

Interactive Information Access on the Web of Data

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Interactive Information Access

http://www.cwi.nl/interactive_information_access

What is linked data?

- URIs, possibly identifying media fragments
- + annotations (tags)
- + links among fragments & annotations


E-Culture MultimedialN *cultural heritage search* [login](#) | [English](#)

[search](#) [annotate](#)

local view [display](#) [cell format](#)

Geisha uit het Gion-district

<http://e-culture.multimedialn.nl/ns/rmv#1-1160>



links

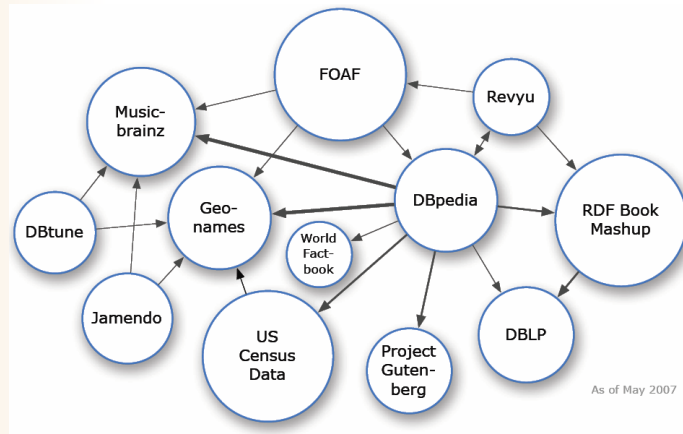
- [full view](#)
- [annotate](#)

Een geisha houdt bij het lopen haar lange kimono iets op om deze minder over de grond te laten slepen. De grijze overkimono heeft een patroon van rotsen in het water waarop pijnbomen en kersebloesem groeien en is afgezet met een beige zoom waarop gestileerde bloemmotieven zijn ingeweven. Deze wordt bijeengehouden door een brede zwarte obi met een ingeweven motief van kersebloesem. Zoals bij geisha uit Gion - het district waar ook Seitoku werkzaam was - is het gezicht van de geisha geheel wit geblancket. De ietwat plumpe figuur stemt overeen met het Kamigata-schoonheidsideaal.

Property	Value	Source
Date	• begin 19e eeuw	• rmv.objects.rdf
Location	• Rijksmuseum_Volkenkunde • Kyôto Fu	• rmv.objects.rdf • rmv.svcn.annotations.rdf
Material	• zijde; inkt en pigmenten	• rmv.links.material.rdf
Subject	• schilderkunst	• rmv.svcn.annotations.rdf
Title	• Geisha uit het Gion-district	• rmv.objects.rdf
Type	• rolschilderingen • rolschildering; kakejiku	• rmv.svcn.annotations.rdf • rmv.links.object.rdf

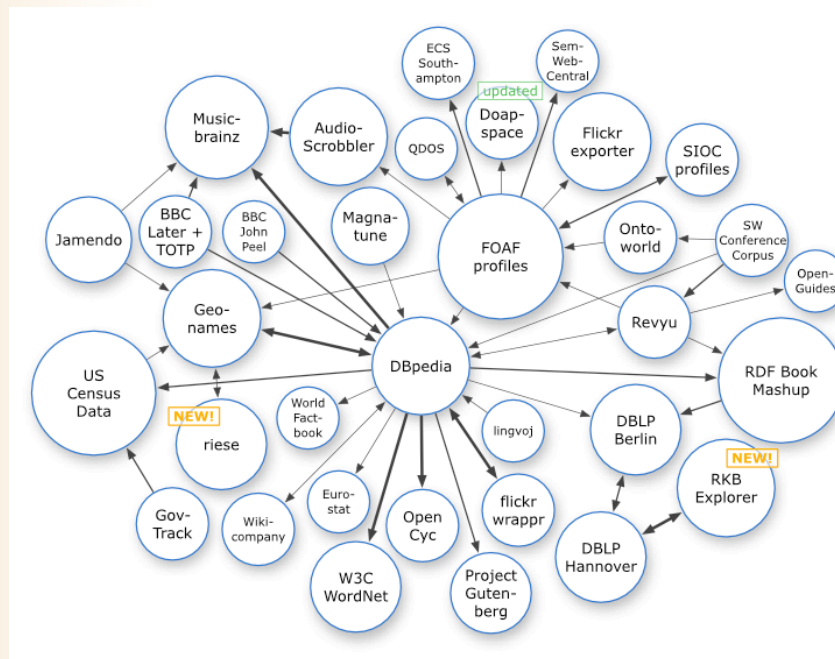
How much linked data is there?

May 2007



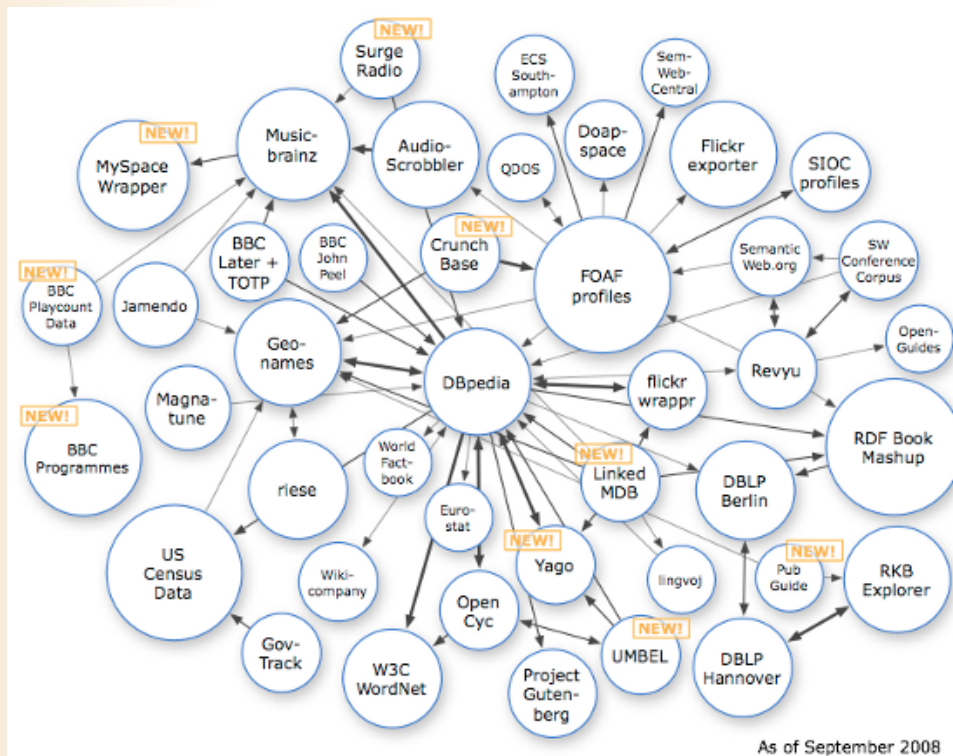
Credit: Chris Bizer

Linked data cloud March 2008



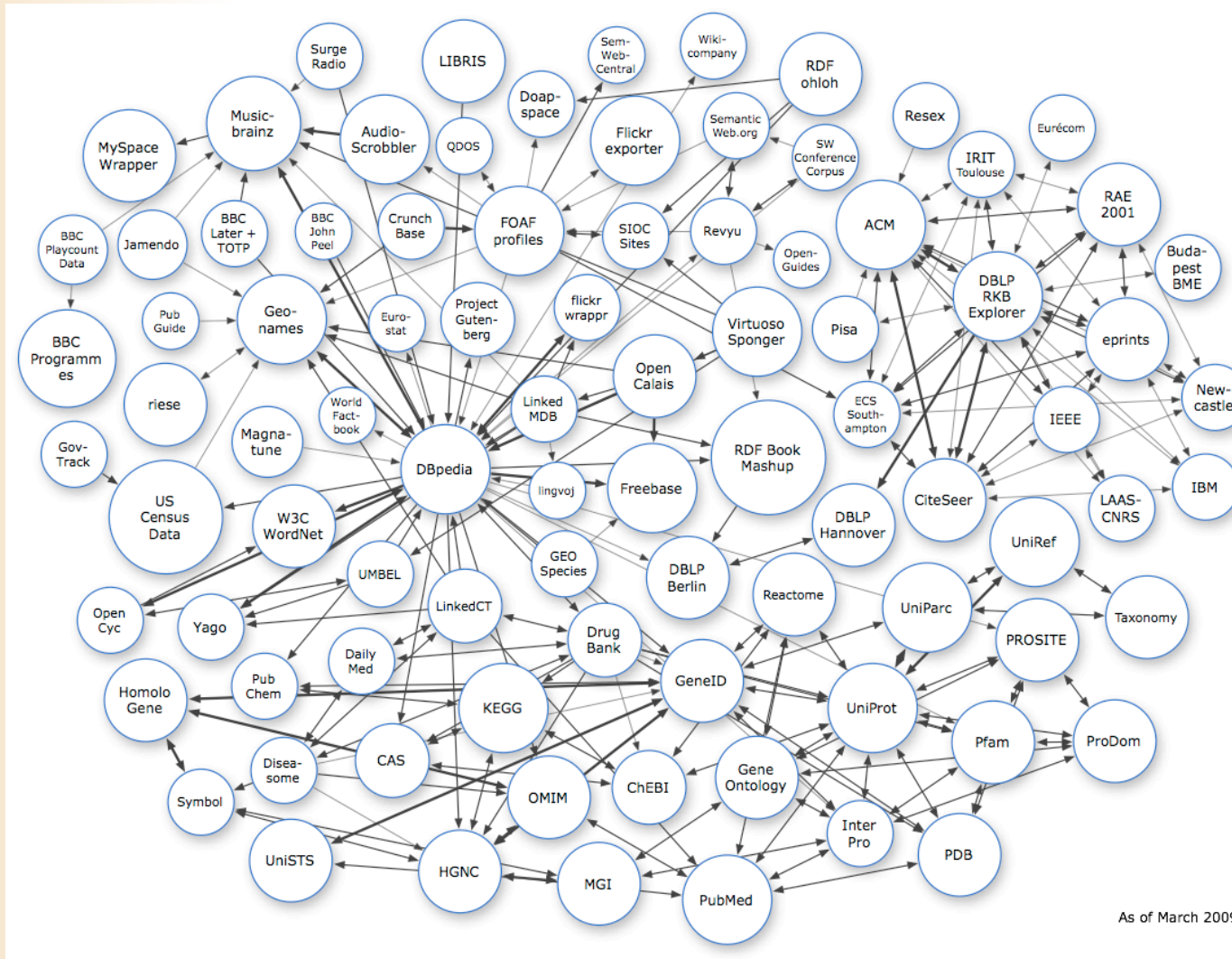
Credit: Richard Cyganiak

Linked data cloud September 2008



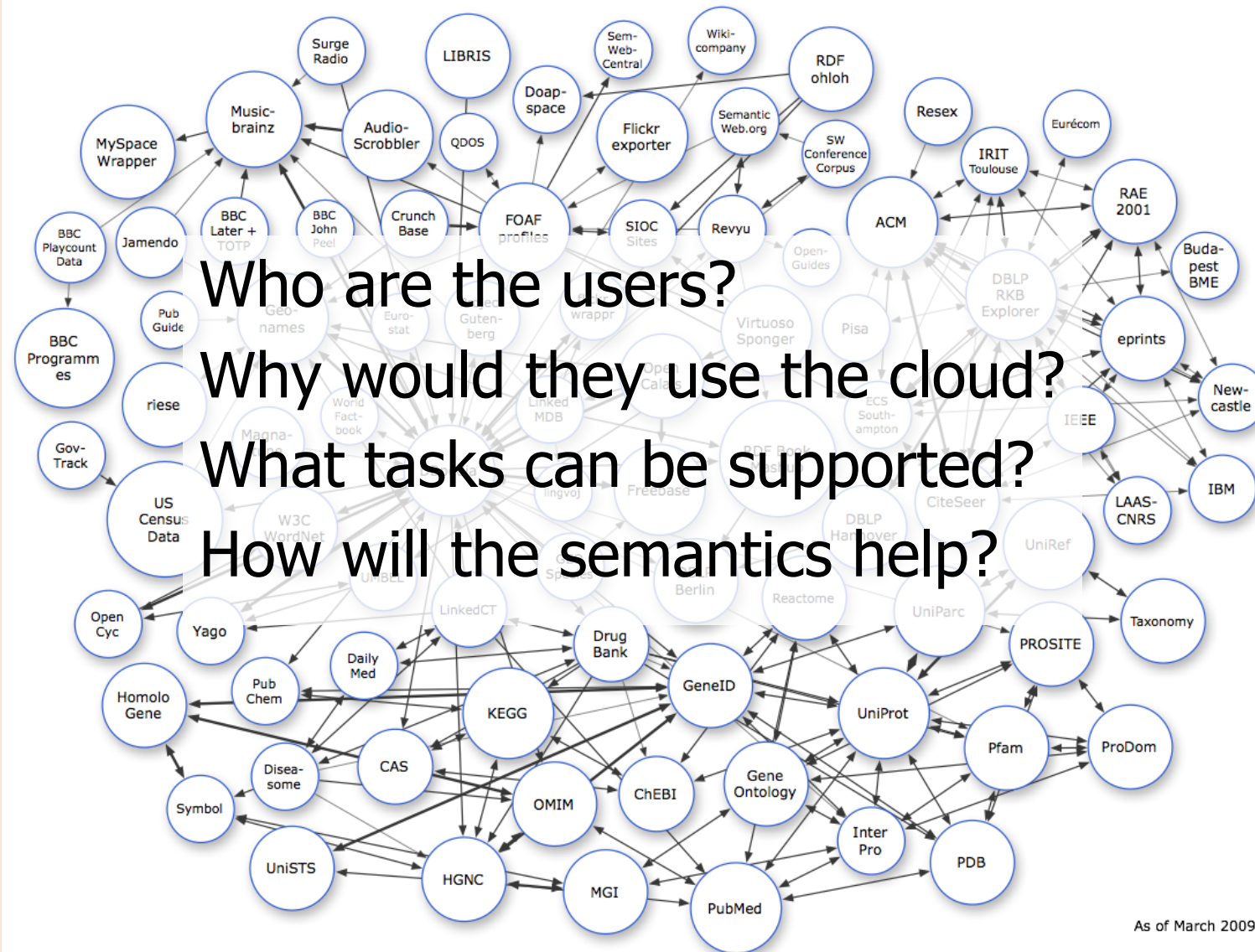
http://www4.wiwiiss.fu-berlin.de/bizer/pub/lod-datasets_2008-09-18.png

Linked data cloud March 2009



> 4.5 billion RDF triples, interlinked by around 180 million RDF links

http://www4.wiwi.fu-berlin.de/bizer/pub/lod-datasets_2009-03-05.png

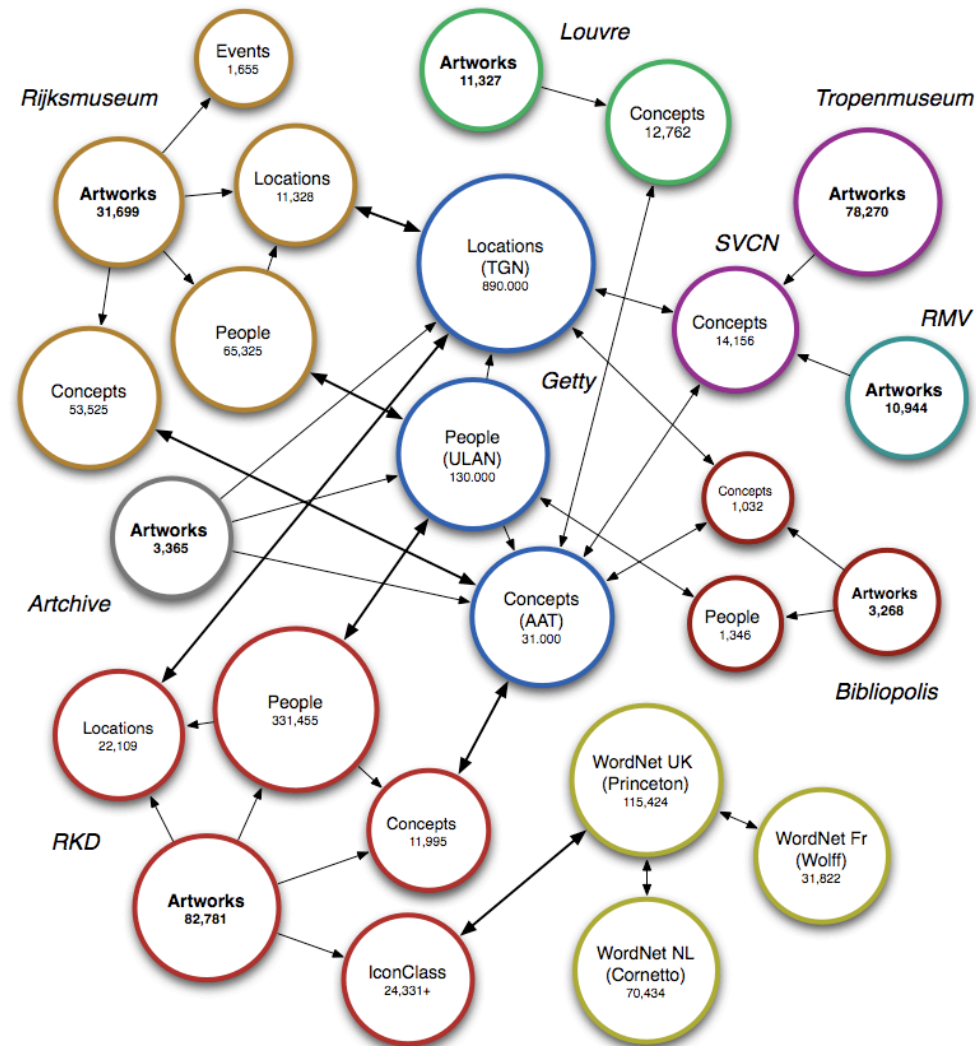


As of March 2009

How can semantics help?

- Query construction
 - disambiguate input
 - selection of available terms
- (Semantic) search algorithm
 - graph traversal
 - query expansion
 - RDFS/OWL reasoning
- Presentation of search results
 - grouping by property
 - visualization on timeline, map

Data sets in E-Culture demo



<http://e-culture.multimedien.nl/resources/datacloud/>



Michiel Hildebrand
<http://e-culture.multimedien.nl/>

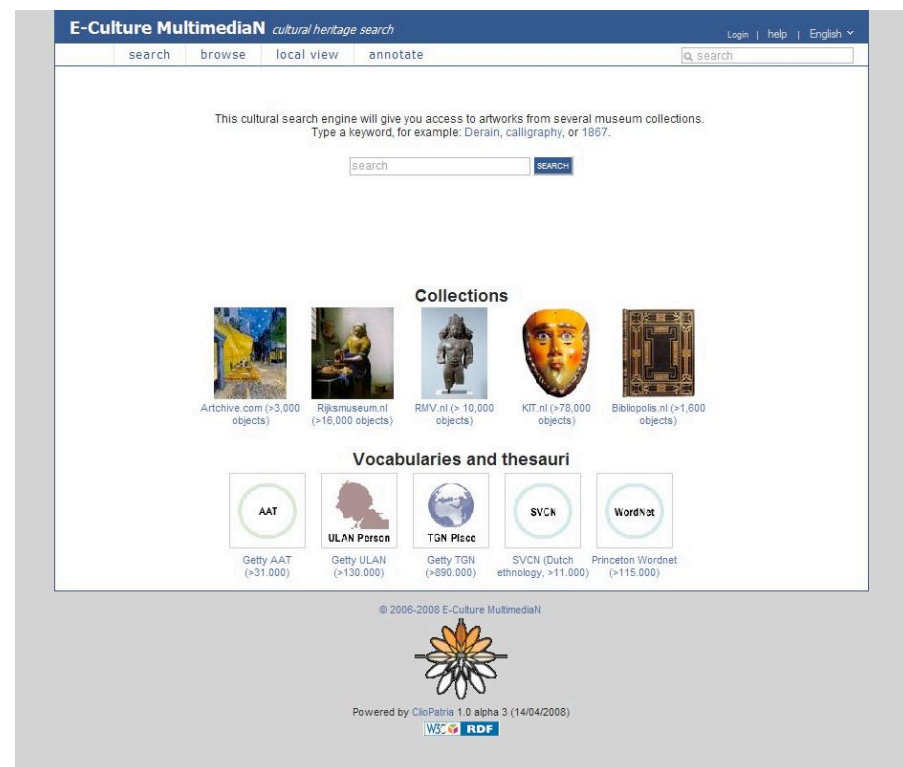
Browsing annotated collections of cultural heritage artefacts

Who: Those interested in cultural heritage

Why: Exploring artefacts available in repository

What: Search combined collections

How: autocomplete to suggest topics, organise results



search

browse

local view

annotate

This cultural search engine will give you access to artworks from several museum collections.
Type a keyword, for example: Derain, calligraphy, or 1867.

SEARCH

Collections



Artchive.com (>3,000
objects)



Rijksmuseum.nl
(>16,000 objects)



RMV.nl (> 10,000
objects)



KIT.nl (>78,000
objects)



Bibliopolis.nl (>1,600
objects)

Vocabularies and thesauri



Getty AAT
(>31.000)



Getty ULAN
(>130.000)



Getty TGN
(>890.000)



SVCN (Dutch
ethnology, >11.000)



Princeton Wordnet
(>115.000)

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<http://e-culture.multimedialn.nl/demo/session/search>

Use of linked data in E-Culture demo

- Query construction
 - auto-completion uses strings found in “data” and “concepts”
 - suggestions are grouped and ordered using links among items
- Result set
 - uses empirical balance between “closeness” to search string and non-intuitive path
- Result presentation
 - uses grouping of result set to show breadth of results
 - uses no particular ordering within each group

Subject Annotation



A print that depicts the beheading of

Who: Professional annotators

Why: Subject matter annotation of 700.000 prints

What: Search in multiple thesauri for annotation terms

How: Autocompletion on who/what/where/when

Who Historical persons

Q person or organization

Oldenbarnevelt, Johan van

x

What Iconclass/WordNet (en), events (nl)

Q (mythological) concept, object or event

beheading

x

Where Name of place or region

Q geographical place

Den Haag

x

When Date, year or period

enter date

search

browse

local view

annotate

Q search

annotate: Veroordeling van Johan van Oldenbarnevelt

Veroordeling van Johan van Oldenbarnevelt



RP-P-OB-77.320

Blad met een voorstelling van de onthoofding van Johan van Oldenbarnevelt op het Binnenhof te 's-Gravenhage op 13 mei 1619. Gezicht op het plein met alle omringende gebouwen en het verzamelde publiek. In de toren linksboven het hof van prins Maurits. Om de voorstelling van de onthoofding staan de portretten van de zes andere veroordeelden, een scène met de kist van Van Ledenberg aan de galg en een gezicht op het kasteel Loevestein.

Who Historical persons

person

What Iconclass (en), WordNet (en), events (nl)

(mythological) concept, object or event

Where Name of place or region

geographical place

When Date, year or period

enter date

done | cancel

Use of linked data in annotation task

- Query construction
 - auto-completion compares string in query with terms in thesauri
- Result set (the set of terms used to construct the menu)
 - terms that contain the string
- Result presentation (in the selection menu)
 - uses grouping of results depending on entry field
 - ordering also dependent on entry field
 - presentation of additional information differs per thesaurus and annotation field

Michiel Hildebrand, Jacco van Ossenbruggen, Lynda Hardman and Geertje Jacobs. Supporting subject matter annotation using heterogeneous thesauri, a user study in web data reuse. Technical Report INS-E0902, CWI, February 2009.

<http://ftp.cwi.nl/CWIreports/INS/INS-E0902.pdf>

Conclusion

- Build specific application
- Determine information need
- Select data sources for task
- Ensure access to provenance information without being intrusive
 - remember hyperlink markers 20 years ago?
- Investigating re-usable interface components
 - autocompletion