Web Content Management Systems in Library and Information Science in the Present Era

Madan Lal Jat[*]

Abstract

This article a detail analysis has been made one recent progress of management system in Library and Information Science. This includes progress Web Content Management System, Content Management System, Learning Management System, Library Management System. Stress has also been given upon the need of the collection of information. The article is useful for the Teachers, Librarians, Information Expert, Information Scientists, Information Managers, Information Officers, Research Scholars, Students and all library professionals who have thirst for knowledge.

Keywords: **Content management system, learning management system, web content management system, library management system.**

Preface

Change is the dominant factor of human life. There is immense importance to change in present period and it is the cause of human progress. The Library and Information Science is no exception to this. Therefore, it is necessary to include Management Systems in the syllabi. As a result of this change new concepts are coming forward. In the age of explosion of Information Science, the task of fulfilling the reader's expectations totally depend upon the skilful Librarian. To prepare a skilled Librarian in the library organization and the syllabus in it is very important, now a day's library is not only confined to the transaction of books but it has become a centre of retrieval information. Therefore, it is very necessary to apply the new some management system in the syllabi. The emerging management system in library and information science can be preferably considered in the following ways.

Web Content Management System

A web content management system (WCMS)[1] is a software system that provides website authoring, collaboration, and administration tools designed to allow users with little knowledge of web programming languages or markup languages to create and manage website content with relative ease. A robust WCMS provides the foundation for collaboration, offering users the ability to manage documents and output for multiple author editing and participation.

Most systems use a content repository or a database to store page content, metadata, and other information assets that might be needed by the system.

A presentation layer displays the content to website visitors based on a set of templates. The templates are sometimes XSLT files.[2] Most systems use server side caching to improve performance. This works best when the WCMS is not changed often but visits happen regularly.

Administration is typically done through browser-based interfaces, but some systems require the use of a fat client.

A WCMS allows non-technical users to make changes to a website with little training. A WCMS typically requires a systems administrator and/ or a web developer to set up and add features, but it is primarily a website *maintenance* tool for non-technical staff.

Capabilities

A web content management system is used to control a dynamic collection of web material, including HTML documents, images, and other forms of media.[3] A CMS facilitates document control, auditing, editing, and timeline management. A WCMS typically has the following features:[4]

- **Automated Templates**

Create standard output templates (usually HTML and XML) that can be automatically applied to new and existing content, allowing the appearance of all content to be changed from one central place.

[*]Assistant Librarian, Gurukul Kangri Vishwavidyalaya, Kanya Gurukul Campus, Haridwar (Uttrakhand).
E-mail Id: jatmadan@yahoo.co.in

- **Access Control**

  Some WCMS systems support user groups. User groups allow you to control how registered users interact with the site. A page on the site can be restricted to one or more groups. This means an anonymous user (someone not logged on), or a logged on user who is not a member of the group a page is restricted to, will be denied access to the page 5.

- **Scalable Expansion**

  Available in most modern WCMSs is the ability to expand a single implementation (one installation on one server) across multiple domains, depending on the server's settings. WCMS sites may be able to create micro sites/ web portals within a main site as well.

- **Easily Editable Content**

  Once content is separated from the visual presentation of a site, it usually becomes much easier and quicker to edit and manipulate. Most WCMS software includes WYSIWYG editing tools allowing non-technical users to create and edit content.

- **Scalable Feature Sets**

  Most WCMS software includes plug-ins or modules that can be easily installed to extend an existing site's functionality.

- **Web Standards Upgrades**

  Active WCMS software usually receives regular updates that include new feature sets and keep the system up to current web standards.

- **Workflow Management**

  Workflow is the process of creating cycles of sequential and parallel tasks that must be accomplished in the CMS. For example, one or many content creators can submit a story, but it is not published until the copy editor cleans it up and the editor-in-chief approves it.

- **Collaboration**

  CMS software may act as a collaboration platform allowing content to be retrieved and worked on by one or many authorized users. Changes can be tracked and authorized for publication or ignored reverting to old versions. Other advanced forms of collaboration allow multiple users to modify (or comment) a page at the same time in a collaboration session.

- **Delegation**

  Some CMS software allows for various user groups to have limited privileges over specific content on the website, spreading out the responsibility of content management.[6]

- **Document Management**

  CMS software may provide a means of collaboratively managing the life cycle of a document from initial creation time, through revisions, publication, archive, and document destruction.

- **Content Virtualization**

  CMS software may provide a means of allowing each user to work within a virtual copy of the entire web site, document set, and/ or code base. This enables changes to multiple interdependent resources to be viewed and/ or executed in-context prior to submission.

- **Content Syndication**

  CMS software often assists in content distribution by generating RSS and Atom data feeds to other systems. They may also e-mail users when updates are available as part of the workflow process.

- **Multilingual**

  CMS software may be capable of displaying content in multiple languages.

- **Versioning**

  Like document management systems, CMS software may allow the process of versioning by which pages are checked in or out of the WCMS, allowing authorized editors to retrieve previous versions and to continue work from a selected point. Versioning is useful for content that changes over time and requires updating, but it may be necessary to go back to or reference a previous copy.

Types

There are three major types of WCMS: offline processing, online processing, and hybrid systems. These terms describe the deployment pattern for

the WCMS in terms of when presentation templates are applied to render web pages from structured content.

Offline processing: These systems pre-process all content, applying templates before publication to generate web pages. Since pre-processing systems do not require a server to apply the templates at request time, they may also exist purely as design-time tools.

Online processing: These systems apply templates on-demand. HTML may be generated when a user visits the page or pulled from a web cache.

Most open source WCMSs have the capability to support add-ons, which provide extended capabilities including forums, blog, wiki, web stores, photo galleries, contact management, etc. These are often called modules, nodes, widgets, add-ons, or extensions. Add-ons may be based on an open-source or paid license model.

Hybrid systems: Some systems combine the offline and online approaches. Some systems write out executable code (e.g., JSP, ASP, PHP, Cold Fusion, or Perl pages) rather than just static HTML, so that the CMS itself does not need to be deployed on every web server. Other hybrids operate in either an online or offline

Advantages

Low cost: Some content management systems are free, such as Drupal, TYPO3, Joomla, and Word Press. Others may be affordable based on size subscriptions.[7] Although subscriptions can be expensive, overall the cost of not having to hire full-time developers can lower the total costs. Plus software can be bought based on need for many CMSs.

Easy customization: A universal layout is created, making pages have a similar theme and design without much code. Many CMS tools use a drag and drop AJAX system for their design modes. It makes it easy for beginner users to create custom front-ends.[8]

Easy to use: CMSs are designed with non-technical people in mind. Simplicity in design of the admin UI allows website content managers and other users to update content without much training in coding or technical aspects of system maintenance.

Workflow management: CMSs provide the facility to control how content is published, when it is published, and who publishes it. Some WCMSs allow administrators to set up rules for workflow management, guiding content managers through a series of steps required for each of their tasks.

Disadvantages

Cost of implementation: Larger scale implementations may require training, planning, and certifications. Certain CMSs may require hardware installations. Commitment to the software is required on bigger investments. Commitment to training, developing, and upkeep are all costs that will be incurred for enterprise systems.[9]

Cost of maintenance: Maintaining CMSs may require license updates, upgrades, and hardware maintenance.

Latency issues: Larger CMSs can experience latency if hardware infrastructure is not up to date, if databases are not being utilized correctly, and if web cache files that have to be reloaded every time data is updated grow large. Load balancing issues may also impair caching files.

Tool mixing: Because the URLs of many CMSs are dynamically generated with internal parameters and reference information, they are often not stable enough for static pages and other web tools, particularly search engines, to rely on them.

List of Content Management Systems

This is a list of notable content management systems that are used to organize and facilitate collaborative content creation. Many of them are built on top of separate content management frameworks.

Open source software: This section lists free and open-source software to be installed and managed on your supplied web server.

S. No.	Name	Platform	RDBMS	Licenses
1.	Open Cms	Java	HSQL, MySQL, Oracle, SQL Server, DB DB2, Postgre SQL	LGPL
2.	Liferay	Java	HSQLDB, MySQL, Oracle, SQL Server, DB2,	LGPL

			Apache Derby, InterBase, JDataStore, PostgreSQL, SAP, Sybase	
3.	DSpace	Java	Oracle, PostgreSQL	BSD
4.	Fedora	Java	MySQL, Oracle, PostgreSQL, Mulgara (MPTSTore RDF Semantic Triplestore)	Apache
5.	dotCMS	Java	MySQL, Oracle, MSSQL, PostgreSQL	GNU GPL v2
6.	LogicalDOS	Java	MySQL, Oracle	LGPL
7.	Nuxeo EP	Java	MySQL, Oracle, PostgreSQL, Ingres, SQLS Server	LGPL
8.	Alfresco Community Edition	Java	MySQL, Oracle, Ingres, PostgreSQL, DB2, SQL Server	LGPL
9.	Magnolia	Java	MySQL, Oracle, SQL Server, Ingres, JCR	GPL & proprietary
10.	Hippo CMS	Java	MySQL, Oracle, Ingres, PostgreSQL, JCR, SQL Server	Apache 2.0

Table 1.Java

S. No.	Name	Platform	RDBMS	Licenses
1.	Composite C1	ASP.NET (Web Forms, MVC)	XML, SQL Server	Mozilla Public License
2.	DotNetNuke	ASP.NET (Web Forms)	SQL Server	MIT License
3.	MojoPortal	ASP.NET	SQL Server, MySQL, PostgreSQL, SQLite, Firebird, SQL CE	CPL
4.	Orchard Project	ASP.NET (MVC)	SQL Server, SQLCE, MySQL, SQLite,PostgreSQL[3]	New BSD License
5.	Umbraco	ASP.NET (Web Forms)	SQL Server, MySQL	MIT License

Table 2.Microsoft ASP.NET

S. No.	Name	Platform	RDBMS	Licenses
1.	blosxom	Perl	Flat-file database	MIT
2.	Bricolage	Perl on mo perl	MySQL, PostgreSQL, Oracle	BSD
3.	EPrints	Perl on mod_perl	MySQL, PostgreSQL	GPL
4.	Exsite Webware	Perl	MySQL, PostgreSQL	GPL
5.	Ikiwiki	Perl	Git (software), Apache Subversion, Mercurial	GPL
6.	Movable Type	Perl, mod perl, FastCGI, w/Php	MySQL, Microsoft SQL Server, Oracle, PostgreSQL, SQLite	GPL
7.	TWiki	Perl	Plain files (under version control)	GPL
8.	Scoop	Perl on mod perl	MySQL	GPL
9.	WebGUI	Perl on mod perl	MySQL	GPL

Table 3.Perl

S. No.	Name	Platform	RDBMS	Licenses
1.	AdaptCMS Lite	PHP	MySQL	GPL
2.	ATutor	PHP	MySQL	GPL
4.	BEdita	PHP	MySQL	AGPL
5.	BLOG:CMS	PHP	MySQL	GPL
6.	CMS Made Simple	PHP	MySQL, PostgreSQL	GPL

7.	Drupal	PHP	MySQL, Oracle, PostgreSQL, SQLite,Microsoft SQL Server[11]	GPL
8.	Frog CMS	PHP5	MySQL, SQLite	GPL
9.	ImpressCMS	PHP	MySQL	GPL
10.	Joomla!	PHP	MySQL, MSSQL, PostgreSQL, Oracle, SQLite[21]	GPL
11.	Jumbo	PHP	SQLite	GPL v3
12.	Knowledge Tree Community Edition	PHP	MySQL	GPL & proprietary
13.	Lyceum	PHP	MySQL	GPL
14.	Mambo	PHP	MySQL	GPL
15.	Mediawiki	PHP	MySQL, PostgreSQL, SQLite	GPL
16.	Moodle	PHP	MySQL, Postgres, MSSQL, or Oracle	GPLv3+
17.	Phpweblog	PHP	MySQL	GPL
18.	ProcessWire	PHP5	MySQL	GPL
19.	SilverStripe	PHP 5.2+	MySQL, Microsoft SQL Server,PostgreSQL, SQLite, Oracle	BSD
20.	WordPress	PHP	MySQL	GPL
21.	Xpress Engine	PHP	MySQL, Cubrid, PostgreSQL, SQLite, Firebird, MSSQL	LGPL v2

Table 4.PHP

S. No.	Name	Platform	RDBMS	Licenses
1.	Django-cms	Python/ Django	PostgreSQL, MySQL, SQLite 3 and Oracle	BSD
2.	Mezzanine	Python/ Django	PostgreSQL, MySQL, SQLite 3 and Oracle	BSD
3.	MoinMoin	Python	Flat-file database	GPL
4.	Plone	Python/ Zope	MySQL, PostgreSQL, SQLite, Oracle, ZODB, via Zope	GPL

Table 5.Python

S. No.	Name	Platform	RDBMS	Licenses
1.	Refinery CMS	Ruby on Rails	MySQL, PostgreSQL, SQLite	MIT
2.	BrowserCMS	Ruby on Rails	MySQL, SQLite	LGPL
3.	Locomotive	Ruby on Rails	MongoDB	MIT
4.	Flagship Docs	Ruby on Rails	MySQL, PostgreSQL, SQLite	MIT
5.	Radiant	Ruby on Rails	MySQL, PostgreSQL, SQLite, DB2	MIT

Table 6.Ruby on Rails

S. No.	Name	Platform	RDBMS	Licenses
1.	Mura CMS	Railo/ OpenBD/ Adobe ColdFusion	MySQL/ Microsoft SQL Server/ Oracle	GPL/ Commercial License

Table 7.CFML (ColdFusion Markup Language)

S. No.	Name	Platform	RDBMS	Licenses
1.	Pier	Smalltalk	Pharo, Squeak, VisualWorks, GemStone	MIT
2.	Zotonic	Erlang	PostgreSQL	Apache

Table 8.Others

Conclusion

Consideration of features is an important part of the process of selecting a WCMS, but it is not everything. It is also important to consider issues such as licensing, support, accessibility, security, training and much more.

I leave you with a word of warning: don't let your list of requirements become a wish list. Keep your requirements to a minimum, but at the same time keep an eye on the future. It's a fine line to walk. On the one hand, you don't want to pay for functionality you will never use. On the other, you don't want to be stuck with a web content management system that no longer meets your needs. This article sources has taken by web and mini encyclopedia.

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