
Content Creation, Access and Management Processes in the Digital Era with few Websites of International Content Management Systems

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Abstract

As the supply of information grows more and more comprehensive, the complexity in handling it also grows. The need for reliable Content Management System (CMS) becomes more and more obvious. A Content Management System allows content to be stored, retrieved, edited, updated, controlled, then output in a variety of ways such that the incremental cost of each update cycle and output production shrinks dramatically over time. Since the amount of information is emerging day to day at a tremendous speed, to find particular information in the mist of information explosion is very difficult and so there is an urgent need for content or knowledge management and services to be adopted in Libraries. Content management is a set of tasks and processes for managing content explicitly targeted for publication throughout its life from creation to archive. CMS are essential for large or even small scale projects which involve the capture of creation of digital assets and is necessary for the creation of any basic Web sites. This paper explains about the concepts of content management, its components, needs and advantages. How the contents can be created, accessed and managed in the digital environment have also been discussed in this paper.

Keywords : Content Management System, CMS, Digital Contents.

0. Introduction

As the supply of information grows more and more comprehensive, the complexity in handling it also grows. The need for reliable Content Management systems becomes more and more obvious. A Content Management System allows content to be stored, retrieved, edited, updated, controlled, then output in a variety of ways such that the incremental cost of each update cycle and output production shrinks dramatically over time. The rapid developments that have taken place in recent years, in the field of information technology have paved the way for revolutionary changes in Library & Information Centers in terms of both digital information management and services. Information is a resource which has no value until it is accessed and utilized properly. At the same time the amount of information being generated today is astronomical and the problems relating to its storage, dissemination and analysis are testing the human ingenuity. Since the amount of information is emerging day to day at a tremendous speed, to find a particular information in the mist of information explosion is very difficult and so there is an urgent need for content or knowledge management and services to be adopted in Libraries.

1. Objectives of the Study

The main objectives of the study on Content creation, access and management processes are,

1. To promote the digital library services and to facilitate the concern to learn about creating, organizing and digitizing the contents of knowledge in such a way that users can easily access the required information.

2. To make awareness about the various International Content Management Systems and Organizations which are available on-line for creating and managing the Digital Contents.
3. To facilitate the users to browse, edit , retrieve and download the required information from the ocean of digitized web-based Knowledge.
4. To save the time and money of the user from browsing all the websites for getting relevant information.
5. To provide qualitative and exact on-line digital information service to the users.

2. What is Content Management ?

“Content “ means the knowledge of anything and everything contained as information in conventional as well as non conventional form. Generating, Organizing , Digitizing, and making the contents easily accessible to the users is known as content management.

Content management is as set of tasks and processes for managing content explicitly targeted for publication throughout its life from creation to archive .

Content Management is an asset management system which will manage diverse content stored in different servers such that the complexity of the heterogeneous distributed architecture is encapsulated from the user.

Content Management is managing the content or knowledge units in terms of versions, access control, re-use etc., CM addresses the process of creating , editing , reviewing , re-using, publishing, and managing elements of contents in an efficient manner so that the Web site operation can achieved at production quality.

CM is defined as the methods of organizing access to the information available on the electronic publishing and on the Internet and enabling the users to utilize the resource contents effectively.

3. Content Management System (CMS)

A Content Management System is a database which organizes and facilitates access to all types of digital assets (content-files) containing images, graphics, animation, sound, video or text. It is usually used to manage digital assets during development of a digital resource, such as web site or multimedia production. CMS can be integrated with the eventual digital resource in order to enable access to digital asset.

It is a system used to manage the content of a Web page and Website. It has two components; 1) Content Management Applications and 2) Content Delivery Applications.

A content management system is a tool that enables any staff member in an organization – with or without an IT background – to manage and update web content without the help of a webmaster. Users only see and work with two elements of a content management system – the ‘front-end’ and the ‘back-end’. The front-end represents the website as it appears when accessed by visitors, with its web pages, documents, images, forms, multimedia clips and other types of content that come with today’s websites. The back-end can be regarded as a control panel, or the interface with the system’s databases that hold the content and the templates that define the ‘look and feel’ of the site.

CMS ranges from very basic databases to sophisticated tailor-made application and can be used to carry out a wide range of tasks such as holding contents, holding information about digital content, publishing on-line and publishing on-the-fly.

4. Need for Content Management

1. CMS are essential for large or even small scale projects which involve the capture of creation of digital assets.
2. CM is necessary for the creation of any basic Web sites.
3. It is essentially a Web-based file manage which facilitates the users to browse, edit , retrieve and download the required information from the ocean of digitized Knowledge.
4. CM is needed, when there are a lot of contributors or a lot of complexity in the information sources.
5. It is essential when the amount of change in the content or design is large.
6. It is necessary if we want to create a number of publications from the content.
7. It is very essential for presenting qualitative and exact information to the users.
8. Since information is changing too quickly to process by hand, Content Management is indispensable for accessing the required digital information.

5. Types of Contents

The types of contents on a Website as databases are :

1. **Graphics** : It includes banner advertisements, product shots, company logos, designed items, tables and other images.
2. **Text** : Textual information of search results, product information, reviews, services, general announcements and press releases.
3. **Multimedia** : Contents created with graphics, sound, text, photographs, moving pictures etc.
4. **Database** : Information from the database is used to create dynamic search results, personalized information, product reviews, helpdesk data, other supporting data. Updating the database needs to be part of the Website content management process.
5. **Files from Website** : Files from the Websites may be downloaded as MS-Word documents, PDF files, ZIP archives, graphics etc. and
6. Other applications and programs on Website contents.

6. Components of CMS

The important components of the Content Management Systems are :

Content Creation and data repository - There are two types of content , streaming & non-streaming. Streaming content includes real time audio/video whereas non-streaming includes the pictures, graphics, text etc. The streaming content goes to the Media server while non-streaming content goes to the database server.

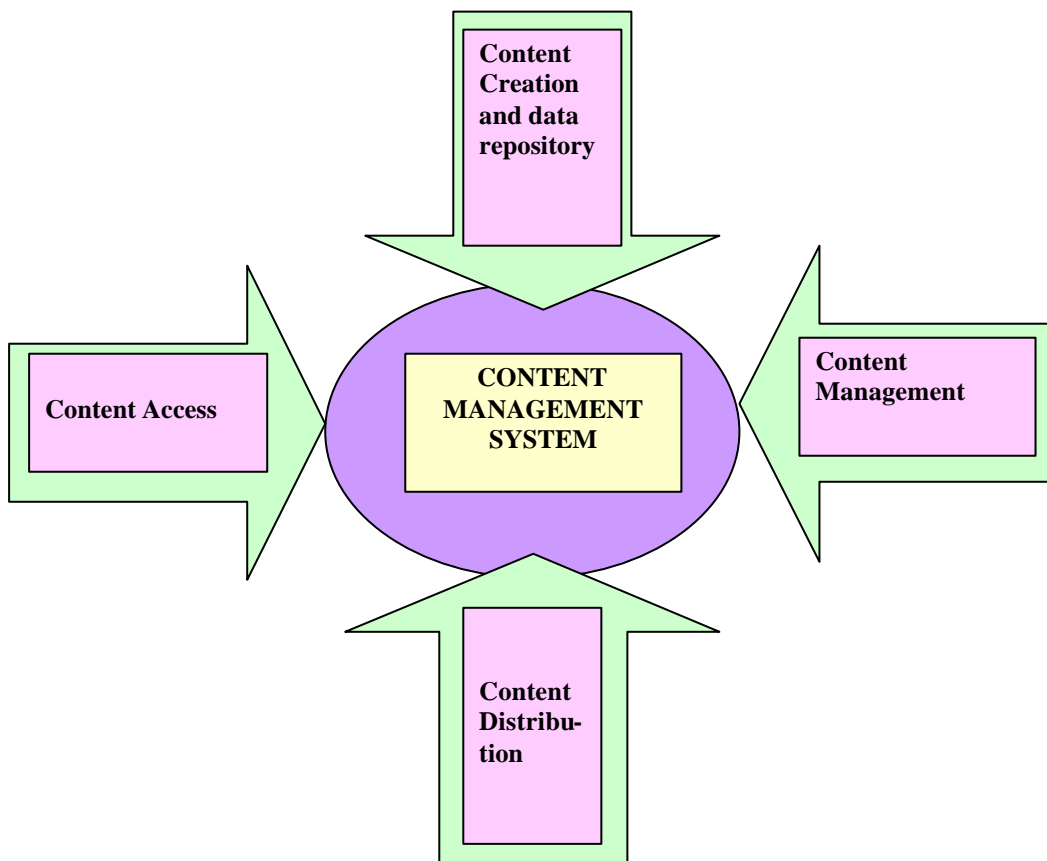
Content Management – Web based publishing, format management, planning, and other management processes are included in content management, An asset management system will manage diverse content stored in different servers such that the complexity of the heterogeneous distributed architecture is encapsulated from the user.

Content Access – For easy search and retrieval of information, the contents should be published in such a way that it must be user friendly to operate and retrieve information. Proper link service may be provided wherever it is necessary for easy access to the relevant content.

Content Distribution - Content are distributed through web servers, asset management system, & database servers.

Following illustration explains the different components of CMS:

Figure (1) – Components of Content Management



7. Content, Creation and Management

The Questions to be taken in mind before creating /developing digital Contents are:

- ✍ Does the Content attract and engage the customers/users ?
- ✍ Does the current method of creating and managing content cost too much?
- ✍ Are the demands of content creation distracting your institution from its core competency?

8. Various Stages for Content Creation and Management

The various stages to develop a content web page in a systematic way to provide proper digital information service to the Network users are :

- Stage 1. Gather information
- Stage 2. Build a prototype
- Stage 3. Develop content
- Stage 4. Develop navigation and create links
- Stage 5. QA & final review of Website.

9. Content Management Processes

For implementing the Content Management System, there are several steps of operations starting from the design and creation of CMS. Following are the processes by which CMS can be created and managed :

1. **Design** : In this step the decision regarding the organization of information, the way it has to be presented, who should be given access to which information is to be decided according to the contents.
2. **Authoring** : Proper shape to be given to the content created in this step. The assisting materials like graphics and multimedia attachments are to be added. So the content is properly tailored to present it perfectly.
3. **Review** : Review of the content which has been authored to find out how best it can be improved is being carried out through this step.
4. **Approval** : Formal approval from the authority should be got before making it public.
5. **Conversion** : Since the content flows from all direction in a corporate community as well as it appears in different formats, it needs to be standardized and convert to specific format. All text files whether it may be a Notepad, Word document or in spread sheet, it has to be transferred to html text and the image files to be make smaller in size so that access to the information will be more faster.
6. **Storage** : The created contents have to be stored with the help of appropriate software and database for easy and fast retrieval. XML (Extended Mark-up Language) is one of the standard way for storing the content which is made out of components.
7. **Testing** : Testing includes finding out the broken and missing links, identifying slow loading pages, testing of the search engine and how it retrieve the results from the database and how it is user friendly.
8. **Staging** : In this step assembling of different components of the contents are being carried out. It is required only when the development of the software is carried out at different places.

9. **Deployment** : Installing the contents on the server and making it accessible to all the users is being done in this step.
10. **Maintenance And Update** : Regular maintenance and update is essential for the smooth functioning of CMS.
11. **Retirement And Archival** : In this step, the information which is already expired has to be dumped in the archive and the new information has to be put in that place or otherwise it will mislead the users.
12. **Reporting And Analysis** : This step relates to analyzing the use of CMS by customers and reporting to the management authorities.

10. Some Important Website Addresses of Content Management Systems / Companies / Organizations

Using the following details and website addresses, we can create and manage the digital contents which are relevant to our Digital Library:

All we have to do is hook up to the Internet, anywhere in the office or even the world, call up the webpage with the back-end interface on their screen, type in a password and insert their content. The content management system will take care of the rest and make the inserted content available to visitors to the website instantly or, if desired, after review by an editor. Thus, the burden of web management can be shared among staff members throughout an organization.

1. Sirsi Corporation - <http://www.sirsi.com/>
Library automation, archives, and Z39.50 resources software.
2. Ex Libris - <http://www.aleph.co.il/>
Developers of ALEPH integrated library system software.
3. Innovative Interfaces Inc. - <http://www.iii.com/>
Information about Millennium, a Web and Java library system.
4. Biblio Tech Review - <http://www.biblio-tech.com/>
Electronic journal covering library automation, software, library computerisation, text retrieval, electronic publishing and digital libraries reviews.
5. BookWhere 2000 Cataloging Software - <http://www.bookwhere.com/>
Software package that allows the user to search hundreds of library databases via the Internet and capture MARC records using the Z39.50 protocol. Free evaluation software is available.
6. Library Technology Guides - <http://www.librarytechnology.org/>
Guides to library automation in a number of specialized categories.
7. Open Source Systems for Libraries News - <http://www.oss4lib.org/>
News site for open source systems for libraries.
8. Innovative Internet Applications in Libraries - <http://www.wiltonlibrary.org/innovate.html>
Highlights examples of effective use of the Internet in the following categories: virtual reference desks, innovative Internet librarians, library e-journals, image maps in public library sites, e-mail subscription newsletters in public libraries, book and reading lists, special collections (exhibits), and online catalogs.
9. Auto-Graphics, Inc. - <http://www.auto-graphics.com/>
Suppliers of library automation software, electronic content management, and electronic publishing solutions, including thelibrarycard.net.
10. BiblioMondo Inc. - <http://www.bibliomondo.com/>
Vendor that provides software for digital collections for library consortiums.
11. ADLIB Information Systems - <http://www.adlibsoft.com/>

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- Specializes in library management systems and software; archive and records management systems; document management and control systems; membership systems and image database applications.
12. Integrated Library System Reports - <http://www.ilsr.com/>
An electronic newsletter designed to assist information professionals with integrated library system issues. ILSRs mission is to locate up-to-date IOLS information, provide an IOLS reference database, and track new IOLS industry developments and trends.
 13. Koha - Open Source Library System - <http://www.koha.org/>
Free Open Source Library System, which has a full catalogue, opac, circulation, member management and acquisitions package.
 14. Book Systems - <http://www.booksys.com/>
School library catalog system with free MARC record retriever.
 15. IS Oxford - <http://www.isoxford.com/>
Information about the Heritage Library Management System.
 16. Sagebrush Corporation Library Technologies - <http://www.sagebrushcorp.com/tech/>
Internet content management software which helps with focused learning and provides faster Internet access for libraries.
 17. Library Automation Management - <http://libraryautomation.com/>
Provides a combination of consulting, implementation, and integration services specifically for the small and medium-sized school, special, or public library.
 18. Softlink Europe Library Automation - <http://www.softlink.co.uk/>
Softlink Europe Library Automation Software, suppliers of the Alice library automation and management software and BookWizard.
 19. Sagebrush Corporation - <http://www.sagebrushcorp.com/>
Offers library automation software, library cataloging services, union catalog, data conversion, MARC records, Winnebago Spectrum, Athena, reading programs, scanners, WebManager.
 20. OCLC WebExpress Service Center - <http://www.oclc.org/webexpress/>
Provides an affordable library tool that creates and customizes an integrated gateway to a library's electronic services. Consolidates resources so patrons find the materials they're seeking with one convenient interface.
 21. KLAS, Keystone Library Automation System - <http://www.klas.com/>
Provides full service software, hardware, and support solutions for library automation. KLAS is a fully integrated solution applicable to many types of libraries, particularly those serving geographically diverse patron communities.
 22. MyLibrary - <http://dewey.library.nd.edu/mylibrary/>
Open source software for customizable library portals.
 23. Total Knowledge Management - <http://www.tkm.mb.ca/>
TKM is a developer of library maintenance software and internet services.
 24. MC2 Systems - <http://www.autolib.com/>
Low cost library management solutions for every type of library.
 25. Library automation software by New Generation Technologies Inc. - <http://www.librarysoft.com/>
Library automation software that includes catalog, circulation, OPAC, MARC, and report generator.
 26. LibSmart - <http://www.geocities.com/libsmartsoftware/>
Automation software aimed at small libraries.
 27. LibSuite - <http://www.libsuite.com/>
Libsuite is a Application Service Provider for Library Automation software LibSuite.
 28. CDS/ISIS - <http://www.cds-isis.ca/>
Site of the North American distributor of CDS/ISIS, Unesco's library management software.

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29. The Library Portal - <http://24.123.59.34:83/>
Web access solution for libraries. Allows librarians to monitor, track, and define library policy for internet access. Ties all electronic resources into a single interface.
 30. Library Automation Resources - <http://www.mts.net/~automate/resource.html>
Includes systems vendors, listservs, surveys and reviews, and automation relating to specific library functions. Last updated September 2000.
 31. Andrew Osborne's Library Automation Pages - <http://libinfo.com/libauto.html>
Offering information to systems librarians on a variety of library systems and vendors.
 32. Epixtech UK - <http://www.epixtech.co.uk/>
Supplier of library automation software and systems. With product information and sales.
 33. QwikBooks Library Automation System - <http://www.members.cox.net/qwikbooks>
Library automation software using SQL database technology. It will run with both MySQL Server and Microsoft SQL server/MSDE database servers.
 34. Greenstone Digital Library Software - <http://www.greenstone.org/english/home.html>
Greenstone is a suite of open-source software for building and distributing digital library collections.

11. Advantages of Content Management Systems in Library and Information Centers

Content Management is one of the most important part of the present day e-information World and it plays crucial role for sharing information Globally and makes the Library and information centers more realistic to cope up with the new millennium. Following are some of the advantages of CMS :

- ✍ Through CMS, information that is digitized can become available to anyone in the World at minimal cost and its source does not get exhausted with unlimited use.
- ✍ Content information obtains full networking capability.
- ✍ Effective searching can be possible to retrieve a particular information.
- ✍ Downloading of the required information from any website is very easy
- ✍ Presentation of information through the CMS can be done within short time with speed and accuracy.
- ✍ Multiple access to content resources is possible
- ✍ Access to content information is instant by surfing the Websites.
- ✍ It develops a distributed learning environment by which all the users can be benefited at a time.
- ✍ Large volumes of data can be stored in CMS and made accessible to the users
- ✍ Addition and deletion of information to the collection of contents is faster and easier.
- ✍ Cataloguing, editing, referring, indexing and information transfer can be done with ease and speed.
- ✍ Career planning and related information can be accessed using CMS.
- ✍ CMS increases the productivity and simultaneously decreases the cost of production.
- ✍ Above all the quality of digital information service can be provided and maintained through the CMS.

12. Conclusion

Content management systems come in many shapes and sizes, from the small and simple to the huge and complex. At one end of the range are very expensive and commercially licensed systems. At the other end are systems that are inexpensive or free, most of which are released under open source licences. The latest developments and inventions in Information Technology, Web Technology and the Internet have opened a gateway to digitize the Libraries and so it is wise to utilize the opportunities and the facilities, and the Content Management Systems should be implemented to provide quality and exact information service to the millennium users.

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