Semantic Wiki

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Semantic Web
Wiki principles

- Wikis allow anyone to edit
- Wikis are easy to use and do not require additional software
- Wiki content is easy to link
- Wikis support versioning of all changes
- Wikis support all media

Koblenz gehört zu den ältesten Städten Deutschlands; im Jahr 1992 feierte es sein 2000-jähriges Bestehen. Der ursprüngliche lateinische Name Confluentes (dt.: die Zusammenfließenden) leitete sich von der Lage der Stadt an der Mündung der Mosel in den Rhein am so genannten Deutschen Eck ab. Bis 1926 lautete die Schreibweise der Stadt Koblenz. Seit 1962 ist Koblenz eine Großstadt mit mehr als 100.000 Einwohnern.

Basisdaten

<table>
<thead>
<tr>
<th>Bundesland:</th>
<th>Rheinland-Pfalz</th>
</tr>
</thead>
<tbody>
<tr>
<td>Landkreis:</td>
<td>Kreisfreie Stadt</td>
</tr>
<tr>
<td>Höhe:</td>
<td>66 m ü. NN</td>
</tr>
<tr>
<td>Fläche:</td>
<td>105.02 km²</td>
</tr>
<tr>
<td>Einwohner:</td>
<td>106.087 (31. Dez. 2007)</td>
</tr>
</tbody>
</table>
History

Ancient era

Around 1000 BC, early fortifications were erected on the Festung Ehrenbreitstein hill on the opposite side of the Moselle. In 55 BC Roman troops commanded by Julius Caesar reached the Rhine and built a bridge between Koblenz and Anzach. About 9 BC, the "Castellum quod Confluentes", was one of the military posts established by Drusus.

Remains of a large bridge built in 49 AD by the Romans are still visible. The Romans built two castles as protection of the bridge, one in 9 AD and another in the 2nd century, the latter being destroyed by the Franks in 259. North to Koblenz was a temple of Mercury and Rosmerta (a Gallo-Roman deity), which remained in use up to the 5th century.

Middle Ages

With the fall of the Western Roman Empire, the city was conquered by the Franks and became a royal seat. After the division of Charlemagne's empire, it was included in the lands of his son Louis the Pious (814). In 837 it was assigned to
Liste der Städte in Deutschland

Die Liste der Städte in Deutschland enthält eine vollständige Auflistung aller 2074 Städte in Deutschland in alphabetischer Reihenfolge (Stand: 1. Juli 2009).

Es sind nur die (verwaltungsrechtlich selbständigen) Gemeinden aufgeführt, die das Stadtrecht besitzen.

Auf die einzelnen Bundesländer entfallen folgende Anzahlen:

- Bayern: 315
- Baden-Württemberg: 312
- Nordrhein-Westfalen: 268
- Hessen: 189
- Sachsen: 178
- Niedersachsen: 164
- Thüringen: 126
- Rheinland-Pfalz: 123
- Sachsen-Anhalt: 120
- Brandenburg: 112
- Mecklenburg-Vorpommern: 84
- Schleswig-Holstein: 53
- Saarland: 17
- Bremen: 2
- Berlin: 1
- Hamburg: 1

Inhaltsverzeichnis ABCDEFGHIJKLMNOPQRSTUVWXYZ

A [Bearbeiten]

- Aach (Baden-Württemberg)
- Aachen (Nordrhein-Westfalen)
- Aalen (Baden-Württemberg)
- Aalen (Bayern)
- Aaben (Bayern)
- Achen (Baden-Württemberg)
- Aislingen (Saale) (Sachsen-Anhalt)
- Altendorf bei Nürnberg (Bayern)
- Altena (Nordrhein-Westfalen)
- Altenau (Niedersachsen)
- Altenberg (Sachsen)
Liste der Städte und Gemeinden in Rheinland-Pfalz

Das deutsche Bundesland Rheinland-Pfalz besteht aus insgesamt


Dazu verteilen sich wie folgt:

- 123 Städte, darunter
  - 12 kreisfreie Städte,
  - 8 große kreisangehörige Städte,
  - 16 kreisangehörige Städte,
- 87 kreisangehörige Gemeinden,
- 2103 sonstige Gemeinden, darunter
  - 12 kreisfreie Gemeinden,
  - 2171 Ortsgemeinden (Verbandsangehörige Gemeinden).

87 Städte und 2171 Gemeinden haben sich zur Erledigung ihrer Verwaltungsgeschäfte in 163 Verbandsgemeinden zusammengeschlossen.


Kreisfreie Städte [Bearbeiten]

- Frankenthal (Pfalz)
- Kaiserslautern
- Koblenz
- Landau in der Pfalz
- Ludwigshafen am Rhein
- Mainz, Landeshauptstadt
- Neustadt an der Weinstraße
- Pirmasens
- Spay
- Trier
- Worms
- Zweibrücken
Lists of cities

From Wikipedia, the free encyclopedia

Lists of cities

Contents

1 Cities proper
2 Metropolitan areas
3 Urban areas
4 See also

Cities proper

- Cities of present-day nations and states (list of cities by country)
- [List of cities by GDP]
- [List of cities by latitude]
- [List of cities by longitude]
- [List of cities by population]
- [List of cities by population density]
- [List of cities by quality of living]
- [List of cities by surface area]
- [List of cities by time of continuous habitation]
- [List of largest cities throughout history]
- [List of towns and cities with 100,000 or more inhabitants]
- [Lists of capitals]
- [List of national capitals]
Semantic Wiki goals

Semantic Wikis try to combine the strengths of

- Semantic Web
  - machine processable,
  - data integration
  - complex queries

- Wiki
  - easy to use and contribute,
  - strongly interconnected,
  - collaborative.

- Wikis for Metadata
- Metadata for Wikis
creating metadata on the Semantic Web is difficult!
• requires domain knowledge
• requires knowledge engineering skills
• complicated, insufficient tools

Wikis for metadata:
• simplified technological access to the creation of metadata
• collaboration of domain experts and knowledge engineers
• dynamically evolving knowledge networks and knowledge models
• Wikis
  • huge amounts of digital content (e.g. Wikipedia)
  • strong connection of content via hyperlinks
• problem: structure exists, but is only used for presentation and not accessible by computers
  • finding relevant content is increasingly difficult
  • integration and exchange between different systems is difficult
Semantic Wikis

- Annotation of existing structures with machine readable metadata
  - Links carry meaning, typing of links, typing of pages
- Context dependent adaptation and presentation
  - Different domains have different ways of presenting content, personal preferences, etc.
- Improved, "intelligent", search and navigation
  - Queries to the structure, visualisation of structure, derived information
- Improved interoperability between systems
  - Exchange of content, integration of different systems, agents, etc.
Semantic Wiki engines

- AceWiki – controlled english
- Artificial Memory – personal knowledge management
- BOWiki – biomedical domain
- Confluence Plugins (Metadata, Scaffolding) - commercial
- Hypertext Knowledge Workbench – personal knowledge management
- IkeWiki
  - SWiM - offshoot of IkeWiki
  - KiWI – successor in scope of KiWi project
- OntoWiki – free-form database
- OpenRecord – free-form database
- SweetWiki – semantic tagging
- **Semantic MediaWiki** (MediaWiki extension) – Semantic Wikipedia
  - HaloExtension – extension of Semantic MediaWiki, browsing & refactoring
  - Semantic Forms – free-form database
  - ... Many more Semantic MediaWiki extensions
- SWOOKI – a peer-to-peer based SemWiki
How Semantic Wiki works?
London is the capital city of England and of the United Kingdom. As of 2005, the total resident population of London was estimated 7,421,328. Greater London covers an area of 609 square miles. It is widely considered to be one of the world's four primary global cities (along with New York City, Tokyo and Paris).
United Kingdom is part of England. England is the most populous home nation of the United Kingdom (UK). It is bounded by Scotland to the north, Wales to the west, and is separated from mainland Europe by the North Sea and the English Channel.

London is the capital city of England and of the United Kingdom. As of 2005, the resident population of London was 7,322,161. Greater London covers an area of 1,577,303 km².

It is widely considered to be one of the world’s primary global cities (along with New York City, Tokyo and Paris).

New York City is a major metropolitan area and the most densely populated major city in North America.

Tokyo (東京都) is one of the 47 prefectures of Japan and includes the highly urbanized downtown area. Literally “eastern capital”, it is one of the world’s most visited cities.

Paris is the capital and largest city of France. Straddling the river Seine in the country’s north, it is a major global cultural and political centre in addition to being the world’s most visited city.

United Kingdom 2005 (MMV) was a common year.
1 Events
1.1 January
1.2 February
1.3 March
1.4 April
1.5 May
1.6 June
1.7 July

United Kingdom was a common year.
Properties and Types in Semantic Media Wiki

- Properties in Semantic Media Wiki:
  - Associate pages with “values”
  - Introduce new properties as needed
  - Syntax: `[[Property::value]]`
  - Different kinds of values: numbers, other pages, strings, dates, locations, …

- Properties can have different types:
  - Properties are associated with types
  - Types are mostly built-in, but possibly customisable
  - Syntax: `[[has type::Datatype]]`
'London' is the capital city of [[England]] and of the [[United Kingdom]]. As of [[2005]], the total resident population of London was estimated 7,421,328. Greater London covers an area of 609 square miles. [[Category:City]]

'London' is the capital city of [[capital of::England]] and of the [[is capital of::United Kingdom]]. As of [[2005]], the total resident population of London was estimated [[population:=7,421,328]]. Greater London covers an area of [[area:=609 square miles]]. [[Category:City]]
London is the capital city of England and of the United Kingdom. As of 2005, the total resident population of London was estimated 7,421,328. Greater London covers an area of 609 square miles.

Relations to other articles — Click +🔍 to find similar articles.
London is capital of England +🔍, and United Kingdom +🔍

Attributes of London — Click +🔍 to find similar articles.
population: 7,421,328 +🔍
area: 1,577.303 km² (609 miles²) +🔍

Editing help on relations and attributes View as RDF

Categories: City
Querying semantic wiki

- Inline queries
  - Dynamically add created lists or tables to the page

sample query about cantons in Switzerland

<table>
<thead>
<tr>
<th>Capital</th>
<th>Population</th>
<th>Languages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aargau</td>
<td>Aarau</td>
<td>573,654</td>
</tr>
<tr>
<td>Ticino</td>
<td>Bellinzona</td>
<td>319,800</td>
</tr>
<tr>
<td>Graubünden</td>
<td>Chur</td>
<td></td>
</tr>
</tbody>
</table>
Querying Semantic Wiki

[[Category:City]] <q> [[population::>500,000]] ||
[[located in:: <q>[[Category:Country]] [[member
of::EU]]</q> ]] </q>

- Expressive features:
  - Category (class) and property statements
  - Conjunction and disjunction
  - Data ranges
  - Nesting

- No variables, universal statements, negation, number restrictions

→ Queries can be mapped to DL:

\[\text{City} \sqcap (\exists \text{population} . \geq 500000) \sqcup \exists \text{located}_\text{in}. (\text{Country} \sqcap \exists \text{member}_\text{of}. \{\text{EU}\})\]
Semantic Wiki

- Difference from Wiki
  - Semantic annotation of resources
  - Explicitly stated relationships
  - Wiki engine include (some) support for reasoning

- Advantages
  - Combined text-based and semantic search
  - Basic reasoning in queries with sub-/super-category/-property reasoning and resolution of redirects
  - Semantic browsing capabilities
  - Automatic list generation from structured data
  - Queries over multiple resources
  - Import and export of semantic web data