

COMPARATIVE STUDY of EXISTING ECMS BASED on USE and ADVANTAGES

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Abstract-- “ENTERPRISE CONTENT MANAGEMENT SYSTEM” (ECMS) has been derived or we can see it is an extension of the content management system (CMS) by looking at the need of today’s enterprises. There is vast increase in the amount of document in the big enterprises because of which it becomes very important to categorize the document and to hide them as per their importance or as per their confidentiality. ECMS is a means of organizing the documents or other data and also store them that relate to the organization’s processes. ECMS is a strategy, methods, and tools used throughout the lifecycle of the content. Many enterprises are opting the Enterprise Content Management System as it becomes easier to work with enterprises vast records efficiently and can manage vast data with so much of ease. In this paper we will study the most popularly used existing ECMS, based on the need of the enterprise i.e. what type of data to be stored and by analyzing the actual need of the enterprise we will suggest best suited ECMS to be use and also we will see the advantages.

Keywords— CMS, DMS, ECMS, LMS, WCM, WECMS.

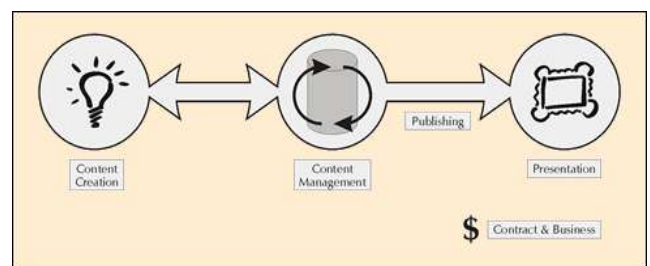
I. Introduction

ECMS is an extension to the CMS, nowadays there are many different existing ECMS in the market available, but the AxCMS.net is the one of the world’s first ECMS. AxCMS.net is an award-winning, multilingual and multi-site compatible solution – completely free of charge. The way organizations conduct business has evolved since the first ECM systems began appearing on the market twenty-plus years ago. The tools and technologies we rely upon to meet our business objectives have become more powerful and integrated, revolutionizing the way we communicate and collaborate. The types of content we rely upon have grown to include documents, forms, images, audio/video, email messages, instant messages, web content, and more. And the regulatory atmosphere within which we do business has evolved, bringing with it new demands with regard to digital information privacy, security, and stewardship [3]. Document management is one of the most important and oldest technique and it emerges out of ever growing amount of information being created within big organizations and also document management is important for legal processes as a proof of something or some incident has really happened. In the traditional method where the hard copy use to exist for every document there is always a limitation regarding the storage and retrieval of amount of information. With the introduction to electronic system of managing the documents like MS-

office now there is no limit of storing and retrieval of data with the increase in the technology the amount of data that to be managed is also increasing. With the increase in the document that need to be managed the MS-office, excel etc are not alone sufficient, we need to make new and different software to manage documents depend on their type, access permissions, sensitivity of data etc. The need for establishment of a properly designed and implemented ECMS is because there is an exponential and astronomical growth of raw data that is required to be accessed quickly in present day scenario for a well-organized and controlled access.[2]. In today’s world there are many software’s those are especially made for the Enterprise Content Management but in this paper we will do analysis and categorize all popular ECMS and based on our analysis we will suggest which ECMS suits a particular enterprise according to its use and also the advantages.

II. WHAT is ECMS?

Enterprise Content Management Systems is a system facilitating the creation, retrieval and editing of information/knowledge in digital fashion including raw, semi processed or fully processed content handling text, images/graphics/animation, audio/video etc., in real time or otherwise as needed ECM tools and strategies allow the management of an organization’s unstructured information, wherever that information exists [1]. Nowadays whether it is a small enterprise or a big everyone needs there documents to be placed properly and can be reused easily, so to have an ECMS is a better solution but to have a correct ECMS depending on our enterprise is also very important. In later sections of this paper we will see how to choose a better suited ECMS. Beyond these, the greatest benefit the CMS can provide is to support your business goals and strategies. For example, the CMS can help to improve sales, increase user satisfaction, or assist in communicating with the public [5].



Source: KM Column JUNE 2003 So, what is a content management system?
(http://www.steptwo.com.au/files/kmc_what.pdf)

The functionality of a content management system can be broken down into several main categories:-

- content creation
- content management
- publishing
- presentation

Each of these will be explored in the following sections. The CMS manages the entire lifecycle of pages, from creation to archival.

➤ **Content creation**

At the front of an ECMS is an easy-to-use authoring environment, designed to work like Word. This provides a non-technical way of creating new pages or updating content, without having to know any HTML.

➤ **Content management**

Once a page has been created, it is saved into a central repository in the ECMS. This stores all the content of the site, along with the other supporting details. This central repository allows a range of useful features to be provided by the ECMS: Keeping track of all the versions of a page, and who changed what and when. Ensuring that each user can only change the section of the site they are responsible for. Integration with existing information sources and IT systems.

➤ **Publishing**

Once the final content is in the repository, it can then be published out to either the website or intranet. Content management systems boast powerful publishing engines which allow the appearance and page layout of the site to be applied automatically during publishing. It may also allow the same content to be published to multiple sites.

➤ **Presentation**

The content management system can also provide a number of features to enhance the quality and effectiveness of the site itself. As an example, the CMS will build the site navigation for you, by reading the structure straight out of the content repository. It also makes it easy to support multiple browsers, or users with accessibility issues. The CMS can be used to make your site dynamic and interactive, thereby enhancing the site's impact [4].

A. **TYPES of ECMS**

There are many different types of the Enterprise Content Management System available, depending on our requirement that what type of data an enterprise want to manage there are different types of ECMS are listed below.

1) **Web Enterprise Content Management System (WECMS)**

Web content is the managing the data related to the websites or managing the online data, its difficult to manage large web sites so Web Enterprise Content Management System (WECMS) helps in managing the web content. It assist an

organization in automating various aspects of web content creation, content management, and delivery. [2]. Delivery to the Web is its primary format, but many WECMS systems also deliver to wireless devices.

2) **Document Management System (DMS)**

The Document Management System (DMS) mainly focuses on the storage and retrieval of self-contained electronic data in the document form. Generally, The DMS is designed to help the organizations to manage the creation and flow of documents through the provision of a centralized repository.

3) **Content management system (CMS)**

The CMS assist in the creation, distribution, publishing, and management of the enterprise information. These systems are generally applicable on the online content which is dynamically managed as a website on the internet or intranet. The CMS system can also be called as 'Web Content Management' (WCM).

4) **Library management system (LMS)**

Library management systems facilitate the library technical functions and services that include tracking of the library assets, managing CDs and books inventory and lending, supporting the daily administrative activities of the library and the record keeping.

5) **Records management system (RMS)**

The RMS are the record keeping system which capture, maintain and provide access to the records including paper as well as electronic documents, efficiently and timely.

6) **Learning management system (LMS)**

Learning management systems are generally used to automate the e-learning process which includes the administrative process like registering Students, managing training resources, creating Courseware, recording results etc.

7) **Geographic information system (GIS)**

The GIS are special purpose, computer-based systems that facilitate the capture, storage, retrieval, display and analysis of the spatial data.

8) **Digital imaging system (DIS)**

The DIS assists in automation of the creation of electronic versions of the paper documents such as PDFs or Tiffs. So created Electronic documents are used as an input to the records management systems.

B. **VARIOUS ECMS**

A successful and effective ECM system is not merely an application that organizes and stores content, it is a fully-integrated platform and architectural framework that enables unfettered collaboration, stewards enterprise content throughout its life-cycle, and empowers greater productivity. An ECM system is an organization's virtual ecosystem[3]. There are many different ECMS present in today's market, we are listing here some of the popularly used ECMS and they are as follows-



1) **Drupal**

Drupal is an open source web content management framework for building Internet portals, corporate web site, e-commerce sites, and more. It is the one of the best because of its ease of use, vast number of modules and it has a great user, developer and community to keep it updated [6].

2) **Word Press**

Word Press has a web template system using a template processor. Users can re-arrange widgets without editing PHP or HTML code; they can also install and switch between themes. The PHP and HTML code in themes can also be edited for more advanced customizations. Word Press also features integrated link management; a search engine-friendly, the ability to assign nested, multiple categories to articles; and support for tagging of posts and articles [4]. It is simple in use and good for the single user blogs, with a large number of themes and module available online [7].

3) **Joomla**

Joomla is one of the most popular and it has the one of largest community, then any other ECMS. Here we will get everything we need to develop social networks, ecommerce, & archive sites [8].

4) **Media Wiki**

It invents the new way of networking on the web and it is the one of the best ECMS for the collective authoring of documents, and it powered one of the best and most powerful site on net i.e. Wikipedia[9].

5) **Liferay**

It is the one of the newest and most powerful ECMS for building portals, and offers a professional look and feel that sets it apart from the other platforms[10].

6) **TYPO3**

It is the most complex and professional CMS platforms, TYPO3 are popular for business websites, especially with European companies [11].

7) **Moodle**

Moodle is the one of the most unique CMS platforms on this list, designed specifically for Course Management and Education, and used for online learning platforms [12].

8) **Dolphin**

It is used for those developer's who wish to develop the latest in social networking, with an industry standard look and all of the features of the popular online communities[13].

9) **Pligg**

It is a Digg clone that provides social bookmarking functionality for websites, allowing users to post links, vote them up or down, and leave comments [14]

10) **Movable Type**

Movable Type is the main challenger to Word Press for a personal blog platform, and supports multiple users, Themes, and Tags[15].

III. **BEST SUITED ECMS and ADVANTAGE**

In the above section we have seen many different types of existing ECMS, they all are having their own distinguishing feature, now it's up to us what feature we want in our ECMS so it suits best to our enterprise requirement and also we will see the advantages of it., we will have a look on these features and accordingly we will select perfectly matched ECMS.

A. **e-commerce Websites**

Electronic commerce, commonly known as e-commerce or e-commerce , consists of the buying and selling of products or products services over electronic systems such as the Internet and other computer networks. It is more than just buying and selling products online. It also includes the entire online process of developing, marketing, selling, delivering, servicing and paying for products and services. The amount of trade conducted electronically has grown extraordinarily with widespread Internet usage.

1) **Best suites ECMS for e-commerce Website**

a) **Drupal**

Drupal is having all the features that an e-commerce site should have; we can very easily make the e-commerce site using this.

Example: <http://www.cargoh.com/>, it is one of the popular e-commerce sites made by Drupal.

b) **Joomla**

This is also one of this best site for e-commerce and it also constitute all features required in an e-commerce site.

Example <http://www.infusionsoft.com/>

Advantage of using Drupal & Joomla for e-commerce site

- Drupal and Joomla both are having flexible structure which is ideal for e-Commerce development.
- Drupal provides a development library so you can integrate a complete set of modules and features into your e-commerce engine.
- Ubercart is quite proud of the fact that it's built on Drupal and fully integrated with Drupal's core systems.
- Drupal is a secure application framework.
- Drupal is a powerful and versatile content management system.
- In Joomla new pages can be easily added and also modified.
- Joomla has self updation property.

B. **Single/multiple users or blogs**

A blog is A frequent, chronological publication of personal thoughts and Web links. A blog is often a mixture of what is happening in a person's life and what is happening on the

Web, a kind of hybrid diary/guide site, although there are as many unique types of blogs as there are people. If some enterprise wants blogs to be in their website as the first preference with single or multiple use then one of the following can be used.

1) **Best suites ECMS for single/multiple users or blogs**

a) **Word Press**

Word Press is good for single user blogs. There are many famous single user blogs developed by Word Press.

Example: TechCrunch.

b) **Movable Type**

Movable Type is similar to that of Word Press they both ECMS are challenge to each other, it is better a personal blog platform, and supports multiple users.

Example *The Huffington Post*

Advantage of using WordPress and Movable Type for Single/Multiple users or blogs

- Word Press has Ability to create a hosted "community" of users.
- Word Press has Ability to host thousands of users on one site.
- Word Press has Ability to limit sign-up to specific email domains if required.
- Word Press has Multiple authors on a single blog.

C. **Social Networking Website**

A social networking service is an online service, platform, or site that focuses on building and reflecting of social networks or social relations among people, e.g., who share interests and/or activities. A social network service essentially consists of a representation of each user (often a profile), his/her social links, and a variety of additional services. Most social network services are web based and provide means for users to interact over the internet , such as e-mail and instant messaging. Online community services are sometimes considered as a social network service.

1) **Best suites ECMS for Social Networking Website**

a) **Dolphin**

The best open source social networking content management system is Dolphin. Boonex Dolphin is popular among web designers who want the latest in social networking, with an industry standard look and all of the features of the popular online communities out of the box.

b) **Joomla**

It is also one of the best site for social networking also and many social networking sites are developed using joomla
Example <http://www.telkomspeedy.com/>

Advantage of using Dolphin and Joomla for Social Networking Website

- With Dolphin you have an array of smart community building tools right at your fingertips to create your own stellar website. Social communities encourage business and personal networking on a multiple levels.
- Dolphin is a customizable solution that gives you complete control. Build virtually any type of online social community you can imagine with reliable Dolphin hosting and software.
- In Dolphin & Joomla .you can build a unique site according to your personal vision.
- Dolphin & Joomla both offers the best platform to develop sites that meet all the SEO requirements.
- Joomla Take Advantage of Nearly 2000 Add-ons.
- Joomla Lets You Change the Look of Your Site Instantly

D. **Websites/Portals/Business Websites**

The enterprises whose requirement of managing the websites or portals or some specially designed Business Websites then one of the following will be helpful for them.

1) **Best suites ECMS for Websites/Portals/ Business Websites**

a) **Wiki media**

It is one of the best for making the websites and the portals especially it works for the application run by wiki community.

Example:-www.wikipedia.com

b) **Liferay**

Liferay it is one of the newest ECMS in the market and it have proved till now as one of the better ECMS for the Business Websites , it all the look and feel features of commercial websites, there is rapid increase in the use of Liferay.

Example:- <http://www.berendsen.com/home>

c) **TYPO3**

It is one of the most famous professional ECMS; it is popular for business websites, especially with European companies.

Example:- CISCO and UNICEF sites developed using TYPO3

Advantage of using Wiki media, Liferay and TYPO3 for Websites/Portals/Business Websites

- In Wiki Media, Liferay & TYPO3, with the click of a few buttons a new page can be created that integrates text, pictures and sound.



- Wiki requires only basic programming skills and thus is simple to use and maintain.
- Wiki provides easy text formatting and docs linking tools..
- Wikis are mostly free and open source..
- Liferay has Live Page Editing and Scheduling.
- Liferay has Multi-Language Support.
- Liferay has Multi-Tier Search
- TYPO3 User management and permission's control.

E. **E-Learning/Course Management**

E learning (electronic learning) is a term that covers a wide set of applications and processes, such as Web-based learning, virtual classrooms, and digital collaboration. It includes the delivery of content via the Internet, intranet/extranet (LAN/WAN), audio and videotape, satellite broadcast, interactive TV, CD-ROM, and more and Course Management is similar to that where we will manage all E-Learning data on line. The Enterprise having this type of requirement will be fulfilled by using Moodle.

1) **Best Suited ECMS for Learning/Course Management**

a) **Moodle**

It is one of the best for Course Management and also for the E-Learning, so many well know educational sites are developed using this.

Example: <http://openlearn.open.ac.uk/>

Advantage of using Moodle for Learning/ Course Management

- Flexible content structure - you'll no longer have to stick to the linear lecture structure for materials. Moodle offers you a great deal of flexibility in the way you organize things.
- Better quizzes - more features, whistles & gizzmos.
- Better file management - editing files that are already on the system is easy you can also host entire HTML sites within a Moodle course if you want.

F. **Social Bookmarking**

Social Bookmarking is tagging a website and saving it for later. Instead of saving them to your web browser, you are saving them to the web. And, because your bookmarks are online, you can easily share them with friends. Nowadays these types of sites are very popular.

1) **Best Suited ECMS for Social Bookmarking**

a) **Pligg**

Pligg is one of the best for Social Bookmarking.

Example:- *GoBigg/Published Articles*

Advantage of using Pligg for Social Bookmarking Website

- Pligg CMS provides social publishing software that encourages visitors to register on your website so that they can submit content and connect with other users.
- The Pligg social publishing CMS is search engine friendly which is further advantageous for attracting traffic through search engines.
- It offers a capability for users to vote the links in various ways which have been posted by other users.

IV. **COMPARISON**

In this section we will do comparison of all the ECMS and have a look of which one is best suited to your Enterprise to fulfill all the requirement

Name	License	Language	Best Suited for
Drupal	GPL	PHP	e-commerce sites
Word Press	GPL	PHP	Single/multiple users or blogs
Joomla	GPL	PHP	e-commerce sites and Social Networking Website
Media wiki	GPL	PHP	Websites/Portals/ Business Websites
Liferay	MIT	Java, PHP,Ruby	Websites/Portals/ Business Websites
TYPO3	GNU	PHP	Websites/Portals/ Business Websites
Moodle	GNU	PHP	E-Learning/Course Management
Dolphin	Creative Commons	PHP.	Social Networking Website
Pligg	GPL	PHP	Social Bookmarking
Movable Types	GNU	Perl	Single/multiple users or blogs.

TABLE I. COMPARISON OF ECMS AS PER USE

From the TABLE 1 we can very easily find out that which ECMS is better according to our requirement and also there will be no mistake in selecting the best ECMS, first of all analyzing the requirement and on that selecting the best ECMS is very important so that we can manage our documents and important data very easily and also very efficiently.



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