

Cataloging And Metadata

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Group Charge

Explore the future of cataloging and bibliographic access to collections in the technology driven environment. Consider the impact of Google, RDA, OCLC, XML, Open Source, digitization and other potential metadata initiatives. This research will inform CLP's planning for our future needs and inform our consortium in creating and maintaining the next generation catalog.

The Catalog

Card catalogs in libraries have long been automated. CLP's card catalog has been online for almost 25 years. Despite the great improvements in library access, there is some discontent that our library products are not optimal. Creating the Next Generation Catalog and other, better access tools have been discussion items for some time.

Since 1996, Carnegie Library of Pittsburgh has participated in the eiNetwork Consortium which contracts with Innovative Interfaces, Inc., a proprietary vendor, to provide an integrated library system and other technology solutions. The OPAC front end is AquaBrowser, a Serials Solution proprietary product. The expectations are that CLP will continue in that relationship and that any decisions to migrate or change are consortial ones. However, several of the Scenarios could change the nature of the consortium by outsourcing either the ILS or the catalog front end to another 3rd party vendor.

Some current options for providing an online public access catalog and a functioning ILS are:

Scenario 1: Innovative Interfaces, Inc.

Remain an Innovative Interfaces, Inc. (III) client and work with this proprietary vendor in enhancing products currently used by participating in developmental projects. Choose another front end or return to III's *Encore*, which was piloted by CLP but replaced with *Aquabrowser*.

Scenario 2: Migration to another Proprietary ILS Vendor

Develop an RFP (request for proposal) and move to another proprietary ILS vendor, for example, SIRSI, and become involved in development. Choose SIRSI or another vendor's OPAC front end.

Scenario 3: Choose OCLC's WorldCat Local, retaining a locally run ILS

Move to OCLC's *WorldCat* as a front end catalog since it is essentially a global entity. *WorldCat Local* is the single search that can connect users to all our library materials—physical, electronic, and digital—as well as to the delivery services that get them what they need. It displays multiple types of library resources, formats, and locations in a single relevancy-ranked results set, provides high-level Web visibility, interoperates with existing locally-maintained circulation and delivery services, connects seamlessly to everything in local collections and simplifies the discovery-and-delivery experience for library users. In this scenario, an Open Source or proprietary ILS could be retained.

Scenario 4: Use *Evergreen* Open Source Software

Evergreen is an open source, consortial-quality Integrated Library System (ILS), initially developed by the Georgia Public Library Service for *PINES* (Public Information Network for Electronic Services), a statewide resource-sharing consortium with over 270 member libraries.

Evergreen development began in 2004, when Georgia Public Library Service, the state library for Georgia, determined that no available ILS software could meet the needs of *PINES*. *Evergreen* was written from the ground up informed by the complex and challenging needs of large shared catalogs, and as such is the first-ever "consortial library system." *Evergreen* 1.0 went live in September, 2006.

The *Evergreen* ILS is deployed worldwide in hundreds of libraries, and is used to power a number of statewide consortial catalogs. Beyond *PINES*, organizations with large, growing *Evergreen* implementations include SITKA, a library consortium in British Columbia; the Indiana Open Source ILS Initiative; the Michigan Library Consortium (now the Midwest Collaborative for Library Services); South Carolina LENDS; Project Conifer, a four-library academic consortium based in Ontario, Canada; and Natural Resources Canada. Other organizations committed to *Evergreen* include the North Texas Library Consortium and King County Library System.

Scenario 4a: Use an eiNetwork *Evergreen* Open Source ILS

eiNetwork is currently exploring the development of its own integrated library system based on *Evergreen* software.

Scenario 4b: Join Commonwealth Libraries Statewide *Evergreen* ILS

Commonwealth Libraries has established a Task Force to explore creating a Statewide integrated library system using *Evergreen* Software. The nucleus for this project are the approximately 43 public libraries currently supported through an Innovative Interfaces, Inc. *Millennium* system administered through HSLC in Philadelphia.

Once migrated, other public libraries within the state will be able to join the project. A delivery system to support a statewide union catalog is also planned. While this is in development, it is expected that the core libraries will be using the software by fall, 2010.

The Statewide ILS is planning to use *VuFind*, another Open Source product to provide an Online Public Access Catalog (user front-end).

Scenario 4c: Adopt Open Source using *Evergreen* supported by vendor *Equinox*

In 2007, the original *Evergreen* development team formed a commercial company around the software, *Equinox* Software. They provide custom support, development, migration, training, and consultation for *Evergreen* Open Source Software.

Scenario 5: Use *Koha* Open Source Software

Koha is the first open-source Integrated Library System (ILS). In use worldwide, its development is steered by a growing community of libraries collaborating to achieve their technology goals. *Koha's* impressive feature set continues to evolve and expand to meet the needs of its user base.

In use worldwide in libraries of all sizes, *Koha* is a true enterprise-class ILS with comprehensive functionality including basic or advanced options. *Koha* includes modules for circulation, cataloging, acquisitions, serials, reserves, patron management, branch relationships, and more. *Koha* is built using library standards and protocols that ensure interoperability between *Koha* and other systems and technologies, while supporting existing workflows and tools. *Koha* is distributed under the open-source

General Public License (GPL). More information on the GPL can be found here.

It is an important part of the open-source promise that there is no vendor lock-in: libraries are free to install and use *Koha* themselves if they have the in-house expertise or to purchase support or development services from the best available source.

Scenario 5a: Use a *Koha* Open Source ILS developed and supported by eiNetwork

eiNetwork has begun work with *Evergreen* Open Source, not *Koha*, although this remains an option that could be considered if *Evergreen* does not meet expectations.

Scenario 5b: Contract for Open Source using *Koha* w/LibLime Support

LibLime provides support to all types of libraries and library sizes. *Koha* features an enterprise class integrated library system that is library standards compliant, web-based, free vendor support, no vendor lockin, supports Marc 21 for holdings, has Acquisitions, Serials, and enhanced cataloging modules.

Scenario 6: Create an entirely new product/NextGen Catalog

Libraries have created their own proprietary products. The staff and expertise needed to be on the cutting edge are very costly but one could develop the optimal next generation catalog if committed. Again, this is likely not within the budget and mission of Carnegie Library of Pittsburgh. However, one could tailor the product as desired, developing a full-fledged ILS or some variation such as:

- **The Catalog as Inventory Only**
In this scenario, the catalog serves only as a bare inventory of library holdings (including licensed remote resources). The user interfaces are a combination of non-library resources (Google, courseware, links from electronic texts) and library systems (meta-search).
- **The Catalog as Inventory Layer in Library Service**
This is an update to the idea of the catalog as inventory, because it places the catalog within an environment that has a service layer. The catalog will be only one component. In this scenario, the library is no longer a collection of resources, but is a collection of services.
- **The Catalog as Library Management**
This defines the catalog as all of the ILS functions that are necessary to library management, including inventory, acquisitions, serials check-in, ERM (electronic resources management), circulation. These modules interact with vendor systems and with one or more user interfaces.
- **The Catalog as Information Discovery**
 - 1) discovery for the user who wants to know what the library can deliver NOW
 - 2) discovery for the user who is doing research and wants to know what is available in the literature.

The latter goes beyond library holdings to various vendor systems (probably provided in a meta-search interface, although also available separately). The question is: does this also include web resources and, if so, how is this managed? (Why can't the library search interface also search Google?)

The Metadata

The above scenarios are products created to support user access to library items and these products are currently built around the MARC bibliographic record format. MARC stands for MACHine Readable Cataloging record, and was developed by taking information from traditional catalog cards and formatting

that data to allow access by computers. Information in a record includes, but is not limited to, a description of the item, main entry, added entries, subject headings, and a classification or call number.

Consistency in data is supported by following the *Anglo-American Cataloging Rules*, using *Sears List of Subject Headings*, the Library of Congress Subject Headings, the Library of Congress Name Authority File, the Library of Congress Classification schema, and/or the Dewey Decimal system.

If a bibliographic record has been marked correctly and saved in a computer data file, computer programs can then be written to punctuate and format the information correctly for displaying the information on a computer screen. Programs can be written to search for and retrieve certain types of information within specific fields, and also to display lists of items meeting the search criteria.

Choosing to use MARC enables libraries to acquire cataloging data that is predictable and reliable. If a library were to develop a "home-grown" system that did not use MARC records, it would not be taking advantage of an industry-wide standard whose primary purpose is to foster communication of information.

Using the MARC standard also enables libraries to make use of commercially available library automation systems to manage library operations. Many systems are available for libraries of all sizes and are designed to work with the MARC format. Systems are maintained and improved by the vendor so that libraries can benefit from the latest advances in computer technology. The MARC standard also allows libraries to replace one system with another with the assurance that their data will still be compatible.

When the Library of Congress began to use computers in the 1960s, it devised the LC MARC format, a system of using brief numbers, letters, and symbols within the cataloging record itself to mark different types of information. The original LC MARC format evolved into MARC 21 and has become the standard used by most library computer programs. The MARC 21 bibliographic format, as well as all official MARC 21 documentation, is maintained by the Library of Congress.

As computers and technology continue to advance, important issues arise about the quality of library data and computer-based library automation systems. Clearly, the contents of the bibliographic records will determine the success of a library's automated operations to a very great extent. It is very important to ensure receipt of the highest quality records available.

In search of better bibliographic data, development continues. One effort is Requirements for Descriptive Access (RDA):

- RDA is the new cataloging standard that will replace AACR2.
- It goes beyond earlier standards in that it will provide more comprehensive guidelines for cataloging digital resources.
- It offers greater emphasis on helping OPAC users find, identify, select, and obtain information .
- The underlying principles of RDA appear to stress two imperatives: bibliographic description of the manifestation of a work (i.e., the entity being described) should be based on identifying data found on the item (this is also true of AACR2); and the elements included in a bibliographic record should be accessible to the user and reflect user needs.

RDA is based on the conceptual model known as FRBR (Functional Requirements for Bibliographic Records).

The FRBR model describes the relationships between three groups of entities in the catalog:

- Group 1. Works/expressions/manifestations/items (i.e., things cataloged)
- Group 2. Persons/corporate bodies (those responsible for creating and producing what is cataloged)
- Group 3. Concepts/objects/events/places as well as works/expressions/manifestations/items and persons/corporate bodies as subjects

Presently these entities exist in a scheme that, though the cataloger comprehends it to be structured and logical, appears to users as random. Relationships are realized through hyperlinked headings, and described in authority records, but OPAC searches do not present orderly, contextualized, meaningful results.

In *An Introduction to Functional Requirements for Bibliographic Records*, Arlene Taylor illustrates the scattershot nature of how search results file with the example in which the results of an author search on Edna Ferber are surveyed for appearances of the title *Show Boat*. Taylor reports that in LC's online catalog, a search on the heading, *Ferber, Edna, 1887-1968*, yields 117 entries; of that number, those that pertain to *Show Boat* are (in the order of appearance in the index):

- #40 *Five complete novels*, the second of which is *Show Boat*
- #73 *Reminiscence of Show Boat*;
- #84 a 1929 publication of the novel (title alone)
- #85 microfilm version of a 1928 publication of the novel, with no date of filming
- #86-87 two editions with "a novel" as the subtitle (1981 large print and 1926 publications)
- #88-91 four publications of the book (title alone again): 1943, 1926, 1935, and 2007 (in that order);
- #92 another microfilm of the same 1928 book, filmed in 1928
- #93 volume containing three novels: *Show Boat*, *So Big*, and *Cimarron* (1962)
- #115-116: two sound recordings (1988 and 1946)

Taylor lists a similar mish-mash of results from an OCLC title search of *Show Boat*. But an unqualified search in any catalog will produce a similar experience, one that is bound to frustrate the user and leave her/his needs, to some degree, unsatisfied.

Applying the FRBR concept, RDA promises to resolve the inadequacies in the retrieval of bibliographic information inherent in present day catalogs by establishing relationships between entities so that search results display in a way in which context and hierarchy of entities are made apparent, in other words: in a way that is meaningful and useful to the user.

CLP is one of two public libraries selected to be among the 26 RDA test participants, among which are included what the RDA Coordinating Committee has described as "all types and sizes of libraries." During the test period, the CLP Catalog Department will be submitting test records to a collective database, offering feedback on functionality, and making comparisons between RDA and AACR2. Testing of RDA begins in June, 2010.

Moving to RDA should enhance searching but may not totally answer the need for a product that can compete with Google. Library catalogs remain the main access point for library users, but library

websites, blogs, separate digital catalogs, and other products are now Scenarios for engaging customers outside of the OPAC.

The Digital Library Catalog

What is a digital library? First coined in the late 1980s and popularized by a joint initiative between scientific organizations and the United State Defense Department in 1994, the term "digital library" refers to a library in which collections are stored in digital formats (rather than print, microform, or other media) and are accessible via computers. This digital content can either be stored locally or accessed remotely over computer networks. A digital library can encompass both content originally created in digital formats (aka. born-digital) and content originally created in print, microform, or other media that has been converted to digital formats using various digitization processes. Libraries that have both physical and digital collections are sometimes referred to as hybrid libraries.

Why should we digitize library materials? In recent years, a rapid growth in the number of digital libraries has been fueled by technological advances, the promise of increased accessibility, and demand from tech-savvy library users who have quickly become accustomed to accessing and finding information in new ways (i.e., the Internet, smartphones, etc.).

Because the library plays an important role in protecting the collective memory of the community it serves, it is especially important to consider digitizing unique materials of local origin. However, as The National Initiative for a Networked Cultural Heritage points out in *The NINCH Guide to Good Practice in the Digital Representation and Management of Cultural Heritage Materials*, the decision to begin a digitization project should be based upon a careful analysis of library resources rather than driven by available technology or other pressures.

Digital Metadata

During a digitization project, metadata refers to any information that is created about either source materials or digital versions to describe the essentials of what they are, how they were created, who can use them, and how they are structured. This metadata can be divided loosely into the following three, sometimes overlapping, categories:

- Descriptive metadata -- Information that describes and identifies resources to enable searching, retrieval, and management. Includes data typically found in the library catalog such as author/creator, title, date of creation, unique numbers (e.g., ISBN numbers, publisher numbers, etc.), subject headings, etc.
- Administrative metadata -- Information that facilitates managing, tracking, migrating, and reusing digital materials. Includes data about creation/capture, access restrictions, technical characteristics, preservation specifications, quality control, etc.
- Structural metadata -- Information that describes the physical or logical structure of a complex object (e.g., the chapters of a book, the layout of a newspaper page) in order to enable non-linear navigation and presentation.

Because the availability of accurate, high-quality metadata is crucial to enable effective and efficient access, use, and management of digital resources, the provision of metadata that is as complete as possible is an indispensable part of any responsible digitization program.

It is important to remember that techniques for storing and creating metadata vary by type of material and that image and audiovisual materials often require much more metadata creation (e.g., identifying the people, places, and objects in photos) to enable effective searching and retrieval.

In view of the importance of metadata, it may be prudent to give priority to materials that already have at least some metadata available when selecting candidates for digitization. If metadata has to be expanded or created, a decision must be made about whether to just upgrade the data elements required for the current project or to update entire catalog records.

Since providing metadata will likely involve significant manual effort to either add records to the existing online catalog and/or create records specifically for another online platform, it is wise to seek extra funds for this activity when preparing a grant proposal for a digitization project.

Some additional metadata-related questions which must be addressed during digitization projects include:

- What metadata standards and schemas will be utilized (MARC, LCSH, LC Name Authority File, Simple Dublin Core, Qualified Dublin Core, METS, etc.)?
- Which metadata elements will be needed to facilitate effective searching (e.g., should variant titles be included, are summaries necessary, should dates be normalized, etc.)?
- What types of search capability will be provided (e.g., general keyword, field-specific keyword, browsing, etc.)?
- What platform will be used to deliver the metadata and the digital objects (e.g. the library website, Dspace, CONTENTdm, etc.)?
- Will metadata about the digital objects be included in the library's online catalog?
- Are tools available or must tools be developed to exchange data between the library's online catalog and other applications (e.g., crosswalks, XML, XSLT, MarcEdit, etc.)?
- Will the metadata be available for harvesting by entities outside the library (i.e., OAI-PMH compliant)?
- Will library users be allowed to add to the metadata (e.g., tags, reviews, ratings, "I recognize the person in this photograph," etc.)?

Carnegie Library of Pittsburgh has been dealing with these questions as we participate in creating digital access to the Iron and Steel Heritage Collection. Access to these digital materials can be located from the library OPAC as well as directly from the website. Besides the Catalog, our website has become another access point for customers and needs to be considered very prominently in our technology development plans.

The Website

15 years ago the World Wide Web was little more than a network of static advertising brochures – an on-screen version of a printed industrial directory. Early websites did little more than convey the name, address, phone number, and hours of operation of their host organization. The simple message conveyed was “Hello world, we’re on the Internet!”

Since then, websites have gotten both wider and deeper, delivering ever more useful content to the site visitor. While organizations which provide material goods have benefited from having a web presence, service enterprises have been revolutionized by the web, none more so than information service enterprises.

As each web software innovation was introduced, such organizations quickly embraced and exploited the software in an effort to “virtualize” the enterprise, capturing and repackaging their business logic into computer language and shifting their methods, processes and operations to the browser window. The knowledge engineer was replaced by the web programmer.

A similar process has occurred at the library. As more and more features were added to the website, more of the library’s functions were converted to a virtual format to parallel and replace the traditional functions performed in the pre-Internet library.

Prior to the development of the web, the library’s catalog was first digitized and made narrowly available to staff and patrons at the library via single-purpose catalog terminals. As web interfaces became available, the catalog was then moved to the Internet where it is accessible from any Internet-connected PC. Links to the catalog site were added to the library’s then spartan website, thus providing search/discovery of the legacy print materials.

Subsequent additions to the website include:

- Reading recommendations – Booklists
- Topic-specific links to other websites
- RSS feeds on the topic pages, providing a daily infusion of fresh content
- Access to OCLC WorldCat
- Subscription research databases
- Electronic journal collections
- Listings of non-cataloged collections: artist files, engineering standards
- Reference and research support via email
- Virtual reference (online chat)
- Downloadable and streaming eContent: eAudio, eBooks, eVideo
- Links to blogs, such as 11th Stack, contributing greatly to website traffic
- Account management features
- Patron book logs
- Events calendar
- Electronic newsletters subscription (via email)
- Library news via RSS feeds

It is anticipated that additional components will be added.

The benefits of having a rich website should be obvious. The website provides detailed content (or links to detailed content) serving as a “resource warehouse” or as a gateway for the reference librarian as well as the patron. Information on the website is shared information, discoverable by all. Content drives traffic and usage, inducing people to visit the library in person, by phone, by email, and by virtual reference. Web applications can contain business logic, reducing errors and reducing labor costs.

The website represents an architectural infrastructure just as important as a bricks-and-mortar library. Its structural integrity is important in insuring that our information delivery works smoothly and efficiently. If past is prologue, library services (existing and new) will continue to move to the website.

The perceived quality of our library has come to depend on the effectiveness of our website. Since distances vanish on the web, the perceived quality of our library is no longer merely a local issue but has “gone global”. We are competing with other libraries (and non-libraries) in ways we never did before.

Fortunately, our website compares favorably with the “competition”. A survey of other major U.S. library websites was conducted and a table (with hyperlinks) is included below.

There are several reasons why we are in such a strong position. In the first place, our website's visibility and “findability” are good:

- It's heavily indexed by Yahoo <http://siteexplorer.search.yahoo.com/>
- and (presumably) by Google.
- Many other websites link to it (see Yahoo's Inlink statistic).
- But there's also room for “findability” improvement
- We haven't managed to obsolete the www.clpgh.org URL. This URL appears prominently in search engine results; this is bad because patrons trying to use a subscription database from a clpgh page are denied database access. Our webserver needs to throw an error message and return response pages with the preferred www.carnegielibrary.org domain name. Over time, search engines will respond to this and remove the obsolete domain name from their indexes.
- No one is monitoring the visibility of our website. Commercial enterprises pay close attention to their ranking in search engine results and make changes to enhance their prominence. Nor are we evaluating the user experience. Google offers tools to website managers to help with this. Note: We have web usage statistics of Internet patrons *after* they've found our website, see <http://clp-devweb/webstats/index.html>
- We should avoid the use of technologies which interfere with the operation of search engines, such as asp, flash animations and splash screens.
- But findability is not the only measure of quality. The content and organization of the website is important. We have a website with a scope that is broad and deep, which proves its utility daily. We should be proud of that, but there are also technical weaknesses.
- The homepage currently has a ragged, disheveled appearance with misaligned icons and non-intuitive element grouping and placement. A number of other libraries have cleaner, more welcoming “front doors.”
- Many navigation links are redundant, adding to clutter without enhancing navigation. This redundancy also causes site maintenance headaches.
- The site map of the CLP website is 6 pages long when printed (and still doesn't cover the full span of the hierarchy).
- Many pages are “off-the-map” and are findable only through the site search box. How many webpages are there? Have we inventoried our website?
- While having content which is inherently high-value, many subpages have gone stale – some content is more than 4 years old. Some pages are candidates for updating or weeding.
- Some technical weaknesses can be addressed through the straightforward application of more technology, but some improvements depend on a different mix of cross-departmental resources and talents. That suggests that cultural and management structures will need to evolve. Such considerations include:
 - The scope of the website is very large and is developed and maintained by a very small IT staff.
 - As essential as the website is to current and projected reference services, our organization often treats it as an afterthought. The relationship between the subject specialist and the corresponding web pages is weak.
 - Some topic areas listed on the web page don't have an obvious subject specialist (or may have

- more than one).
- There is little sense of responsible ownership. Levels of webpage oversight by subject specialist vary by topic.

Given the web-centric direction of reference services, we need to improve the website if we are to improve the reference function. More contributors and more quality control are indicated. However, traditional librarians have limited HTML coding skills – many librarians don't even know what information is needed by the website manager. But librarian skill sets are changing, and more librarians can repurpose their organizational talents to preparing and maintaining web-centric resources. Additional training may be needed to raise staff competence. Better software tools to ease web content development/management may also be needed. But the technical proficiency of the average reference professional is now sufficient to justify an increased participation in website enhancement.

Since the importance of the website will continue to increase, it's vital to be mindful of its effectiveness and what measures need to be taken so that it can continue to perform its critical role.

Google

There is Google the search engine, and Google the marketer, and Google the innovator, and then there is Google, the Library of the Future. Google has already scanned millions of books. Google has the most powerful search engine, its card catalog, to provide access to those books. It has the servers and network capacity and storage. It is working on sophisticated translation technology that can overcome language barriers for users and even make non-English titles more accessible.

Microsoft is no longer in the book scanning business. Amazon is focusing on commercial transactions. The Internet Archive has made great progress but can never equal Google's scale or have the clout in handling and solving the copyright and publisher issues that exist. Other digitization efforts are small by comparison. Can Google prevail?

"Even before we started Google, we dreamed of making the incredible breadth of information that librarians so lovingly organize searchable online," said Larry Page, Google co-founder and president of Products.

And some in the library world agree: "We believe passionately that such universal access to the world's printed treasures is mission-critical for today's great public university," said Mary Sue Coleman, President of the University of Michigan.

"For publishers and authors, this expansion of the Google Print program will increase the visibility of in and out of print books, and generate book sales via "Buy this Book" links and advertising. For users, Google's library program will make it possible to search across library collections including out of print books and titles that weren't previously available anywhere but on a library shelf."

Using Google to help access collections, to enable library materials to come up and direct users to our resources has been a goal. OCLC has helped make that happen. Since many library users begin their searching on the Internet, this has been important. However, in the future, perhaps every existing title may be found on the Internet through the Google Print Program. It will be a huge benefit to users, unless access to all of those digital resources becomes too costly in a variety of ways, through charges, monopolization, changing technology, lack of confidentiality and/or censorship. While we are in transition, and need to plan for a world where physical items are still much in demand, we must

acknowledge that millions and millions of full-text items will someday be accessible 24/7 and where the user is with just a few clicks.

Do we have a future? Some theorize that librarians will still remain important in helping users find and evaluate the resources they locate. That despite the huge amount of digitized material, other resources may still need to be included in the searching process. That public libraries are still necessary to allow free access to resources for users, as Google makes these titles available to libraries and direct to customers, but for a fee, not free. That the digital divide remains and will be there for some time. That libraries can be places of social networking and easier access. Whether that is the case depends upon how we choose to transition and meet this great challenge. Much of what will happen is beyond us but we must move forward and as one librarian wrote: “we must try everything except to put our heads in the sand.”

Summary

- Libraries are challenged to improve their online catalogs to compete with the Internet, often the first choice of users.
- Open Source software is being chosen by many libraries to move their catalogs to the next level. Proprietary software has become increasingly costly and less nimble and flexible in adapting to the changing environment and the unique needs of their diverse clientele.
- Library catalogs are based on Machine Readable Cataloging (MARC) records and the use of MARC21 to share that data. This library standard is not as compatible with industry standards developed much later. The challenge of libraries is to find a way to assimilate MARC into a “broader, richer, more diverse set of tools, standards and protocols.”
- Requirements for Descriptive Access (RDA) based on FRBR (Functional Requirements for Bibliographic Records) strives to resolve the inadequacies in the retrieval of bibliographic information. RDA is expected to replace the *Anglo-American Cataloging Rules (AACR2)*.
- Essentially, both the metadata we now generate and the way we share that data are inadequate in creating the NextGeneration Catalog and there is no clear solution but much discussion and experimentation.
- Libraries and other entities are creating digital repositories to make access to books and information more accessible.
- Libraries are expanding, developing, and adding content to their websites. Library websites have become an extremely important integral and complementary access point to library collections and services.
- The Google Books Program and other digital initiatives and resources will change the nature of libraries and librarianship.
- The Digital Revolution is coming and we must prepare for several possible outcomes:
 - User behavior does not really change; many still want printed/physical material despite use of electronic items.

- Users move to mostly virtual access but libraries exist as a informational/resource link.
- Library is the server; servers are libraries.

Recommendations

- Collaborate with eiNetwork and the county libraries to create short and long term plans for catalog development to meet user and library needs.
- Monitor participation in the RDA pilot to assess the future of cataloging to ensure that the changes fulfill expectations that searching and discovery will be more relevant.
- Develop short and long term plans for refreshing and updating the CLP website including the addition of more library created content to make CLP's unique and local collections accessible--cataloging where appropriate.
- Digitize, digitize, digitize to ensure that CLP has a virtual presence and a plan for preserving our physical items.
- Keep abreast of trends in the library world and, more especially, those in publishing, copyright, and technology to be able to adopt, adapt, and react quickly and appropriately as the library landscape changes and evolves.

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