Benefits

From Library Linked Data

Contents

"Library Linked Data": Scope of this report

The scope of this report -- "library linked data" -- can be understood as follows:

Library. The word "library" (analogously to "archive" and "museum") refers to three distinct but related concepts: a collection of physical or abstract (potentially including “digital”) objects, a place where the collection is located, and an agent which curates the collection and administers the location. Collections may be public or private, large or small, and are not limited to any particular types of resources.

Library data. "Library data" refers to any type of digital information produced or curated by libraries that describes resources or aids their discovery. Data used primarily for library-management purposes is generally out of scope. As discussed in more detail below, this report pragmatically distinguishes three types of library data based on their typical use: **datasets**, **element sets**, and **value vocabularies**.

Linked Data. "Linked Data" (LD) refers to data published in

accordance with principles designed to facilitate linkages among datasets, element sets, and value vocabularies. Linked Data uses Web addresses (URIs) as globally unique identifiers for dataset items, elements, and value concepts, analogously to the library world's identifiers for authority control. Linked Data defines relationships between things; these relationships can be used for navigating between, or integrating, complementary sources of information.

Felix Sasaki lokaler Admi..., 20.6.11 19:12
Kommentar [1]: I would say „various", since you will not only integrate „complenetary" sources of information.

Library Linked Data. "Library Linked Data" (LLD) is any type of library data that is either natively maintained, or merely exposed, in the form of RDF triples, thus facilitating linking.

Benefits of the Library Linked Data approach

The Library Linked Data approach offers significant advantages over current practices for creating and delivering library data while providing a natural extension to the collaborative sharing models historically employed by libraries, archives, and museums ("memory institutions"). Linked data is **sharable, extensible,** and easily **re-usable.** It provides **internationalization** facilities (e.g. Unicode support) for data and user services. These characteristics are inherent in the linked data standards and are supported by the use of web-friendly identifiers for data and concepts. Resources can be described in collaboration with other libraries, and linked to data contributed by other communities or even individuals. Like the linking that takes place today between web documents, linked data allows anyone to contribute their unique expertise so that it can be reused and recombined with the expertise of others. The use of identifiers ensures that the diverse descriptions are all talking about the same thing. Through rich linkages with complementary data from trusted sources, libraries can increase the value of their own data beyond the sum of its sources taken individually, as in the story of the stone soup, where the hungry travellers' boiling a pot of stones attracted from the locals enough curiosity, and small contributions of herbs and carrots, to create a nourishing meal.

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By using globally unique identifiers to designate works, places, people, events, subjects, and other objects or concepts of interest, memory institutions can make trusted metadata descriptions available for common use, allowing resources to be cited across a broad range of data sources. An important aspect of the identifier system is its use of the Domain Name System of the Web. This assures stability and trust in a regulated and well-understood ownership and maintenance context. This is fully compatible with the long-term mandate of memory institutions. Libraries, and memory institutions generally, are thus in a unique position to provide the metadata for resources of long-term cultural importance as data on the Web.

Library authority data for names and subjects will help reduce redundancy of bibliographic descriptions on the Web by clearly identifying key entities that are shared across linked data. This will also aid in the reduction of redundancy of metadata representing library holdings.

Benefits to Researchers, Students and Patrons

Users of library and cultural institution services may not be immediately aware that linked data is being employed. Although the changes that occur will be "under the hood," the underlying structured data will become more richly linked and the user experience will provide greater discovery and use capabilities. The resulting data webs will result in more sophisticated discovery and navigation across library and non-library information resources. Links can be used to expand indexes much easier than required for today's federated searching, and can offer users a nearly unlimited number of pathways for browsing.

Felix Sasaki lokaler Admi..., 20.6.11 19:21
Kommentar [2]: I would say „webs“, since we want to have just one „web“.

Library users should be comfortable with the basic concepts of linked data since it uses HTTP, the Web's standard retrieval protocol. Applications may allow users to "follow their nose" (i.e., resolve trails of URI links) to the data itself. Once retrieved, the recombinational nature of RDF will allow information seekers to extract the parts of the data they need and understand, re-mix as required, or even to add

their own annotations as contributions to the global graph. These capabilities meet expectations for an interactive user experience, such as is found in social networking applications.

Relationships to and from non-library services such as Wikipedia, Geonames, and Musicbrainz will help connect local collections into the larger universe of information available on the Web. The rise of semantics in HTML, which plays a role in the crawling and relevancy algorithms of Google, Google Scholar, and Facebook, will provide a way for libraries to enhance their visibility through search engine optimization (SEO), allowing resources to be discovered from Websites they use routinely. Citation management can be made as simple as cutting and pasting URLs. Embedding structured data in Web pages using, for example, RDFa markup in HTML pages, will also facilitate re-use of library data in services to information seekers. Automating the retrieval of citations from linked data or creating links from Web resources to library resources will mean that library data is fully integrated into research documents and bibliographies.

Benefits to Organizations

By promoting a bottom-up approach to publishing data, Linked Data creates an opportunity for cultural organizations (including libraries) to improve the value proposition of describing their assets.

The technology itself can help organizations improve their internal data curation processes and maintain better links between, for instance, digitized objects and their descriptions, and improve data publishing processes within the organization, even in a context where all the data isn't necessarily open. Cultural organizations will be able to make use of mainstream technologies to manage their data. Today's library technology is specific to library data formats, leading to the existence of a special Integrated Library Systems industry specific to libraries. Library system vendors will benefit from the adoption of mainstream technology as it will give them an opportunity to broaden their user base.

Linked Data may be a first step toward an "in the cloud" approach to

Felix Sasaki lokaler Admi..., 20.6.11 19:26
Kommentar [3]: Maybe „memory institutions" fits better? The same applies below.

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Felix Sasaki lokaler Admi..., 20.6.11 19:29
Kommentar [4]: The "cloud" metaphor might be out of date soon ... maybe rather "on the Web"?

managing cultural information -- one which will be more cost-effective than individual systems in institutions. This approach will make it possible for small institutions or individual projects to be visible and connected, with reduced infrastructure costs.

Moreover, in an open data context, these institutions will gain greater visibility on the Web, which is where most information seekers may be found. The focus on identifiers allows descriptions to be tailored to specific communities such as museums, archives, galleries, and audiovisual archives. The openness of data is more an opportunity than a threat. One benefit may be a clarification of the licensing of descriptive metadata towards openness, thus facilitating the reusing and sharing of data and improving institutional visibility. Data thus exposed will be put to unexpected uses, as in the adage: “The best thing to do to your data will be thought of by somebody else.”

Benefits to Librarians, Archivists and Curators

The benefits to Patrons and Organizations will also have a direct impact on library and memory-institution professionals. By using Linked Data, memory institutions will create an open, global pool of shared data that can be used and re-used to describe resources, with a limited amount of redundant effort compared with current cataloguing processes.

The use of the Web and Web-based identifiers will make resources immediately available, up-to-date, for cataloguers to re-use. They will be able to pull together descriptions for resources outside their domain environment, across all cultural heritage datasets, and even the web at large. They will be able to concentrate their effort on their domain of local expertise, rather than having to re-create existing descriptions that have been already elaborated by others.

Benefits to Developers

Linked Data methods support the retrieval and re-mixing of data in a way that is consistent across all metadata providers. Instead of requiring data to be accessed using library-centric protocols such as

Z39.50, linked data uses well-known standard Web protocols like HTTP. Developers will also no longer have to work with library-specific data formats such as MARC and EAD, which require custom software tools and applications. Linked Data methods involve pushing data onto the Web in a form that is understandable to Web applications. By leveraging RDF and HTTP, library developers are freed from the need to use domain-specific software, opening a growing range of generic tools, much of which are open-source. Thus they will find it much easier to build new services on top of their data. This also opens up a much larger developer community to provide support to IT professional in libraries. In a sea of RDF triples, no developer is an island.

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Felix Sasaki lokaler Admi..., 20.6.11 19:34

Kommentar [5]: I would delete "EAD" here, since it only requires off-the-shelf XML tools.