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For many catalogers, web sites that are pertinent to their users' needs are particularly challenging to catalog. While AACR2 has addressed the standards for cataloging electronic resources, including web sites, the structures and constantly changing information within web sites makes cataloging them problematic. This guide provides new catalogers who are not familiar with cataloging web sites with strategies for effective copy cataloging using the OCLC Connexion cataloging tool. Some of the topics explored are the development of the Internet, reasons for cataloging web sites, problems with cataloging web sites, and maintaining web addressing, using AACR2 rules or Dublin Core metadata schemes and the fields and code typically used in catalog records for web sites.

Headings:

Cataloging – Web sites

Copy cataloging

Internet – Cataloging

Internet resources – Cataloging

Web sites

Dublin Core

Guide for Cataloging Legal Websites: using MARC and Dublin Core

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Introduction

This guide is intended to be used as a manual by new and experienced catalogers who want to provide patrons with access to websites through their library's online public access catalog (OPAC). The idea of cataloging the web is challenging if not practically impossible. Websites are constantly changing and being updated. It would take tremendous time and effort to maintain accurate and up to date access to websites for library patrons. Cataloging services provided by OCLC are now more advanced and provides catalogers with the capability to create records with ease. OCLC's cataloging tool Connexion has completely changed how time consuming creating bibliographic records can be. Records can now be created with the click of a few buttons. Because tools have become simplified, it does not suggest that library students should not have formal training in organizing materials.

Literature Review

A Historical Look at Cataloging and Classification

The origin of cataloging dates back thousands of years. With such a long history, it is remarkable how the need for revisions, clarifications and additions are required for a system that has with stood the test of time. Years ago the amount of books was considerably small in comparison to what exist today. Even more, the creation of the Internet would come many years later, causing the availability of information to soar. Nevertheless, "librarians have been confronting the challenge of compiling a complete

and accurate record of their holding since 2000 B.C." (Strout as cited by Blake, 2002).

Unlike to today, catalogs were created by sole individuals and they varied in quality. The

need for sophisticated catalogs was unnecessary since most collections were small and

the demand for resources in them was modest. Both of these factors changed and the

necessity to retrieve resources quickly increased causing serious challenges.

In the 1830s the British Museum was "a disorganized and random collection of

books catalogued by indigent clergymen and other part-time drudges" (Gorman as cited

by Blake, 2002). A completed catalog of the British Museum was completed in 1819. It

was a seven- volume catalog that soon grew to twenty-nine volumes. In 1836, the House

of Commons selected a committee to inspect the British Museum and the miserable status

of its catalog. This project formed after patrons complained of an inability to find books.

In 1837, Antonio Panizzi, a former revolutionary and lawyer inherited the project along

with the aggravation of the committee. The objective set by the committee was clear, "to

standardize the format of the bibliographic records and to assure that enough detail was

included to differentiate one record from another" (Huford as cited by Blake, 2002). With

the assistance of a few librarians, Panizzi created and submitted a proposal of seventy-

three rules to the committee. The rules were expanded to ninety-one and titled, "Rules for

the Compilation of the Catalogue". The rules were approved in 1839 and published in

1841. According to Lehnus, "the ninety-one rules indicate that thirteen rules (XVIII-XXI)

are devoted to description and thirteen rules (LIV-LXIX) focus on cross references. The

subjects of sixty-one of the ninety-one rules are the twin problems of entry and heading.

The rules are based on three principles: (1) the data are derived from the item in hand, (2)

the title page is the primary source of data, and (3) the title is to be transcribed exactly as it appears in the work" (Blake, 2002).

In America, efforts were being made at Brown University to create a new library catalog. In 1841 Charles Coffin Jewett was appointed librarian and Professor of Modern Language at Brown University. "The library there had a collection of 10,000 volumes and was considered one of the better collections in the country" (Harris as cited by Blake, 2002). Two catalogs for the library had previously been published. One in 1793 that consisted of 2,173 volumes and the second in 1826 consisting of 5,818 volumes. Jewett completed the new catalog in 1843 and received for this achievement. "This catalog represented an important advance for American cataloging achievement" (Blake, 2002). Jewett traveled to Europe and met with Anthony Panizzi forming a close friendship and forging the first steps towards a cataloging alliance. It wasn't until 1876 that more efforts towards an alliance were made again. During a conference in Philadelphia, 103 librarians met and started the American Library Association (ALA). Throughout this conference the major discussion was on reviving Jewett's concept of cooperative cataloging. In 1901 ALA reached an agreement with the Library of Congress to create printed cataloging cards and make them available to American Libraries.

Today the collaborative efforts of the Library of Congress and the American Library Association and Library Association of the United Kingdom forged a strong alliance. "In 1930 the ALA Committee on Cataloging and Classification suggested the advisability of a revision of the 1908 rules…."(Wright as cited by Blake, 2002). The dissolution of the alliance began at that point.

A Historical Look at Law and Law Librarianship in the United States

The development of law is closely related to the expansion of civilization. It is a natural outcome of people living together and dealing with each other that a set of rules would be established to resolve disputes. Law evolved before history was recorded and rules were established to settle disputes before written law or courts existed dating back to the times of ancient Egyptians. As societies evolved laws became more detailed and a sophisticated formal legal system was established. In 1779 the nation's first law school was created at the College of William and Mary, by then-governor of Virginia, Thomas Jefferson, during his reorganization of the institution. Not long after, Harvard's Law School was established in 1817 and the University of Virginia's School of Law was established in 1826. Within one hundred years, twenty-six law schools were established in America.

In August of 1878,100 lawyers from 21 states founded the American Bar Association (ABA) was in Saratoga Springs, New York,. The legal profession barely existed at that time. During this time lawyers were generally practitioners who trained under an apprenticeship. Before the inception of the ABA, there was no national code of ethics and no national organization to serve as a forum for discussion of the progressively complicated matters involved in legal practice.

On January 20, 1832, the Library of Congress Law Library was established. " Libraries are institutions that select, acquire, give access to, arrange, and preserve record knowledge and information in all formats and give assistance and instruction in the use of that recorded knowledge and information. In pursuing that mission, every library has three priceless assets – a trained and knowledgeable staff of librarians and other library

works, collections and the bibliographic control architecture that gives access to the collections" (Gorman, 1999). "New York Senator William Marcy, a sometime Associate Judge of the Supreme Court of New York, introduced a bill to "Increase and Improve the Law Department of the Library of Congress." This time, the Bill passed both Houses of Congress and was signed by President Andrew Jackson on July 14, 1832. The Statute remains in force, now listed as 2 U.S.C. 132, 134, 135, 137. The Act directed the Librarian to prepare an "apartment" for the purpose of a law library and to remove the law books from the library into the apartment. The Justices of the Supreme Court were authorized to make rules and regulations for the use of the Law Library during the sitting of the court. The Law Library, however, remained a part of the Library of Congress which was responsible for its incidental expenses" (Library of Congress, 2007). " Great law libraries grew in the middle of the twentieth century. Elite law schools like Harvard, Yale, Columbia, and Michigan built huge collections of materials" (Balleste, Lamas, and Butler, 2007). Today the ABA requires all accredited American law school to have a law library. The American Association for Law Libraries was founded in 1906 by J. Small who was working as the curator of the Iowa State Law Library. Today the organization boasts of having a membership count of more than 5,000.

The Birth of the Internet and Information Explosion

The Internet is considered the ultimate information resource. It has revolutionized information retrieval and communication and made what once seemed a large world into a smaller manageable one. "The Internet's history is complex and involves many aspects; technological, organizational, and community. And its influence reaches not only to the technical fields of computer communications but throughout society as we move toward

increasing use of online tools to accomplish electronic commerce, information

acquisition, and community operations" (Internet Society, 2006). The first account of

using networked communication was written by J.C.R. Licklider in 1962 when he

envisioned a set of computer that globally connected through a network. This idea grew

into what we now as the Internet.

Cataloging Web Sites? Why and How?

Today information seekers turn to the World Wide Web before entering the doors

of a library. While this may seem discouraging for many information professionals, it is

not practical to ignore the popularity of information resources being accessed online. As

an alternative it is important to become involved in creating and managing records for

access. One of the main challenges for librarians with respect to web sites is the constant

updating of information and access to them. It is not unheard of to visit a web site one

day and on the next day the web address and information on it has changed. So why

should libraries even bother with cataloging web sites? One of the stigmas associated

with libraries is that they are dinosaurs. While many students and citizens consider

libraries to be constructive dwellings, the need for them is being questioned more and

more today.

Many discussions have centered on cataloging internet resources. The question is

posed, why should libraries catalog websites when patrons can retrieve information from

the web? "Cataloging is the invisible activity of libraries aimed at achieving order for

effective information retrieval and use. Therefore, the first debate related to the Internet

among librarians and other information professionals were focused on the viability of

cataloging Internet resources" (Lam, 2000). This may be stating the obvious, but the

Internet is a massive information resource and it is impossible for librarians to catalog the entire web. It is however possible and behooving for libraries to provide access to resources in all format to their users. With that being said the nature of libraries has changes rapidly with the advances of technology. Online catalogs have become more than simple searching aids for books. More and more people are using web sites for research. "Although librarians probably could never catalog the whole Internet, there are valid reasons to add web sites to online catalogs" (Barnes, 2002). Library OPACs software allow records to include active hyperlinks to web sites. Library patrons are likely to use the Internet before talking to a reference librarian; if a library can organize and describe web sites this could serve as an intermediary role. "It is true that Internet resources present challenges to catalogers that no other format does" (Barnes, 2002). This should not dissuade catalogers from integrating web sites into their library's catalog. The challenges can lead to rewarding opportunities for libraries and those who use them. "One of the main values in cataloging electronic resources, writes Michael Gorman, is that it saves considerable time and effort on the part of the information seeker; although there is a considerable amount of upfront expense in terms of time and money cataloging these resources, it is time and money well spent" (Hinton, 2002). Simpson states that cataloging electronic resources provides "a quality filter for the Internet" (1997). Since libraries have a limited number of staff members existing for cataloging Internet resources it is important to select authoritative items. Hinton also writes, including electronic resource records in the OPAC helps to bring users back to the collections for which the library has already spent revenues by leading them to electronic and traditional (print, media, etc.) resources simultaneously" (2002). Erik Jul points out that "value is

added to records for electronic resources through subject analysis, classification, authority control, and uniform headings. He suggests that if an Internet resource, if it were published in a more traditional format such as paper, falls within a library's criteria for selection, it should be chosen for cataloging and inclusion in the OPAC" (1998).

While there are numerous benefits to adding records for Internet resources to a library's catalog, there are also some disadvantages. Arlene Taylor identified five major obstacles in cataloging Internet resources. First, she cites the lack of a clear definition of what constitutes an information package for an electronic resource, particularly the difficulty in defining what constitutes a monograph or serial under the new environment. "Problems also exist in identifying an Internet resource's chief source of information; determining whether a resource should be treated as a new edition; deciding whether a resource should be considered published; and finally, experiencing the limitations in apply the "Rule of 3" wherein it is required that states of responsibility which cite four or more names shall be limited to transcribing on the first identified individual or body in the statement of responsibility" (Taylor, 1999).

Starting the process

Libraries that decided to catalog web sites when the Internet began to gain popularity among the masses are in an ideal position today. Libraries that have not cataloged web sites and are thinking about doing so, are in a challenging position. The OCLC Internet cataloging project that began in 1995 initiated a nationwide, coordinated effort among libraries and institutions of higher education. "The objective was to created, implement, test, and evaluate a searchable database of USMARC bibliographic records,

complete with location and access information, for Internet-accessible materials"
(Neumeister, 1997). Hinton states, "with the overwhelming amount of quality materials
available, determining where to begin one's efforts in cataloging these materials can be a
daunting task" (2002). In an academic library, the selection criteria for cataloging web
sites should be based on supporting curriculum of degree programs offered at their
respective institutions or the school in which they serve, for example law. The selection
criteria for web sites should be the same as the selection criteria for traditional materials.
Librarians must maintain the same critical assessment skills for deciding what materials
will be physically housed in the library those same skills are essential when selecting web
sites that will be cataloged and accessed by users. Those familiar with the cataloging
process of librarians will agree that it is a tedious and sometimes complicated endeavor.

Cataloging web sites is not a new idea, but for any library planning to embark on
this effort they should make all attempts to make the process easier. "A notable effort of
the department at Vanderbilt was the development and creation of a web form sent via e-
mail to the designated cataloger from the bibliographer selecting the site" (Hinton, 2002).
"In addition to such essential information as title and URL, the form also asks for
information about access (whether it is restricted to Vanderbilt users or not); what library
should be citied for ownership in addition to the default library, INTERNET; and if there
is a related print resource in the library's OPAC" (Hinton, 2002). Producing this form
electronically is a sure way to hasten the selection process and provides structure and
consistency to this task. "As cataloging of Internet resources continues to evolve,
undoubtedly issues regarding training will continue to be raised" (Hinton, 2002). "In spite
of the various problematic aspects presented by Internet resources (poorly organized, lack

of stability, variable quality), catalogers have decided that they are worth cataloging, in particular those meeting library selection criteria" (Lam, 2000).

Problems with providing access to Internet resources

Difficulty providing access to Internet resources are well known to libraries who are considering adding them to their catalog. "One of the greatest difficulties with introducing Internet resources into a library collection is determining if a library [can] provide through its OPAC access to Internet resources that equals or exceeds the access it provides to the other information resources in its collection" (Dillon and Jul as cited by Ward and VanderPol, 2000). Web sites are known for being inherently unstable. It is one of the major reasons librarians are opposed to adding records for web site to the catalog. According to Ward and VanderPol, "a site may be analyzed, selected, and cataloged, only to later have its content, scope, or authorship changed slightly or drastically. Careful subject analysis of an individual site can thus be rendered either insufficient or else entirely inappropriate" (2000). Web surfers are all too familiar with the common error message, "404 Not Found" (Figure 1) signifying that a web site's been removed from the Internet or has a new URL. "When the possibilities of theses problems are multiplied by the number of Internet resources a library seeks to provide access to, it quickly becomes apparent how unstable access to appropriate sites can become (Ward and VanderPol, 2000).

Another concern with adding web sites to catalogs for catalogers is the growth speed of the Internet and its resources. "During the one-year period of the first OCLC Internet Project, from October 1991 to September 1992, the network traffic bytes grew

from 1.88 to 3.32 trillions" (Dillon et. Al. as cited by Lam, 2000). The rate has not
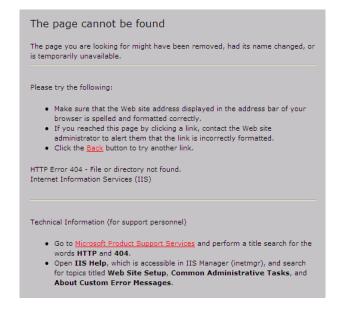
slowed down and shows no signs of slowing.

Fig. 1: HTTP error message indicating that the browser was unable to communicate with the server to find the desired web site.

Maintaining Web addresses

Web sites are notorious for being unreliable sources and cataloging them has

proven to be difficult. Jeffrey Beall indicated, "as with all web pages, link sites created by

individuals and by organizations are subject to a certain degree of volatility" (1997). The

Web is an ideal outlet for a plethora of information resources that allow updating and

changes to be made with ease. "According to Beall, "sites can undergo total,

unannounced transformations, including changes in design, focus, title, etc. or they can

be incorporated into other sites, or they can be broken down into smaller sites. Basically

anything can happen" (1997). He goes on to say, "Sites associated with individuals tend

to have a higher degree of volatility than sites associated with corporate entities" (Beall,

1997). Corporate sites are typically more secure because they have paid staff to maintain

them and it is in their best interest to retain a positive Web presence the better the

organization is perceived by Web users. There are three types of volatility in web link

pages Beall writes, "external volatility, which refers to the presence of the whole site on

the Web; internal volatility, which refers to how the site measures up in terms of its

serving as a comprehensive and up to date set of links to resources on a given topic"

(1997). The overall creation and use of Internet resources is a tremendous benefit for

persons providing information and those who are seeking it. It is a must that the data

being offered is current and that links within those web sites are active.

Hinton states, "decisions as to who is responsible for correcting the links and in what

time frame have yet to be made [at various institutions]" (2002). Not having a librarian

reviewing catalog records for web sites is a problem that is particularly destructive to the

stability of the library's OPAC. Links that are no long active or lead to the wrong web

site will only leave information seekers with a negative impression of the library's ability

to provide reliable and authoritative resources. Neumeister mirrors this sentiment with

stating that, "URLs are an additional problem when they do not work because Internet

resources move, change names, or change methods of access" (1997). During this period,

OCLC was able to e-mail the results of their periodic automated checking of URLs in

856 fields (Figure 2) to project participants who have contributed bibliographic records

for Internet resources.

They correlated the OCLC 3-character symbol from the 040 field (Figure 2), with

the e-mail address of the associated Local Project Coordinator. With this offering local in

house checking of the validity of URLs is not necessary. This is a tremendous benefit for

catalogers who are inundated with cataloging other materials.

Fig. 2: Catalog record for UNC Law School homepage

"This raises the issue of changing the catalog record to reflect the changed title and including a 257 field to denote what the earlier title had been" (Hinton, 2002). The challenge then for the next generation of catalogers would seem to be to invent and apply innovative uses for the catalog, to further expand the interconnectivity between the catalog and web pages as was suggested by Zora Breeding and to educate information seekers about the changing, but certainly not extinct role of the catalog in the digitized world" (Hinton, 2002).

AACR2 or Dublin Core?

The notion that one method of cataloging is better than the other should be abandoned immediately. It is not a matter of superiority, but rather what system best suits your organization and ultimately what is best for your users. Cataloging has been an

intricate part of libraries for many years. While material formats have changed, the need

for standards and consistency among records is still vital to libraries providing quality

information to its users. "Libraries catalog Internet sites in order to integrate them with

other long existing materials" (Callery and Proulx, 1997). While this many seem like an

obvious progression in what is now seen as an Information driven world, concerns and

excitement about cataloging web sites are still strong. Along with these varying emotions

the creating and use of trendy new words and language has taken hold.

Metadata is the buzzword of the moment. Wendler defines metadata as

"information needed to identify, locate, manage, and access materials the library wishes

to make available to its users" (1999). The most popular example of metadata elements

set is Dublin Core (DC). "The Dublin Core is an international standard for describing and

cataloging all kinds of information resources: books, articles, videos, and World Wide

Web (web) resources" (Coleman, 2005). Currently there are sixteen DC elements (See

figure 3). Originally there were only fifteen metadata elements. Coleman writes, "last

year [2004] DC was extended with a sixteenth element, Audience. When only the

original fifteen DC elements are used in metadata creation, the level of DC used is called

Simple; this can be considered equivalent to minimal level cataloging. When the

sixteenth element, refinements to the original fifteen, such as qualifiers and encoding

schemes (for example, the vocabulary term and name of the vocabulary form which it is

derived), are used, the level of DC use is called Qualified; think of this as full level

cataloging (2005). The sixteen Dublin Core elements are:

Dublin Core Element Set	
Title	Format
Creator	Identifier
Subject	Source

Dublin Core Element Set (continued)	
Description	Language
Publisher	Relation
Contributor	Coverage
Date	Rights
Type	Audience

Figure 3: Dublin Core Element Set

Some of the general guidelines about metadata creation that can be drawn from the rich history of libraries in descriptive and subject cataloging are presented. "Library cataloging has always been considered costly and prone to budget cuts and criticisms. Even as early as the late 1800s American libraries were concerned about the unit cost of cataloging, i.e., how much did it cost to catalog a book" (Coleman, 2005). Ron Chepesiuk adds, "MARC cataloging poses problems because it is labor intensive, in-depth cataloging that cost a lot of money to produce" (1999). This is important to understand because library budgets are constantly shrinking and the price of library materials are continuously rising. This makes providing access to Internet resources vital, if librarians have to cut print subscriptions and purchase fewer books due to dwindling budgets. Stuart Weibel advised " MARC and other formal standards are time-consuming to create and maintain and should only be created for the most important records" (Chepesiuk, 1999).

A number of opposing views with regards to cataloging Internet resources using MARC have been voiced. According to Chepesiuk, David Seaman, director of the Electronic Text Center at the University of Virginia pointed out, "it's difficult to justify the time and expense of doing MARC cataloging of Internet materials on a large scale because what you have to catalog is so fluid. You go to the web one day and the item is there. Return in six months and its not there. Or it's still there but has changed so dramatically that the record doesn't match anymore" (1997). A large consensus is

building around using Dublin Core as the method for describing Internet resources.

Dublin Core has become the prominent candidate for describing electronic resources. Its

simplicity is an appealing because it allows anyone to organize materials with ease. "The

lack of rules and rule interpretations also makes the use of DC simpler and easier for

local applications" (Banski, 2002). Libraries can customize metadata sets to fit their

institution's need. As Hillman pointed out, "it's not a metadata element set that is going

to replace MARC. It's going to evolve and co-exist alongside it" (Chepesiuk, 1999).

Norm Medeiros shares Hillman's view by stating, "clearly MARC and Dublin Core

combined are greater than the sum of their parts. Through a complementary relationship,

these two descriptive standards can provide much needed access to the best the Net has to

offer" (1999).

Some argue that although complex and tedious, AACR2 rules are the best method

to use because of its long proven history of working well for resource description and

vocabulary control. "Metadata like Dublin Core lacks the level of predictability that

would allow for a broad systematic re-use of the records" (Coyle, 2005). With Internet

resources having the reputation for being unreliable, the scheme being used to organize

these resources need to predictable and dependable. Ann Huthwaite points out the

advantages of libraries using AACR2 over Dublin Core for Internet resources. "First it is

an international standard that continues to grow in use throughout the world" (Huthwaite,

2003). Versions of AACR2 are used in many countries, like the United Kingdom, Japan,

China, Australia, Korea, and Mexico. This has led to widespread sharing of catalog

records and created opportunities for dialogue among colleagues in a global arena.

"Another advantage of AACR2 is that it is intended for all formats" (Huthwaite, 2003).

AACR2 is designed to describe all types of resources, not just web materials. It allows

Internet resources to be integrated in a hybrid environment. The third advantage is that

AACR2 is a precise standard. The fourth advantage is that AACR2 is considered to be a

more controlled metadata standard. According to Huthwaite, "another important factor is

that AACR2 provides for authority control" (2003). This is a benefit for library users who

are not familiar with various names and places that may relate. "Finally, AACR2

provides a principled approach for resource discovery" (Huthwaite, 2003).

Codes and Fields Used for Cataloging Web sites
(Information gathered from AACR2 rev.)

(R) = Repeatable and (NR) = Non-repeatable

Fixed Fields

This is a "quick" reference for MARC fields and subfields to use when cataloging
electronic resources:

Enc Lvl *(Encoding Level)* **008**

- use 7 for minimal level records
- use blank for full level records

File Type must be coded in the 006 (Fixed Field – Additional Material Characteristics).

File Typ *(File Type)* **006**

- a Numeric data
- b Computer program
- c Representational – Pictorial or graphic information that can be manipulated in conjunction with other types of files to produce graphic patterns that can be used to interpret and give meaning to the information.
- d Document
- e Bibliographic data
- f Font
- g Game
- h Sound
- Interactive multimedia (R)
- j Online system or service
- m Combination

- u Unknown
- z Other

006 (Fixed Field – Additional Material Characteristics)

The 006 is an additional fixed field used to code information pertaining to aspect(s) of the resource not contained in the 008 for the format used to catalogue it. In this case, the 006 is used to code information pertaining to the computer file part of the electronic resource and can ONLY be added at the point of creating a new title.

007 (Fixed Field – Physical Description – Computer File)

This data element gets coded in with the variable fields. There are thirteen positions. The first one is **ALWAYS** 'c' for computer file. For internet resources, the next position is the only one necessary and it is almost always 'r' for remote. Consult the appropriate volume of the MARC21 Bibliographic Format for complete information.

500 *Source of Title Note* (R)

This is a **required note** for minimal level and full level electronic/Internet resources records. It is used to specify where the form of the title used as the title proper was obtained.

Examples:
500: |a Title from title screen
500: |a Title supplied by cataloger

530 *Additional Physical Forms Available* (R)

Since this note ends with a URL, please DO NOT end it with any punctuation as the punctuation could be *incorrectly* interpreted as being part of the URL. **Examples:**

Added copy to print version
530: |a Also available on the Internet. MODE OF ACCESS via web browser by entering the following URL: http://nclrev.unc.edu/cocoon/nclrev/current-issue.xsp

No longer issued in print
530: |a Final print issue autumn 1996. CURRENT issues ONLY available on the Internet. MODE OF ACCESS via web browser by entering the following URL: http://nclrev.unc.edu/cocoon/nclrev/current-issue.xsp

538 *Mode of Access* (R)

This note is required for electronic resources.

Example:

538: |a Available on the Internet. MODE OF ACCESS via web browser by entering the following URL: http://nclrev.unc.edu/cocoon/nclrev/current-issue.xsp

Since this note ends with a URL, please DO NOT end it with any punctuation as the punctuation could be *incorrectly* interpreted as being part of the URL.

538 *System Requirements* (R)

For files available by remote access, this note is used to specify any special program required for use with the file. It begins with the words: System requirements. This note is not required (See figure 4).

Example:

538: |a System requirements: World Wide Web

Figure 4: Marc record for U.S. Department of Justice web site with note pointing out the 538 field.

856 *Electronic Access and Location* (R)

Required for electronic resources. This tag contains the information required to identify and retrieve an Internet resource (See figure 5).

Figure 5: Marc record for U.S. Department of Justice web site with note pointing out the 856 field.

Indicator 1: Access Method

The most common values follow, *4 HTTP* will be the one used most often.
0- Email: indicates that access to the electronic resource is through electronic mail
1- FTP: indicates that access to the electronic resource is through File Transfer Protocol
2- Remote login (Telnet): indicates that access to the electronic resource is through remote login
3- Dial-up: indicates that access to the electronic resource is through a conventional telephone line
4- HTTP: indicates that access to the electronic resource is via a web browser through HyperText Transfer Protocol
7- Method specified in subfield $2

Indicator 2: Leave Blank

Subfield Codes

|u URL. Uniform Resource Locator: contains the data which makes the electronic link work. It is the information in the |u which makes the link to the electronic/Internet resource so it is important to take extra care to ensure that this information is correct.

|z Public note. This will be used as necessary to display explanatory information about the link.

These will be the subfield codes used most often.

Examples:

856: 4 |u http://www.law.unc.edu/

856: 4 |u http://library.law.unc.edu/

Cataloging Exercise

Today cataloging tools have advanced tremendously. They allow the once time consuming and tedious process of cataloging materials to start and be completed within a matter of minutes. Cataloging librarians who are a part of OCLC member institutions can have access to up-to-date records for all types of resources: monographs, serials, electronic books, audiovisual recording and websites. This service is not only a cost effective way to obtain reliable MARC records, it also increases the visibility of a library's collection by adding an a holding symbol to each record that is used. The ease of new tools in no way means that librarians should not have an in-depth understanding and superior knowledge of the fields that make up a MARC record and their purpose. Below is a cataloging exercise that is intended to help build ones knowledge about the fields that are used to catalog websites.

Please take a look at the cataloging exercise and answer the questions below.

1. What note field is repeatable and provides mode of access information in a MARC record?

   □ 245
   □ 538
   □ 856

2. The 856 field is required for the electronic resource and location information. What is the first indicator used to show that access to the electronic resource is via a web browser through HyperText Transfer Protocol? What is the second indicator?_____

3. What chapter in AACR2 is devoted to providing information about electronic resources standard?

    □ Chapter 3
    □ Chapter 6
    □ Chapter 9

4. What fixed field is used for physical description information?

    □ 006
    □ 007
    □ 090

5. What subfield code is used for the URL data?

    □ a
    □ b
    □ u

Now practice create catalog records for web sites and take a look at the fields and subfields that are used when these records are generated. This is a good way to become familiar with codes that are used in cataloging records and it allows you to practice adding information into a record that may someday be added to your library's OPAC. Follow the steps below.

Step 1: Login to OCLC Connexion Browser at connexion.oclc.org (If your institution does not have access to this tool, find out how you can gain access even if for a trial period).

Step 2: On Cataloging select the Create tab.

Step 3: On "Use the . . ." select Computer files.

Step 4: Where it says Single Record select instead Extract Metadata

Step 5: On the Extract Data from URL enter a URL (see appendix B) then click Create.

Step 6: Examine the MARC data created by the extraction software to see how much you agree and disagree with it.

Step 7: Did you detect any errors? What would you have added, deleted or changed to the record to fit your library's requirements?

Step 8: You can alter the amount of cataloging data displayed or website displayed by moving the dividing line up or down. This will allow you to see the information in the record better.

Step 9: Now in the upper right area change MARC Template to DC Template.

Step 10: Compare the DC standards to the AACR2 2002 rev. Chapter 9 standards?

Step 11: To do another website repeat the process beginning with Step 2.

Conclusion

Cataloging Internet resources is a challenging task because of its format and volatility. With efforts to include Internet materials into the library's OPAC, catalogers are equipped with tools that allow them to provide users with quality information. AACR2 is the traditional standards used for cataloging materials, while Dublin Core is a contemporary set of standards that causing some to question the need for AACR2. It has been determined that while some librarians are opposed to the idea of using Dublin Core there are many who believe the two standards can be used in an collaborative manner. "While it is true there is a growing confluence between the cataloging and metadata communities, an incredible amount of work remains to be done on content standards and related to it, on controlled vocabulary sets" (Schottlaender, 2003). While the possibility of a complete consensus being reached on which method is best to use for cataloging web sites will most likely never be achieved, it is a success to have a considerable number of information professional professionals supporting both standards.

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APPENDIX A: Glossary

AACR2: stands for the Anglo-American Cataloguing Rules, Second Edition. It is published jointly by the American Library Association, the Canadian Library Association, and the Chartered Institute of Library and Information Professionals (in the UK). AACR2 is designed for use in the construction of catalogues and other lists in general libraries of all sizes. The rules cover the description of, and the provision of access points for, all library materials commonly collected at the present time.

AALL: American Association of Law Libraries

ABA: American Bar Association

ALA: American Library Association

Bibliographic Control: the identification, description, analysis, and classification of books and other materials of communication so that they may be effectively organized, stored, retrieved, and used when needed.

Catalog: A list or itemized display, as of titles, course offerings, or articles for exhibition or sale, usually including descriptive information or illustrations.

Cataloger: a person who catalogs.

Cataloging: To classify (a book or publication, for example) according to a categorical system.

Classification: any of various systems for arranging books and other materials, esp. according to subject or format.

Dublin Core: a metadata element set that is a standard for cross-domain information resource description. In other words, it provides a simple and standardized set of conventions for describing things online in ways that make them easier to find. Dublin Core is widely used to describe digital materials such as video, sound, image, text, and composite media like web pages.

Hyperlink: a link from a hypertext file to another location or file; typically activated by clicking on a highlighted word or icon at a particular location on the screen.

Hypertext: A computer-based text retrieval system that enables a user to access particular locations or files in web pages or other electronic documents by clicking on links within specific web pages or documents.

Internet: An interconnected system of networks that connects computers around the world via the TCP/IP protocol.

APPENDIX A: Glossary (continued)

Law: the principles and regulations established in a community by some authority and applicable to its people, whether in the form of legislation or of custom and policies recognized and enforced by judicial decision.

MARC: Machine Readable Cataloging record

Metadata: data about data; "a library catalog is metadata because it describes publications"

Online Computer Library Center (OCLC):

Online Public Access Catalog (OPAC): A computerized system to catalogue and organize materials in a library (the kind that contains books). OPACs have replaced card-based catalogues in many libraries. An OPAC is available to library users (public access).

Uniform Resource Locator (URL): is the global address of documents and other resources on the World Wide Web.

World Wide Web (www): The complete set of documents residing on all Internet servers that use the HTTP protocol, accessible to users via a simple point-and-click system.

APPENDIX B: List of Credible Legal Websites

Federal	Web Addresses
Supreme Court of the United States	Supreme Court of the United States http://www.supremecourtus.gov/
United States Department of Justice	United States Department of Justice http://www.usdoj.gov/
Copyright Law in the United States	Copyright Law in the United States http://www.copyright.gov/title17/
Law Library of Congress	Law Library of Congress http://www.loc.gov/law/guide/index.html
USA Gov	USA Gov. http://www.usa.gov/Topics/Reference_Shelf.shtml
United States Senate	http://www.senate.gov/general/contact_information/senators_cfm.cfm
United States House of Representatives	http://www.house.gov/house/MemberWWW.shtml
State (North Carolina)	**Web Addresses**
North Carolina Department of Justice	http://www.ncdoj.com/
The North Carolina Court System	http://www.nccourts.org/Courts/Appellate/Supreme/Default.asp
North Carolina Board of Law Examiners	http://www.ncble.org/
North Carolina State Bar	http://www.ncbar.com/
North Carolina General Assembly	http://www.ncga.state.nc.us/gascripts/Statutes/Statutes.asp
North Carolina Office of the Governor	http://www.governor.state.nc.us/
International	**Web Addresses**
Comparative and Foreign Law Guides	http://www.llrx.com/comparative_and_foreign_law.html
International Court of Justice	http://www.icj-cij.org/icjwww/icj002.htm
Benelux Court of Justice	http://www.benelux.be/
African Court on Human and People's Rights	http://www.achpr.org/english/_info/news_en.html
International Criminal Court	http://www.icc-cpi.int/home.html&l=en
International Centre for Settlement of Investment Disputes	http://www.worldbank.org/icsid/

APPENDIX B: List of Credible Legal Websites (continued)

General Legal Resources	Web Addresses
American Civil Liberties Union	American Civil Liberties Union http://www.aclu.org/
American Bar Association	American Bar Association http://www.abanet.org/
The Association of American Law Schools	The Association of American Law Schools http://www.aals.org/about_memberschools.php
UNC School of Law	UNC School of Law http://www.law.unc.edu/
Law.com	Law.com http://www.law.com/
Find Law	Find Law http://www.findlaw.com/casecode/supreme.html
U.S. Court Forms	http://www.uscourtforms.com/

APPENDIX C: MARC Cataloging Worksheet for Web sites

Personal Author Main Entry (Not Repeatable): 100_____

Corporate Author Main Entry (Not Repeatable): 110_____

Title and Responsibility(Not Repeatable): 245_____

Varying Form of Title (Repeatable): 246_____

General Note (Repeatable): 500_____

Systems Detail Note (Repeatable): 538_____

Index Term (Repeatable):653_____

Electronic Location and Access: 856_____

APPENDIX D: Dublin Core Cataloging Worksheet

Name of Metadata Creator: _____

Date of Metadata Creation: _____

Title:_____

Identifier (URL): _____

Description: [Use Abstract to provide your own brief summary of the resource; use quotation marks if summary is taken directly from resource. Use Table Of Contents to include the sections/components.]

Abstract:

Table of Contents:

Subject: [Use Library of Congress Subject Headings or just enter Keywords.]

1._____ 2._____
3._____ 4._____

Keyword: [Use keywords to express additional ideas and concepts to describe the resource not already expressed in the Title, Description, Coverage, or Subject Fields. Use keywords from the resource itself and not from a controlled vocabulary.]

1._____ 2._____
3._____ 4._____

Coverage: [Use geographical terms to indicate spatial coverage and time periods or years to indicate temporal.]

Temporal: **Spatial:**

Date: [Enter date in YYYY-MM-DD format. Enter the last date found or estimated for one or more of the following as is possible. Leave month and day blank if it is not found on resource, and leave date blank if it is not possible to easily determine from resource.]

Created: Issued:
Valid: Modified:
Available: Accepted:
Submitted:

Creator [First Author]: _____

Creator [Second Author]: _____

Creator [Third Author]: _____

Contributor: [Enter additional contributors, if any, as follows:]

Editor(s): _____

Translator(s): _____

Illustrator(s): _____

APPENDIX D: Dublin Core Cataloging Worksheet (continued)

Publisher: [Enter the publisher name.] _____

Rights: [Search the resource for an explicit copyright statement and/or information about cost or license and select from list below. Add notes and URL as necessary.]

Accessible freely	License restrictions apply
Copyrighted	Restrictions apply
Copyright unknown	Subscription needed
Copyright and cost restrictions unknown	Public domain
Cost unknown	

Type: [Select ONLY ONE categorical Type (form or genre) of the resource.]

Collection	Service
Dataset	Software
Event	Sound
Image	Text
Interactive Resource	

Format: [Use this to indicate the media-type, the physical manifestation of the resource and select as many as are applicable.]

Application/ms-word	Image/png
Application/ms-excel	Multipart/mixed
Application/ms-publisher	Text/html
Application/pdf	Text/xml
Audio/mpeg	Text/rtf
Ebook	Video/mpeg
Image/gif	Video/quicktime
Image/jpg	Other

Language: [Select one or more from list; add other languages as needed.]

English	German
French	Spanish

Relation: [Select from list and add Title and Identifier (URL), when available.]

Is Version Of	Has Part
Has Version	Is Referenced By
Is Replaced By	References
Replaces	Is Format Of
Is Required By	Has Format
Requires	Conforms To
Is Part Of	

Source: [Enter Title and URL or description.]

Audience: [Select the educational level of the audience for the resource from list.]

Elementary School	Graduate Level
Middle School	Professional
High School	General Education
Undergraduate Level	

APPENDIX E: Cataloging Exercise Answers (page 26)

1. 538
2. The first indicator is 4. The second indicator is left blank
3. Chapter 9
4. 007
5. u

APPENDIX F: OCLC Connexion Record for a website using AACR2 format (Example)

OCLC Connexion | Home | Help | Diacritics | Contact | Logoff

Cataloging | Authorities | Express | Dewey Services | Pathfinders | General

Search | Browse | Create | Show

Search Options | Browse Options | * Extract Metadata | Show Options

Bibliographic Workform: Carolina Law | MARC Help

OCLC   NEW

Continuing Resources | **Rec Stat** n | **Entered** 20070331 | **Replaced** 20070331224241.455

Type	a	**ELvl**	3	**Srce**	d	**GPub**		**Ctrl**		**Lang**	eng
BLvl	i	**Form**	s	**Conf**	0	**Freq**	u	**MRec**		**Ctry**	xx
S/L	2	**Orig**		**EntW**		**Regl**	u	**Alph**			
Desc	u	**SrTp**		**Cont**		**DtSt**	u	**Dates**	uuuu , uuuu		

040			NOA $c NOA	Functions
041	0		engeng	Functions
042			dc	Functions
090			$b	Functions
049			NOAA	Functions
245	0	0	Carolina Law $h [electronic resource]	Functions
246	0	0	Carolina Law UNC School of Law Home	Law Library	Functions
546			english	Functions
546			en	Functions
500			Title from caption (viewed on Mar. 31, 2007).	Functions
538			Mode of access: World Wide Web.	Functions
653			UNC $a 'Carolina Law' $a 'UNC School' $a 'School of Law' $a 'Chapel Hill' $a Update $a Site	Functions
856	4	0	$q text/html; charset=iso-8859-1 $u http://www.law.unc.edu/oldbrowser.htm	Functions
+				Functions

APPENDIX G: OCLC Connexion Record for a website using Dublin Core format (Example)