

ELECTRONIC RESOURCE MANAGEMENT SYSTEM IN LIBRARIES- CHALLENGE AND PROSPECTUS

Raju Naik S.

Librarian

Govt. First Grade College

Holehonnur-577227,

Bhadravathi (Tq) Shimoga (Dist)

E-mail:rajunaik_sb@yahoo.com

Krishna Naik R.

Libraian

Govt. First Grade College

Narasimharajapura

E-mail:Krishna.r.naik@gmail.com

***Abstract** - The growth of reliance on electronic resources in libraries has led to the recognition of electronic resource management as a new problem area and specialty within librarianship and to the development of a variety of electronic resource management systems and services that have been widely adopted by libraries. This paper discusses the development of some locally designed electronic resource management system and the challenges faced by the librarians in acquisition of electronic resource in the library. In the other hand this paper spread light on the development and availability of open source software to manage electronic resource.*

Keywords: Electronic Resources; Electronic Resource Management; ERMS; Open Source ERM.

Introduction-

Electronic Resource Management (also referred to as E-resource Management, or simply ERM) refers broadly to an evolving array of problems, tasks, processes and practices associated with the management of electronic resources such as databases, electronic journals and electronic books in libraries a closely related term is Electronic Resource Management System (or ERMS), which refers to systems that support “management of the information and workflows necessary to efficiently select, evaluate, acquire, maintain, and provide informed access to electronic resources in accordance with their business and license terms” (Anderson et al. 2004, p. 49). While the ERMS emerged from early e-resource management efforts, developments in both are now closely tied.

Electronic resources represent an increasingly important component of the collection building activities of libraries. “Electronic resources” refer to those materials that require computer access, whether through a personal computer, mainframe, or handheld mobile device. Tablet, laptop, Book kindle, etc they may either be accessed remotely via the Internet or locally. With

advancement of technology the libraries are moving towards digital resources, which are found to be less expensive and more helpful for easy access. These are helpful especially to distant learners who have limited time to access the libraries from outside by dial up access by the commonly available electronic resources mainly CD-ROMs, OPACs, and Internet etc., which are replacing the print media

Rapid and continuing innovation in web-based technology, standards, and business and publishing models and practices have made for an extremely dynamic and expanding e-resources marketplace. While libraries have been providing access to bibliographic databases for decades, provision of full text has become equally important – first through subscriptions to “aggregator” databases that combine bibliographic information with the text of journal and newspaper articles, and then through e-journals. Other types of resources that have appeared include databases that make the full text of historical materials available and searchable, electronic books (or e-books), and databases that integrate textual materials with digital media of various kinds – including photographs, music, and video. Significantly, the web’s rich and varied linking options have enabled many of these resources to provide new types of functionality and be tied seamlessly to one another.

As these changes have been taking place, libraries have needed to think seriously about the wide-ranging implications of the digital era for library collections and related practice. For example, as early as 1993, as Branin noted in his welcoming remarks for the Advanced Collection Management and Development Institute held in Chicago that focused on the growing reliance on information in electronic formats:

In the 1990s libraries began to see a dramatic increase in publication of and patron interest in electronic resources. Delivering materials to a user’s computer desktop in digital form brought with it a multitude of considerations for providers of information in academic settings. Due to the rapid acquisition of electronic resources libraries had to quickly create new workflows for technical processes such as managing and renewing license agreements and “processing” virtual products, as well as develop new communication structures and staffing workflows related to electronic resources (Gardner 2001).

Electronic resource management (ERM) is the practices and software systems used by libraries to keep track of important information about electronic information resources, especially internet-based resources such as electronic journals, databases, and electronic books. The development of ERM became necessary in the early 2000s as it became clear that traditional library catalogs and integrated library systems were not designed to handle metadata for resources as mutable as many online products.

Features of System

Features of some ERM systems include

- Supporting acquisition and management of licensed e-resources
- May be integrated into other library system modules or may be a standalone system

- May have a public interface, either separate or integrated into the OPAC
- Providing descriptions of resources at the package (database) level and relate package contents (e.g. e-journals) to the package record
- Encoding and perhaps publicly displaying licensed rights such as e-reserves, coursepacks, and interlibrary loan
- Tracking electronic resources from point of order through licensing and final access
- Providing information about the data providers, consortial arrangements, access platform
- Providing contact information for all content providers
- Logging problems with resources and providers
- Providing customizable e-mail alerting systems (e.g. notices to managers when actions are expected or required)
- Linking license documents to resource records
- Supports retrieval of usage statistics.

Challenges in Acquisition of Electronic Resources

The delivery of electronic resources has transitioned from physical formats such as tapes, 3.5” floppy disks, and CD-ROMs (CD) and DVDs to remote databases and the currently common format of delivery via the Internet. Since large amounts of data could be stored on a CD, companies began to offer their proprietary resources in this format rather than in print or on earlier electronic formats such as floppy disks. The CDs acted as early databases, allowing users to “search” the CD for data. The CDs were either used at individual workstations or networked to allow for simultaneous searching by multiple patrons. The acquisitions department had to begin working more closely with their systems or technology department in order to ensure that the material delivered on CD was made appropriately available. In contrast with today’s current expansive publishing on the Internet, relatively few publishers and vendors produced CD products, so the workflow paths that were initially developed were addressed at an ad hoc level. As users grew comfortable with accessing content on their desktops rather than in print, publishers explored other options that would allow them to provide more frequent updates to their content, with quicker production times, and took advantage of an Internet-based format for delivery of materials. The move from CD- and remote database-delivered material to delivery via the Internet quickly gained popularity among library users; libraries nationwide cite a sudden and dramatic increase in purchases of electronic resources (Montgomery & Sparks, 2000, p. 13). In 2003 the Association of Research Libraries reported that in just ten years the average percentage of a member institution’s total budget on electronic resources grew from 3.6% to 25% (Young & Kyrillidou, 2004).

Tasks and the Evolution of E-Resource Management

The new possibilities and issues associated with electronic resources have made their acquisition and implementation increasingly complex, which has raised ongoing staffing and workflow issues. As Geller (2006) has recently put it, where selection of print resources has traditionally been up to a subject selector who would determine how an item would fit with a library’s or

collection's subject, format, language and chronological criteria, “. . . the electronic resource, at the selection stage, must meet a set of criteria in addition to those we set up for print, and while it is still in the selection stage, this decision involves expertise and input from library staff members beyond the subject-selector group.”

There are many examples of such criteria. For example, it must be determined whether there are any technical impediments to implementing and supporting a given resource within a library's or university's network or computing environment, and if its user interface is effective and well-designed. Other factors likely to require broader assessment have to do with a purchase or subscription as a business transaction. Perhaps most significantly, as Duranceau has expressed it, “libraries now exist in a licensed world” . Licenses are of concern to most libraries because they may determine who may use a given resource, what use may be made of its contents, and what the consequences of unauthorized use might be – including possible legal or financial penalties. As electronic resources have come to be licensed instead of sold in the traditional manner, libraries have invested substantial and increasing amounts of time and energy to reading, understanding, negotiating, tracking and complying with such license terms (Soete and Davis 1999; Davis et al. 2008; Duranceau 2000a; Duranceau 2000b). This is especially true with respect to e-journals, which have tended to be offered in packages with complex terms pertaining to continuing financial commitments, cancellation limits, and ongoing access rights.

The substantial amounts of money that may be involved in a particular purchase have also led to significant changes in roles that library consortia play. As many have begun serving as brokers for their members in their dealings with vendors and publishers, they have enabled libraries to make better use of available funds or negotiate more successfully for other terms (Allen and Hirshon 1998). While this has generally been the case, a library may face choices and policy issues regarding whether to belong to consortia, which ones best address their concerns, what level of participation in its activities would be appropriate and cost-effective, who should represent the library in a consortium's activities, and how to communicate developments to library administration and staff. There may also be complex decisions to make regarding choice of vendor. For example, while many libraries rely on one or more serials vendors to help expedite and rationalize ordering, payment and delivery for print and electronic serials, some large publishers have sought to deal directly with libraries.

Decisions regarding how best to present electronic resources to users must also be made. Many library catalog systems require manual processing to add or edit holdings information within the catalog. The frequent addition and deletion of content within electronic resources, especially aggregator databases and e-journal packages, make manual maintenance of that information problematic. In addition, many users desire only material available in full text electronic form; since catalog records might not precisely identify whether a resource contains electronic full text or specific holdings information, traditional library OPACs began to be seen as ill-equipped to serve as finding aids for their contents (Britten et al. 2000; Crum 2008). As a result, many libraries now represent the contents of such databases in their OPACs, in separate subject- or “A to Z” lists on their web pages, or a combination of these approaches.

Creating Locally Developed Electronic Resource Management System

As library staff expressed a need for a mechanism for clear communication about the status of a license being negotiated, an active resource needing maintenance, or a report of funds spent, most libraries began a series of paper lists or worksheets to assist them (Kennedy, Crump, & Kiker, 2004; Loghry & Shannon, 2000). As the number of electronic resources grew it became clear that the paper lists could not be effectively shared among the staff needing access to them. Library staff needed a computer program that was designed to hold all the information related to an electronic resource so that it could be viewed from all the stakeholders' computer desktops, yet no such software existed. Without an off-the-shelf program available to assist them in organizing their resources, many libraries turned to their own library or university staff for assistance in creating one. Many universities attempted to create their own electronic resource management systems with varying degrees of success. Some created complete systems to manage many aspects of electronic resources processing at their libraries, while others focused their efforts just on specific aspects of managing the resources.

Open Source Software's in Electronic Resource Management

There are many open source software freely available in the market, in which several ERM are mentioned

CORAL is an Electronic Resources Management System consisting of interoperable modules designed around the core components of managing electronic resources. It is made available as a free, open source program.

SUSHIPy is a short Python class that allows libraries and other organizations to harvest counter statistics via the NISO SUSHI protocol. SUSHI Py is capable of reading a list of SUSHI services from a CSV file or a MySQL database, and it can likewise write the resulting COUNTER report to a CSV file or a MySQL database.

SUSHI Py was developed because there is a notable lack of usable and well documented SUSHI harvesters. The few projects listed by NISO are several years old, appear abandoned, and are unnecessarily large. The goal of SUSHI Py is not just to be simple to use but also to be simple to understand. SUSHI Py is a proof of concept.

SUSHI Py is for the following people:

- Librarians and other electronic resource managers who want to implement SUSHI without paying big bucks for a commercial ERM client.
- Librarians and electronic resource managers who want a clear and documented example of how SUSHI works so that they can build their own custom implementation.

Pycounter- makes working with COUNTER usage statistics in Python easy, including fetching statistics with NISO SUSHI. Developed by the Health Sciences Library System of the University of Pittsburgh to support importing usage data into a in-house Electronic Resources Management system.

Calibre- is a free and open source e-book library management application developed by users of e-books. It has a cornucopia of features divided into the following main categories:

- Library Management
- E-book conversion
- Syncing to e-book reader devices
- Downloading news from the web and converting it into e-book form
- Comprehensive e-book viewer
- Content server for online access to your book collection

SMDB is a LAMP (Linux, Apache, MySQL, Perl) system. It uses its own module called webUtil to deal with web forms and templates. Combining webUtil with a couple of other Perl modules to deal with cookies and communication with MySQL database, you can build web applications very fast.

ERMes is a Microsoft Access database that requires Access 2007 (Windows) or Access 2008 (Mac) to operate. As of May 2010, ERMes is not compatible Open Office 3.2.1.

E-Matrix is the locally developed and hosted serial and electronic resource management system in use at the NCSU Libraries. This tool acknowledges that the issues associated with electronic resources mirror those that face our serial collection as a whole, regardless of format. E-Matrix therefore supports the effective management of the NCSU Libraries serial collection by managing print and electronic journals and databases.

NCSU Libraries does not currently maintain a public repository for the source code to E-Matrix, but can supply it on request (we're working on it!). Contact via email : "product name stripped of non-alphabetic characters" at lists.ncsu.edu

Researcher- is an award-winning integrated suite of open source products for locating and managing electronic information resources, designed for use by students and researchers in academic libraries. The four main modules of researcher are:

- CUFTS: Open Source Serials Management
- GODOT: Open Source Link Resolving
- dbWiz: Open Source Federated Searching
- Open Knowledgebase

researcher enables libraries to provide students and researchers with streamlined access to an integrated array of information resources. Together, researcher's components deliver rich portal-type functionality, presenting a unified interface to research databases, library and union catalogues, internet search engines, and other electronic information sources.

The Home Library Archive- Categorize and keep track of your books by Library of Congress format. Automatically add new information from the Library of Congress or Amazon whenever you add a new book. Plain output appearance, but robust functionality under the hood.

Esciurus- is (or rather, will be) a desktop application that allows you to build and maintain your personal collection of e-books, in particular scientific publications. It will store not only these papers, but also associated metadata (author, title, bibliographic information, etc.), allowing for fast and intuitive retrieval.

It handles e-books in the upcoming ".epub" format (OCF/OPF), as defined by the International Digital Publishing Forum. The program is being developed in Java, it should therefore run on all major platforms.

FreERMS is an Electronic Resource Management System loosely based on recommendations in the Report of the Digital Library Federation ERM Initiative, and written in PHP using the symfony framework. FreERMS is designed to help libraries, especially consortia and other organizations with complex structure and purchasing arrangements, to manage and provide access to their licensed content.

At present, our development plans are:

- Refactor existing code
- Introduce features for management of administrative metadata
- Expand coverage to the single-title level

CUFTS-As a knowledgebase of over 575 full text resources, CUFTS provides Electronic Resource Management services, an integrated journal A-Z database, link resolving, and MARC records for your library.

Conclusion

The world moving towards print media to electronic media and it is great challenge for librarian to keep update his knowledge in the selection, acquisition and retrieval of electronic resource , it is not so easy as handling print document in past several years to till. Electronic resource need some special tools to manage, Librarian themselves identifying new ways in which to manage electronic resources in a given communication models from which to work. There are many Open source software available in the markets. By make use of them librarian can easily handle the e-resources of the library, electronic resource management systems is very essential in order to keep update with the knowledge of e-resource to reach the ultimate goal,

Reference

1. Allen, B.M. and A. Hirshon (1998) Hanging together to avoid hanging separately: opportunities for libraries and consortia. *Information Technology and Libraries*. 17 (1): pp. 36-7?
2. Anderson, I. et al. (2004) Electronic resource management: Report of the DLF electronic resource management initiative, Appendix A: Functional Requirements for Electronic Resource Management, pp. 49-61. Washington, D.C.: Digital Library Federation. Available at <http://www.diglib.org/pubs/dlf102/dlfermi0408appa.pdf>; accessed 6/5/2008.
3. Branin, Joseph (1994) Fighting back once again: from collection management to knowledge management in Peggy Johnson and Bonnie MacEwan, Eds *Collection*

Management and Development : Issues in an electronic era: Proceedings of the advanced collection management and development institute, Chicago, Illinois, March, 26-28, 1993. Chicago: American Library Association.

4. Crum, J. (2008). One-Stop Shopping for Journal Holdings. pp. 213-234 in Yu and Brievold (2008).
5. Duranceau, E. F., and Hepfer, C. (2002). Staffing for electronic resource management: The results of a survey. *Serials Review*, 28(4), 316-320
6. Gardner, S. (2001). The impact of electronic journals on library staff at ARL member institutions: A survey and a critique of the survey methodology. *Serials Review*, 27(3-4), 17-32
7. Kennedy, M. R., Crump, M. J. and Kiker, D. (2004). Paper to PDF: Making license agreements accessible through the OPAC. *Library Resources & Technical Services*, 48(1), 20-25.
8. Loghry, P. A., & Shannon, A. W. (2000). Managing selection and implementation of electronic products: One tiny step in organization, one giant step for the University of Nevada, Reno. *SerialsReview*, 26(3), 32-44.
9. Soete, G.J. and T. Davis (1999). Managing the licensing of electronic products. SPEC Kit 248. Washington, D.C.: Association of Research Libraries.

