From Bibliographic Records to Data
Changes in the Library Environment with the Application of Linked Open Data Technologies

Ana B. Ríos Hilario, Universidad de Salamanca, Salamanca, Spain
Tránsito Ferreras Fernández, Universidad de Salamanca, Salamanca, Spain
Diego Martín Campo, Universidad de Salamanca, Salamanca, Spain

ABSTRACT

The change that has taken place in the library environment with the application of linked open data technologies is analyzed. Thus, the main objective of this paper is twofold. First, the authors intend to describe this new environment from the perspective of the institutions called GLAM (galleries, libraries, archives and museum); and, second and more precisely, they analyze the change from traditional library records to the particular case of linked open bibliographic data. To attain the first part of this goal, they systematized the information found in the official sources that define the different concepts under study. To address the second part of that objective the authors examined the publication of two key documents: Library Linked Data Incubator Group: Use Cases, in particular the section referring to the bibliographic data cluster; and Linked Open Data-Enabled Bibliographical Data (LODE-BD). It is concluded that the main result of the conversion of bibliographic data to open linked data is that the data will be more visible and integrated with other services and therefore more likely to be reused by them.

Keywords: Bibliographic Data, GLAM Institutions, Library Linked Data Incubator Group: Use Cases, Linked Open Data (LOD), Linked Open Data-Enabled Bibliographical Data (LODE-BD), Paradigm Shift

INTRODUCTION

The World Wide Web Consortium (W3C) is an international community that develops open standards to ensure the long-term growth of the Web. Among its goals is to develop and promote the concept of the Semantic Web. According to this institution (2014) “The term Semantic Web refers to W3C’s vision of the Web of linked data”
Within this context, therefore, the term “Linked Data” refers to the method by which data can be displayed, published, linked and exchanged using Uniform Resource Identifier (URIs) and Resource Description Framework (RDF). Linked Data (LD) technologies make it possible to connect and enrich metadata, so that different representations of the same content can be searched and linked, thus relating resources that come from different sources and domains.

For the library environment it is very much of interest to be able to connect our data not only with the institutions of our own environment, be they libraries, archives or museums, but also with other very diverse agencies, the main result being that these institutions tend to increase their visibility on the web. However, for this idea to become a reality, cultural institutions must adapt their traditional environment to this new context.

Starting from this premise, the overall objective of this paper is twofold. First, we intend to describe this new environment from the perspective of the galleries, libraries, archives and museum institutions (GLAM); and, secondly and more precisely, we attempt to analyze the change from traditional library records to the particular case of open and linked bibliographic data.

In line with this main objective, throughout the article we also intend to meet the following specific objectives:

1. To define each of the concepts involved in the Web of Linked Data: data, open, linked.
2. To describe the following initiatives associated with these concepts, fundamentally Open Data, Linked Data and the sum of the two: Linked Open Data (LOD).
3. To identify the advantages and disadvantages of the application of this movement in the case of the institutions under study.
4. To study the case of bibliographic data in reference to this context.

The method used in our research is the study of documentary sources. To attain the first part of our overall goal, we proceeded to systematize the information found in the official sources that define the different concepts under study. These definitions have been completed with other scientific documents which specify and extend the information provided by these sources. Moreover, to reach the second part of our goal we examined the publication of two key documents: Library Linked Data Incubator Group: Use Cases, in particular the section that refers to the bibliographic data cluster, and Linked Open Data-Enabled Bibliographic Data (LODE-BD), consultation of which can assist data providers when selecting the appropriate encoding strategies for producing LOD-enabled bibliographical data.

According to the dual objective proposed, the article is divided into two parts: the first, theoretical, in which the current library environment is analyzed in relation to the application of LOD, and a second part, more applied nature, in which the development of LOD in the case of bibliographic data is detailed more specifically.

LIBRARIES IN THE LINKED OPEN DATA ENVIRONMENT

For over 20 years, in the environment of memory organizations or entities also known by the acronym LAM or GLAM (galleries, libraries, archives and museum) a series of changes has been taking place, often at a dizzying rate, that has led to a complete rethinking of the modes of management and operation of such institutions. Often referred to lately as a “paradigm shift” or “shift in perception,” this transition is becoming a reality especially in academic libraries (Bueno de la Fuente, 2012, p. 3).

Libraries were massively automated in the late 80s and early 90s. The end of the century brought the emergence of new conceptual models such as Functional Requirements for Bibliographic Records (FRBR), and the materialization of the term “metadata” to refer specifically to the description of digital documents. In the new millennium new concepts have appeared associated with this new documental typology, such as the digital library, virtual library or the
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