4th Linked Data on the Web Workshop (LDOW2011)

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ABSTRACT

The Web has developed into a global information space consisting not just of linked documents, but also of Linked Data. In 2010, we have seen significant growth in the size of the Web of Data, as well as in the number of communities contributing to its creation. In addition to publishing and interlinking datasets, there is intensive work on developing Linked Data browsers, Linked Data crawlers, Web of Data search engines and other applications that consume Linked Data from the Web.

The goal of the 4th Linked Data on the Web workshop (LDOW2011) is to provide a forum for exposing high quality research on Linked Data as well as to showcase innovative Linked Data applications. In addition, by bringing together researchers in this field, we expect the event to further shape the Linked Data research agenda.

Categories and Subject Descriptors

H.3.5 [**Information Storage and Retrieval**]: Online Information Services—*Data sharing*; H.3.5 [**Information Storage and Retrieval**]: Online Information Services—*Web-based services*

General Terms

Design, Experimentation, Standardization, Verification

Keywords

Linked Data, Web of Data, Semantic Web, Dataspaces, HTTP, URI, RDF

1. LINKED DATA

The term *Linked Data* [1] refers to a set of best practices for publishing and interlinking structured data on the Web. These best practices were introduced in 2006 by Tim Berners-Lee and have become known as the *Linked Data principles*. The basic idea of Linked Data is to apply the general architecture of the World Wide Web to the task of sharing structured data on a global scale. Technically, Linked Data is about employing Uniform Resource Identifiers (URIs), the Resource Description Framework (RDF)

and the Hypertext Transfer Protocol (HTTP) to publish structured data on the Web and to connect related data that is distributed across multiple data sources.

Just as hyperlinks in the classic Web connect documents into a single global information space, Linked Data provides for setting RDF links between data items in different data sources, thereby connecting these sources into a single global data space—*the Web of Data* [2].

The Web of Data can be accessed using Linked Data browsers, just as the traditional Web of documents is accessed using HTML browsers. However, instead of following links between HTML pages, Linked Data browsers enable users to navigate between different data sources by following RDF links. This allows the user to start with one data source and then move through a potentially endless Web of data sources connected by RDF links. Linked Data Search engines crawl the Web of Data and provide sophisticated query capabilities on top of the complete data space, similar to those provided by conventional relational databases. Because the query results themselves are structured data, not just links to HTML pages, they can be immediately processed, thus enabling a new class of applications based on the Web of Data [5, 6].

In addition to providing for the link-based discovery of new data sources, Linked Data also aims at easing the integration of data from different sources by relying on shared vocabularies, making the definitions of these vocabularies Web retrievable, and by allowing terms from different vocabularies to be mapped to each other by RDF links.

2. THE WEB OF DATA

Increasing numbers of data providers and application developers have begun to adopt Linked Data [3]. In doing so they have created a global, interconnected data space. Just as the classic document Web is diverse in its topical coverage, so the Web of Data spans numerous topical domains, containing data about people, companies, films, music, locations, books and other publications, online communities, as well as an increasing amount of scientific and government data.

Figure 1 gives an overview of the Web of Data. Each node in the diagram represents a distinct data set published as Linked Data. The arcs indicate the existence of links between items in the two data sets. As of September 2010, the Web of Data is estimated to contain 26 billion RDF triples and over 400 million cross-data set links [4].
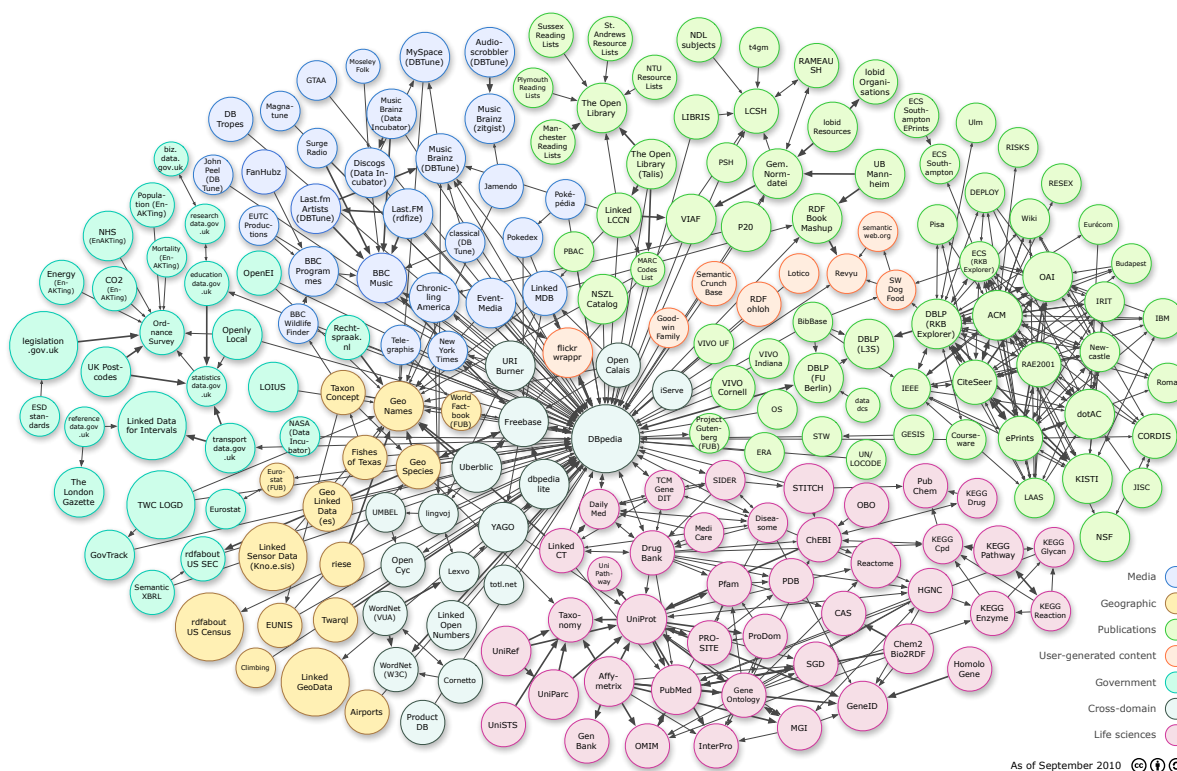
Figure 1: Topology of the Web of Data (September 2010) with more than 26 billion facts and over 400 million cross-data set links from over 200 datasets.

Relatively recent additions to the Web of Data, such as *Ordnance Survey*, *New York Times* and various government data sets from the UK and US, demonstrate how the Web of Data is evolving from data publication primarily by third party enthusiasts and researchers, to data publication *at source* by large media and public sector organisations.

3. THE WORKSHOP

LDOW2011 in Hyderabad (India) follows the LDOW2008 workshop in Beijing (China), the LDOW2009 workshop in Madrid (Spain), and the LDOW2010 workshop in Raleigh (USA). As with the previous workshops, LDOW2011 is open to covering all topics related to Linked Data publication and consumption, including principled research in the areas of user interfaces for the Web of Data as well as on issues of quality, trust and provenance in Linked Data.

We also expect to see a number of submissions related to current areas of high Linked Data activity, such as government transparency, life sciences and the media industry.

The goal of this workshop is to provide a forum for exposing high quality, novel research and applications in these (and related) areas. In addition, by bringing together researchers and practitioners in this field, we expect the event to further shape the ongoing Linked Data research agenda.

For more information about the workshop program as well as the presentations and proceedings following the workshop, please refer to the workshop website:

`http://events.linkeddata.org/ldow2011/`

4. REFERENCES

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