

# An Approach to Use Authorizing Tools in Content Management Systems In E-learning

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**Abstract:** Ever since the initiation of IT, Content Management Systems (CMS) came into survival in various forms such as system usage, software tools, breaking up of authorizing systems etc. A CMS (Content Management System) is an application system to create, edit, and modify the contents, and bring it an appealing way. There are numerous Content management tools available. The challenge is to use those obtainable CMS tools in an appropriate way with appropriate platform. The tool gives more flexibility to the developers and designers to create, develop, edit and publish in their own preferred and customized style. CMS can be attained as an open source software and it is easy to download and install free at cost. The real challenge for organizations is therefore to fabricate information and proficiency in content management. The organization must able to answer which features are broadly available and what are the challenges to be faced to put into practice by the products in CMS. In this paper comparison of Word Press, Joomla and Drupal are discussed. Learning Management System (LMS) provides a platform to develop and use the CMS. This paper enlightens the diverse of Content management tools that are available.

**Keywords:** Content Management System, Learning Management system Open Source software, WordPress, Joomla, Drupal

## I. INTRODUCTION

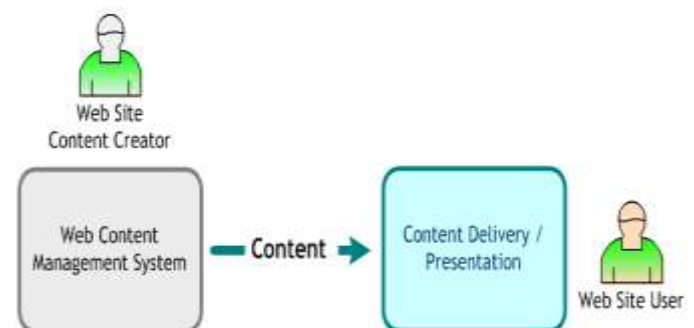
An e-learning stage is a software application that assimilates different management tools, communication, assessment, scrutinize, etc. There are different terms used to illustrate the system. It can be termed as Content Management Systems (CMS), Learning Management System (LMS), with the aim of endowing with technological support to teachers and students and also to offer various segments of the teaching and learning methodologies. One aspect of these technical requirements is a system for creating, editing, managing and allocate e-learning content. For the purpose of content management and other e-learning resources there are number of tools available.

## II. WHAT IS CMS?

Content management system is a course of action and software application which allows website authoring, collaboration between different actors to distribute content. There are several kinds of phases that depend on the Content management. Usually it consists of front-end editor that is used to give the input from the site straight away and a back-end to store the entire database. Web Content Management System

(WCMS) is a server program that stores web page text and publishing details in a database, instead of as HTML pages [1]

The authors who create the content can go to online to create and modify their contents. Web-based content management systems (CMS) support all the phases of content management, from creation to delivery [2]



Web Site Architecture with a Content Management System

## III. PROMINENT TRAITS OF CMS CAN DO?

It can coordinate content across multiple websites

- Integrated and Online help
- Full template support

- It helps the web developers in the facets of architecture, design and so on.

#### IV. ANATOMY OF CONTENT MANAGEMENT SYSTEM

The functionality of a content management system can be broken down into several main categories:[3]

- Content creation
- Content management
- Publishing
- Presentation

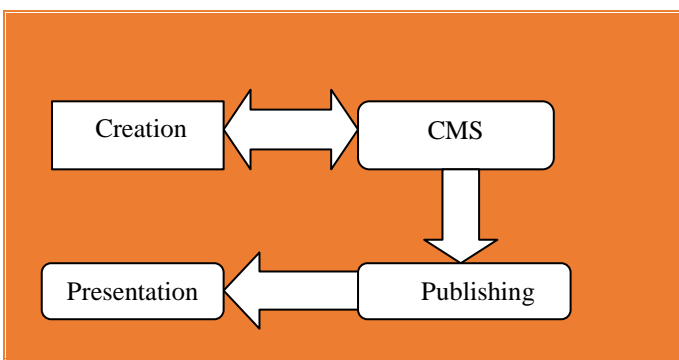


Figure 1: Anatomy of Content Management System

##### •Content Creation

When we create content there is no need to have any technical knowledge. We can create content as we create using MS-Word.

##### •Content Management

Once the content is created it can be stored in the centralized repositories which are resided in CMS. This central repository will keep track of the contents of the web sites. It also monitors the transaction and modification that is being done in.

##### •Publishing

Once the final content is found in the repository, it will be published to the Internet or the Intranet. It will also allow publishing the same information to different sites.

##### •Presentation

Content management provides us number of features to present our page in a very interactive and appealing way; thereby it will enhance the quality of the web page.

#### V. LEARNING MANAGEMENT SYSTEM

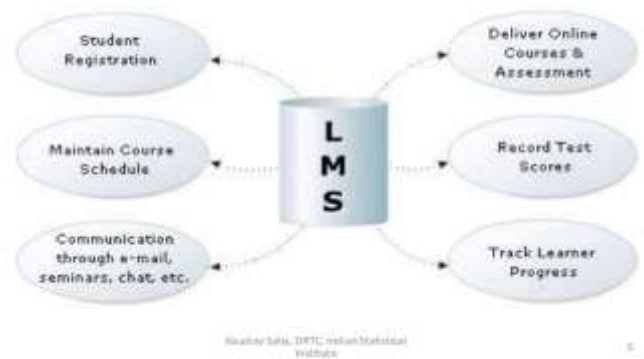
A Learning Management System (LMS) is a software application for the administration, documentation, tracking, reporting and delivery of electronic educational technology (also called e-learning) education courses or training programs [4].A learning management system provides

the students with the capability to utilize interactive features such as group discussions, video conferencing, and discussion meeting.

##### A. Roles of LMS

- Assembling and delivering the content.
- Tracking and scheduling the event management
- Curriculum management
- Reporting
- Preparing the educational material of courseware

#### eLMS : Architecture



#### VI. TOOLS IN CMS: AN OPEN-SOURCE SOLUTION

There are numerous tools available in Content management systems and Learning management systems. But many of them are exaggeratedly complicate. But few of them can be selected to ease our utilization and give the flexibility to the students as well as the teachers by giving various templates and features.

##### •Concrete5

Concrete5 is an open source content management system (CMS) for publishing content on the World Wide Web and intranets. [5]Concrete5 is a free open source CMS tool that focuses on easy to use, which is used specially for designers. Some main features in Concrete5 are a file manager with mass upload for files, drag-n-drop layout editor, and also include the add-ons to customize some features.

##### •Expression Engine

Expression Engine is a flexible, feature-rich content management system that makes powerful thousands for many individuals, institutes, and businesses around the world to easily manage their website. It is preferred by eminent web designers such as Veerle Pieters.

##### •Text Pattern

Text pattern is a flexible, stylish and easy-to-use content management system tools. It is both at no cost and an open source.

##### •WordPress

WordPress is web software you can use to create a beautiful website or blog [6]. It is one of the free open management software which is based on PHP and written in MySQL. The installation and hosting connection is quite easy in Wordpress.

- Joomla

Joomla is one of the most fashionable software used to build, systematize, supervise and issue content for websites, blogs, Intranets and mobile applications. Joomla is also one of the free and open-source software tools in content management system (CMS) for publishing the contents in the web.

- Drupal

Drupal is one of the free of cost tool available. It is an open source management and it is written in PHP programming. Drupal is a progressive platform that supports the latest technologies. It is distributed under the policies.

- MODx

MODx is a developer-friendly CMS capable of recognizing several programming languages and lay out to easily get to the tools you need for each aspect of your website. [9] MODx is accredited under the GPL, is developed in PHP programming language, and supports the back-end tools like MySQL and Microsoft SQL Server for storing the database.

- Moodle:

Moodle is free-open source software written in PHP and it is under the GNU License. It is an open-source learning management system by which we can create data index and database.

With customizable management features, it is used to create private websites with online courses for educators and trainers to achieve learning goals [7].

Moodle allows for extending and customizing the learning environments using plug-ins. The Plug-ins in Moodle is flexible to use and it is user-friendly to install for site administrator.

## VII. COMPARISON BETWEEN WORDPRESS, JOOMLA AND DRUPAL

Even though we have number of CMS software available, the most popular and powerful CMS open-source software are WordPress, Joomla and Drupal.

### A. Advantages of WordPress

- WordPress is easy to install since it has many responsive themes and plug-ins.

- WordPress menu management has extended functionalities that can be modified to include categories, pages etc [8]. This menu management enhances the features of WordPress so that menu items can be easily managed with expand and collapse features.

- Thousands and thousands of Templates are available, where we can create our own websites and blogs and present in our style and preferences.

### B. Disadvantages of WordPress

- One should be expertise in PHP when modification like removing of date fields is required.

- Even though ample of templates are available off-the-shelf, one should have the basic knowledge of HTML and CSS.

- Queries are very complex and needs additional syntax.

- Plug-ins and themes are too expensive to use.

- Customizing the themes sounds very tedious.

- Constant updating of website is mandatory.

- Most significant demerit of WordPress is its security liabilities.

### C. Advantages of Joomla

- Provides graphical user interface for administrators.

- If you have any website made with Joomla, you can easily migrate to any server.

- Since Joomla has a large community, any sort of technical problems can be resolved.

### D. Disadvantages of Joomla:

Most of the plug-ins are very expensive when compared to WordPress.

- To customize the multifaceted sites, Joomla is not the right choice since many of the functionalities are not advanced.
- Less number of themes available when compared to WordPress.
- Security is very less.
- When compared to other CMS Solutions, the resources required for server is very minimum.
- Some of the plug-ins must be paid. But this is not in case of WordPress.
- Many compatibility issues arise when Plug-ins and modules are installed.

### E. Advantages of Drupal

- Loading time is faster when compared to Joomla.
- Drupal has least security problems.
- Both designers and developers are very much benefited with the flexibility adopted in Drupal.
- Since Drupal has the centric focus on social networking, users can easily collaborate with each other by exchanging their opinions and analysis.
- More than 16,000 modules are available, with different features.

### F. Disadvantages of Drupal:

- Solutions like WordPress, Joomla are easy to use when compared to Drupal.
- Loading and Scalability efficiency is lacking when compared to WordPress

- Drupal has a big learning and experience curve is observed difficult.

Tools in Content Management System			
Parameters	WordPress	Drupal	Joomla
About	WordPress is a User-Friendly Open Source Content Management Software.	Drupal is a open source software used to construct complex sites.	Joomla is one of the Content Management tool available with reinforcement of multi-site
Requirements	No technical knowledge needed. One should be an expertise in PHP.	Needed Technical acquaintance.PHP and MySQL is required.	Needed Technical acquaintance. PHP and MySQL is required
Website	74 Million Websites available.	2.8 Millions Websites available	7500 Websites available.
Ease of use and Installation	WordPress is User-friendly and easy to use.It can easily manage.	Loading and Scalability efficiency is lacking when compared to WordPress.	If you have any website made with Joomla, you can easily migrate to any Server
Plug-Ins	Plug-ins and themes are too expensive to use	Plug-ins is defined as modules. More than 16,000 modules are available, with different features	Some of the plug-ins must be paid. But this is not in case of WordPress
Special Features	WordPress has Menu Management. Thousands of templates, we can create our own websites and blogs.	More than 16,000 modules are available, with different features. Social networking is available in Drupal	Page caching is one of the special features in Joomla.
Security	Most significant demerit of WordPress is that its security liabilities	Drupal publishes security susceptible.	Joomla reacts to security vulnerabilities.

Table 1: Comparison chart between WordPress, Joomla and Drupal

### VIII. CONCLUSION

While comparing WordPress, Joomla and Drupal, each and every solution has its own core functionalities and special features. However, WordPress comes in first place for user-friendly and ease-of use to create websites and blogs. Drupal comes in first place for the professional who are involved in large business and applications with various range of functionalities. Joomla comes in first place for the people to migrate from one server to another easily. At the same time, if people who are running small business can approach Joomla which will be cheaper compared to other CMS solutions. Thus one cannot easily fix the correct CMS software solutions and tools that are available. It should be chosen by the particular organization to which CMS tool they need to choose according to the products and features that are available and that is the major challenge to be faced.

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