

Creating descriptive metadata for patron browsing and selection on the Bryant & Stratton College Virtual Library

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Abstract: As academic libraries increasingly develop virtual collections to meet the needs of both students in online degree programs and traditional campus-based students, library-quality metadata is essential not only for automated location of digital documents across computer networks, but also for user analysis so patrons can make informed selection decisions. This paper will discuss an ongoing project at Bryant & Stratton College to prepare metadata within the DotNetNuke content management system for link-level bibliographic description on the College's Virtual Library. Specifically, the paper will discuss the creation of metadata according to the best practices recommendations of the Dublin Core Metadata Initiative and established library cataloging standards. The paper will also consider the nature of browsing as a search strategy for academic information and user preferences for content notes.

Introduction

With the growing popularity of Web-enabled library services, descriptive metadata outside of the library catalog (which until relatively recently has been the traditional repository for descriptive material in the library domain) has become important for the organization and discovery of digital information resources. In *Understanding metadata* (2004), the National Information Standards Organization [NISO] observes that one of the primary functions of digital metadata is to provide for resource discovery by “allowing resources to be found by relative criteria,” “distinguishing dissimilar resources,” and “giving location information” (p. 1). Although it has been popular to embed metadata within the headers of Web-mounted documents (where their contents can be discovered by automated retrieval tools) it is also possible for metadata be stored separately from the object it describes (NISO, 2004, p. 1), analogous to the older library card catalog, which held bibliographic descriptions on index cards which then pointed to documents shelved by call number in the library stacks.

This paper will present details of a developing project at Bryant & Stratton College to provide descriptive metadata for digital documents accessible by hyperlink from the College's Virtual Library. This project is designed to allow users to examine notes about the document's content and coverage before a link selection is made, providing a value-added experience analogous to examining general, content, and summary notes in the library catalog when selecting traditional library materials. The Bryant & Stratton

College metadata project, when completed, will enhance service provided to the College's online community of library users by providing an experience much like what Thomas Mann (2008) describes as “focused browsing” (p. 185), in which the library patron is able to select resources by examining a sample of a document’s content.

Metadata and bibliographic description

Metadata has been described variously by Gil as “structured descriptions, stored as computer data, that attempt to describe the essential properties of other discrete computer data objects” (as cited in Howarth, 2005, p. 40) and by Burnett, Ng, and Park as “data that characterizes source data, describes their relationships, and supports the discovery and effective use of source data” (as cited in Howarth, 2005, p. 41). Within this general framework, metadata may serve one or more of many functions, depending on the needs of the particular knowledge community in which it is used. Metadata may, according to Howarth (2005), provide (1) administrative information about the metadata record itself, (2) descriptive information about the intellectual content of the resource it describes, (3) analysis of the resource's contents, (4) rights management information related to the described resource, (5) technical information needed to access the resource, (6) preservation information related to the resource, (7) information about the structure of the resource, and (8) information about the resource's terms of use (p. 41).

Bibliographic control seeks to organize published materials, both in print and electronic format, through the creation of secondary documents or surrogates meant to represent the entire work, and the application of controlled vocabulary terms as access points, both of which are meant to facilitate discovery of the longer, primary documents by library patrons. Chan describes the practice of bibliographic control as “the operations by which recorded information is organized or arranged according to established standards and thereby made readily identifiable and retrievable” (as cited in Howarth, 2005, pp. 38-39). Cataloging rules, such as those established by Sir Alfred Panizzi in 1841, Charles Cutter in 1904, the American Library Association in 1908, and the Library of Congress in 1949, and methods for identifying documents by subject content (such as the Dewey Decimal Classification system and the Library of Congress Classification system), along with communications formats such as Machine Readable Cataloging (MARC) and the Z39.50 open systems interchange protocol have been consistently developed and applied over the last century and a half to standardize access to information on an international scale (Howarth, 2005, p. 39). Currently, the International Standard Bibliographic Description (ISBD) requires that a traditional information package be completely described in terms of (1) title and statement of responsibility, (2) edition, (3) material specific details, (4) publication, distribution, etc., specific details, (5) physical description, (6) series details, (7) notes, and (8) standard number and terms of availability (Taylor, 1999, p. 80).

From the definitions cited above, it is clear that digital metadata and bibliographic control share similar goals, and that metadata schemes such as Dublin Core, MODS (Metadata Object Description Schema), EAD (Encoded Archival Description) and others (Zeng, 2007) can be readily utilized by the library and information science community to organize distributed computer network resources in the same way that established

cataloging standards organize traditional library resources. Howarth (2005) observes that, “at least from the functional perspective of linking users with information needs to appropriate resources, there [is] much in common between definitions and concepts of bibliographic control and metadata, respectively” (p. 43), and Taylor (1999) considers standard bibliographic records and metadata records together as document surrogates when she observes that a “[s]urrogate record serves as a filter to keep a user from having to search through myriad irrelevant full texts. Its most important function is to assist the user in evaluating the possibility that the information package that it represents will be useful” (p. 78).

Origin of the Bryant & Stratton College metadata project

The metadata project at Bryant & Stratton College originated at a meeting of the Virtual Library committee in Fall 2008 during a discussion of how to utilize the ability of the DotNetNuke content management system to provide link-level notes that could be selected by users prior to selecting the main resource link in order to examine descriptive information added by the page designer.

Both technical and intellectual considerations of adding such notes to the existing Virtual Library were considered. Notes could easily be made visible by choosing to reveal the info link on the Links View Options screen in the DotNetNuke administration module, which would allow descriptive material added in the link's metadata to be selected and viewed by Virtual Library users. Note content could easily be constructed to conform to established library cataloging and metadata best practice guidelines. The finished project would represent a value-added feature of the Virtual Library in that it would make librarian-constructed descriptive data about each resource available to the user at the link level. The committee decided to pursue the addition of metadata to the multi-page Virtual Library in conjunction with a project to identify and eliminate broken links across the entire site.

The metadata template in DotNetNuke

The link level metadata template in the DotNetNuke content management system includes the following fields for metadata management:

1. **Title:** This is the field where the page designer may insert a descriptive title for the resource being linked to. Best practice would be to transcribe the title exactly as it appears in the resource, as this would provide confirmation that the retrieved resource is indeed the one that was intended.
2. **Link:** This is the field where the resource's URL is inserted so that the resource can be successfully retrieved over the network when the link is selected.
3. **Description:** This is the field where the page designer is able to insert notes about the resource. No prescribed format is dictated by the DotNetNuke system for this field, nor is this field mandatory.
4. **View order:** This is the field where the designer may assign view order in a list of links. This field is not mandatory.
5. **Display in New Window:** This check box may be selected to force the selected

link to open in a new browser window, leaving the Virtual Library in place in the background. This option is not mandatory.

Browsing

A significant benefit of the Bryant & Stratton College metadata project is that it represents a functional way to provide precoordinated surrogates into a browsing process that is strongly postcoordinate in nature.

O'Connor, Kearns, & Anderson (2008) observe that in the precoordinate process of library cataloging, the cataloger provides title, author, subject headings, content notes and other items that aid in the systematic discovery of usable information resources (p. 110); however, browsing represents a form of postcoordinate searching in which “there is not specification of search query attributes, except for the limiting case of 'I know I don't know what I need to know, so I will entertain any combination of [search terms]” (O'Connor, Kearns, & Anderson, 2008, p. 116). Search queries created in this way produce a broad return set in which many items are not useful in answering the user's information need. While browsing offers the user an experience where serendipity may play a significant role in the discovery of useful documents through sampling of individual items in the return set, the trade off is a very high investment of time and energy on the part of the user (O'Connor, Kearns, & Anderson, 2008, p. 110).

Making metadata available at the link level will insert standard precoordinated descriptive notes into the browsing experience, allowing the user to examine content and summery notes to help determine if the described resource will in fact be useful for the immediate information need. This will free the user from having perform a complete scan each document to determine structure and information content, thus speeding up the browsing experience and allowing the user to locate the necessary information within the document and proceed with the research process.

Descriptive note types and Dublin Core Metadata Initiative best practices

The description field in the DotNetNuke content management system maps directly to the description field in the Dublin Core metadata element set, version 1.1 (Dublin Core Metadata Initiative [DCMI], 2008). The Dublin Core Website notes that the content of this field “may include but is not limited to: an abstract, a table of contents, a graphical representation, or a free-text account of the resource” (DCMI, 2008). These guidelines correspond to the best practice guidelines for the notes area of the International Standard Bibliographic Description, which Taylor (1999) observes, may “describe the nature, scope, or artistic form of the work” (p. 81).

User preferences for link-level description

A small number of Virtual Library users made up of students, faculty, and staff at the Cleveland Downtown campus were polled during November-December 2008 and asked what sort of link description they would prefer to see on the Virtual Library. Options

provided were (1) a table of contents, (2) an abstract giving a general summary of the resource, and (3) a quotation from the author describing the resource's purpose, if available. The survey was mounted and results tabulated using SurveyMonkey.com and distributed to the Cleveland Downtown population via email. Of the 20 total responses gathered, 10 (50%) signaled that they would like to see a table of contents, 8 (40%) responded that they would like to see an abstract, and 2 (10%) responded that they would like to see a quote from the author of the resource.

Future directions

At present, the Cleveland Downtown campus portal of the Bryant & Stratton College Virtual Library is serving as a test site for the creation of bibliographic metadata at the link level. Following the results of the user preference survey, a table of contents is created whenever possible by examining the structure of the resource being described. In situations when a table of contents is not a viable option, an abstract is created which summarizes the resource.

Site-wide examination of the Virtual Library for non-functioning links is in progress, and is expected to be completed in 2009. At this time, the Virtual Library committee will undertake the task of creating descriptive metadata for all links across the top-level pages on the Virtual Library, which are available to students, faculty, and staff at each of Bryant & Stratton College's fifteen campuses in New York, Ohio, Milwaukee, Virginia, and the Online Campus.

Conclusion

As electronic resources of academic research quality proliferate across the Web and academic library Websites increasingly provide hyperlinks to these resources, there is need for surrogate (metadata) descriptions outside of the traditional library catalog setting to assist users in selecting and evaluating these resources in the same fashion that surrogates found in the library catalog help users discover traditional materials. Additionally, as the popularity of content management systems (such as DotNetNuke, which allows for item-level metadata description) increases, it is possible to provide mini-metadata repositories describing linked resources as part of the library's Website.

Providing such metadata description to assist Website users will provide librarian-created evaluation of each link -- in effect, a descriptive catalog record -- summarizing the content of the resource so that users may make more informed selection decisions without having to read the entire text of a Web-mounted document before deciding if it will be useful for a particular information need. The developing metadata project on the Bryant & Stratton College Virtual Library is intended to provide such service to the College's community of users, thus making the experience of using the Virtual Library similar in scope and quality to visiting any one of the College's fifteen campus-based libraries.

References

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