedback](#)

See results about



**Kamp Amersfoort**  
Amersfoort concentration camp was a Nazi ...

Database 11g

Database Focus Areas

Database Options

Database Express Edition

Database Upgrade

Berkeley DB

NoSQL Database

TimesTen In-Memory  
Database

Database Mobile Server

RDB

Audit Vault

Secure Backup

Real Application Clusters

Clusterware

Cloud Storage

Multimedia

Windows

Migration

Globalization

Database Firewall

## Oracle Database Semantic Technologies

[Overview](#)   [Downloads](#)   [Documentation](#)   [Community](#)   [Learn More](#)

[Partners](#)   [Demos](#)   [Training](#)   [Performance](#)

[Standards & Open Source](#)   [Presentations](#)   [Success Stories](#)   [News](#)

Oracle Database 11g Semantic Technologies is an open, standards-based, scalable, secure, reliable and performant RDF management platform. Based on a graph data model, RDF data (triples) are persisted, indexed and queried, like other object-relational data types.

Application developers use the power of the Oracle Database 11g to design and develop a wide range of semantic-enhanced business applications in areas that include intelligence, law enforcement, integrated bioinformatics and health care informatics, finance, web social network, and media, games, and content management.

[Learn How Semantic Technologies Makes Enterprise Data Smarter...](#)

- [Oracle Database Semantic Technologies Feature Overview](#) (PDF 70.9KB)
- [Software Prerequisites: Oracle Database 11g Enterprise Edition, Oracle Spatial and Oracle Partitioning Options](#) (PDF 65KB)

### Presentations

- [Oracle Semantic Technologies Overview Presentation](#) (PDF 408KB)
- [Oracle Semantic Technologies Technical Presentation](#) (PDF 1.0MB)
- [Cytoscape Plugin for Oracle Database Semantic Technologies](#) (PDF 3.5MB)
- [More Presentations...](#)

### White Papers

# Culture Shift

- In a knowledge economy data “wants to be free”
- There is value in sharing
- It does require a leap of faith
- If you want people to do something with your data, you have to put it “out there”
- But once you do, it’s mostly out of your control

**“On the Web,  
anybody can say anything about anything”**

# Trust on the horizon

- knowing how to trust data
- knowing where data comes from
- “provenance”
  
- Of course: store provenance as linked data
- Upcoming W3C standards for this



The Network Institute

- VU Amsterdam
- 18 October
- Speeddating with researchers from The Network Institute
- **€5000 vouchers available for collaborations**
- Mail [Frank.van.Harmelen@cs.vu.nl](mailto:Frank.van.Harmelen@cs.vu.nl)

