# Content Management System

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***Abstract*- This is a research paper on Web Content Management Systems. Web Content Management Systems are getting used in building number of websites now a day. This document discusses the difference between building a website using a WCMS than to building a web application using the existing web technologies like J2ee, dot net, php etc. WCM comes from enterprises' need to organise and update the high volume of information published on their website. Implementing a WCM software allows for managing a great amount of content (from text to sound, from images to videos) using simple and flexible instruments. WCM are the systems more commonly (and wrongly) called CMS. The misunderstanding is because CMS result from the application of WCMS to all the company's content (e.g.: management of all enterprise's content and not only the information to be published on the web, multi-channel ready publications, etc.). It also discusses the advantageous as well as disadvantageous of Web Content Management System.**

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## I. INTRODUCTION

Content on web pages must be managed like all other content. Web Content Management (WCM) is used to create, manage, store and display content on web pages.
Web Content Management, or WCM, is a lot like content management in that it manages the integrity, revisions, and lifecycle of information – except it specializes in content that is specifically destined for the Web.

A Web Content Management System (WCMS) is a program that helps in maintaining, controlling, changing and reassembling the content on a web page. Content is mostly kept in a database and assembled using a flexible language like XML or .Net. The user interacts with the system at the front through a normal web browser. From there the web pages can be edited while maintaining control on parts of the layout.

## II. THE KEY FEATURES OF WCM SYSTEMS

- The ability to design and organize Websites to provide efficient and effective access to relevant and up-to-date content
- The ability to control and prepare the content for publication, including orchestrating and controlling content evaluation and approval before publication on the Web site, and
- The automation of key parts of the publishing process.

Most systems today are designed to allow users with little knowledge of Web programming or markup languages to create and manage Website content with relative ease. Typically, they use a database to store page content, metadata, and other information assets that might be needed by the system, and administration is usually done through browser-based interfaces.

WCM comes into play whether the site is intended to be used internally by organizational personnel (an intranet), externally by business partners and other outside-but-business-critical parties (an extranet), or publicly on the Web itself (on the Internet). The Web content being managed may be different, however. For instance, Intranets are generally as secure as any inside resource, and, in fact, need not even connect to the outside Internet at all. They typically contain:

- Work content to help people do their day-to-day jobs, including accounting, IT, phone/email directories, and conference room scheduling.
- HR information like benefits, employee newsletter, vacation requests, and training availability
- Corporate material including annual reports, governance, and press releases
- Social content such as regarding social events, company sports, and charitable activities

As is the case with other information management system, not every WCM solution provides the same functions as every other, or the same level of depth. So depending upon what you need, and what you anticipate needing in the time ahead, it is smart to consider the alternatives in terms of how different capabilities can be activated or added later on. Among these are:

- Configuration: the ability to turn built-in features on and off, universally or selectively, by changing

administrative settings

- Extension: the ability to install modules of new functionality to the original solution, as when plugging new capabilities into an application platform
- Customization: the ability to take what you're given and programmatically form-fit it to your specifications via supplied or purchased toolkits or Application Programming Interfaces
- Integration: the ability to tie the WCM solution to others that have already been installed, either programmatically or by leveraging interoperability methods such as Web services.

## III. YOU NEED A WEB CMS IF:

1. You manage news and content updates with Adobe PDF. Overuse of PDF content is often the tell- tale sign an organization needs a CMS. Business users turn to PDF to produce new content because the process of updating web pages is too difficult. Organizations at the top-end of this spectrum publish all press releases with PDF, or worse yet - the cardinal sin of web content - Microsoft Word. A similar sign is content managed as images on a website. If you are putting text updates as images or blending text and images it is time for a CMS.
2. You need to manually update multiple pages on your website when you add content. When you publish news stories or events do you need to manually update the home page, section front, related content links, audience content links or other sections of your website? Many content management systems provide a "Write Once Publish Everywhere" approach to managing content that automatically updates pages and navigation or provides streamlined updates. The ability to automate updates is also called content reuse and when combined with XML content is often considered the #1 ROI factor for web content management.
3. You support multiple audiences. For example at a university current students, faculty, prospective students; Or in government - community, business, and employees. We call this multi-constituent content management. A good CMS can help you repurpose and channel your content for different audiences - saving time, money, and simplifying the web management process.
4. You manage over 70 pages of content. Many people consider 70-pages a small website. Comparatively it is - many Ingeniux customers manage tens or hundreds of thousands of pages. But 70 pages is the tipping point where content becomes unmanageable without a CMS and simple web tools like Dreamweaver, Front-Page, or even Wordpress have a hard time scaling to support information architecture and content reuse requirements.
5. You have web pages that pre-date the Bush Administration. OK, many of us look at the Clinton years as the good days, but your web pages are not nostalgia. A good CMS does not only help you create web pages, but also update and manage pages. If old content is not updated or archived you need a CMS. More importantly you need an internal process to manage content - remember that ultimately people not software manage the web.
6. It takes more than two days to get new content on the web. Two days is an eternity on the web. But assuming you are using a CMS with multi-step workflow I would argue that two days is an acceptable process-time with approvals. However, time and time again I have spoken with content managers who experience several weeks to get basic updates up on a website. This can be a "Webmaster Bottleneck" issue or it can be too complex of a process using third-party vendors or design firms. Either way, if you cannot get emergency content online in minutes and approved content online in days you need a CMS.
7. You work in a regulated industry. Compliance is one of the key drivers for using web content management. Whether medical or financial or higher education, you need to support key compliance regulations like section 508a accessibility, Safehabor, Sarbanes Oxley (SOX), HIPA and others. A good CMS product will allow you to enforce standards across an organization (although I would argue that ultimately compliance is not a CMS feature, but a business process).
8. You manage more than three websites. Many organizations need to manage dozens if not hundreds of websites. Prime examples are affiliate chapters for trade associations or unions, franchises or branch locations for businesses, or country sites and multi-tiered marketing for large enterprises. If you fall into any of these categories you need a robust content management system that will support multi-site management, content reuse, and workflow. The rub is that although you need a robust CMS, you also need one that is simple to use because invariably local site managers require easier CMS solutions.
9. You manage multi-lingual content. Similar to multi-site content management, multi-lingual content requires a robust CMS application. There are several multi-lingual use cases (same site bi-lingual, same site multi-lingual or distributed country sites bi-lingual). There are also different processes from centrally translated content to locally translated content to outsourced localization services. With a web content management system some of the key features to evaluate are separation of content from presentation, content reuse, support for Unicode and BIDI (bi-directional text), dynamic templates (co-branding and navigation) and the ability to localize Flash and other media in the CMS.
10. Your branding is inconsistent across departmental sections and sites. Often in a large organization like a university or a regionally departmentalized corporation

there is a lot of autonomy in website operations. I would argue that a certain amount of autonomy is good, but not to detriment of branding and messaging. If each section of your website looks like an entirely different website you need a web content management system. A good CMS will provide templates and style sheets to enforce branding, while still providing each department the ability to create original content. A very good CMS will support variations in templates (co-brands) while still applying style control.

## IV. IDEAL WEB CONTENT MANAGEMENT SYSTEM

In their most basic form, Web content management systems should allow each content producer to create pages and feed them to the publishing system. The system must have customized and automated checks and balances to ensure that pages get placed correctly, that navigation trees are created and maintained, and that the appropriate people control the process along the way. To make this happen, good Web content management packages separate content (written material, images, streaming audio, video and anything else that makes up Web pages) from presentation of content (templates), and they include strong workflow capabilities.

When more than one person is responsible for generating new content the issues get more involved, particularly when the authors are not in the same location. Typically at this point of complexity web sites have turned to some form of dynamic content, where the web page is built by an application, which gathers the different components into some organized structure either dynamically (e.g. for each user request) or statically (e.g. writing out the generated web page periodically - perhaps whenever new content arrives).

Adding a few additional capabilities to this dynamic content, such as security, audit ability, and search and concurrency control brings us into the realm of content management. Content Management provides tools for administering web sites with extensive or complex content, or web sites where access to the content must be controlled.

A good content manager makes it easy for the authors of content to publish their material onto the web site, without conflicting with other authors, and should at the same time make it easy for the user of the web site to find and access to the content they require and are allowed access to. Content Management can handle the complex issues of online catalogs and their related e-commerce functionality, tying dynamic content seamlessly with web applications.

## V. TOP WCMS COMPARISON : DRUPAL,JOOMLA AND WORDPRESS

If creating a website for your business is on the horizon, you may be wondering which content management system (CMS) is the best choice for you. Here's a look at three of the most widely-used ones. All three are open-source software, each developed and maintained by a community of thousands. Not only are all three free to download and use, but the open-source format means that the platform is continuously being improved to support new Internet technologies. With all of these systems, basic functions can be enhanced ad infinitum with an ever-expanding array of add-ons, contributed from their respective communities.

There's no one-size-fits-all solution here; it depends on your goals, technical expertise, budget and what you need your site to do. For a simple blog or brochure-type site, Wordpress could be the best choice (while very friendly for non-developers, it's a flexible platform also capable of very complex sites). For a complex, highly customized site requiring scalability and complex content organization, Drupal might be the best choice. For something in between that has an easier learning curve, Joomla may be the answer.

When you have questions or need help, will you be able to find it easily? With all of these systems, the answer is yes. Each has passionate, dedicated developer and user communities, making it easy to find free support directly through their websites or through other online forums or even books. In addition, paid support is readily available from third-party sources, such as consultants, developers and designers. Each of these systems shows long-term sustainability and longevity; support for them will continue to be readily available for the foreseeable future. The more time and effort you are willing and able to invest into learning a system, the more it will be able to do for you. With both Wordpress and Joomla, you can order a wide range of services and options off the menu to suit your needs; with Drupal, you'll be in the kitchen cooking up what you want for yourself, with all of the privileges of customization that entails.

See the comparison chart below for more insight into the differences in these top content management systems. Still not sure? Download each of the free platforms and do a trial run to help you decide.

## VI. WEB CONTENT MANAGEMENT LIFE CYCLE

There are many ways to define and depict content management, and the lifecycle for creating and managing content on the intranet. The most simple, usable depiction for the average content author and publisher is one that illustrates the three key components of the content management lifecycle:

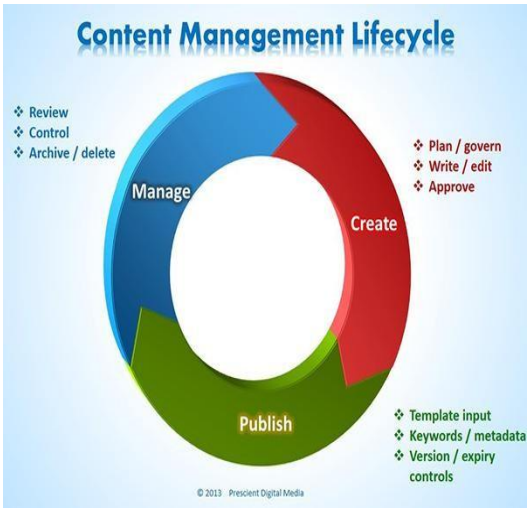
**Create**
To plan, write and approve content for the intranet.

**Publish**
To input content into a template (SharePoint), add

keywords and metadata, and add version and other controls to ensure the content can be controlled in the future.

**Manage**

To allow all users to access the content, and to allow content owners to control it, review it as necessary, and to eventually archive and/or delete the content.




## VII. CONCLUSION

While a good WCMS can facilitate businesses to better control their web content, making it more responsive in today's dynamic business environment, end-users should also be aware of the possible security impact on the enterprise if inappropriate material was published on the site. Advice to end-users includes:

1. Be aware of what is being published. Only approved content should be involved in the publishing process.
2. Each user identity (user-ID) should represent only one person at a time. Shared or group user-IDs should not be permitted.
3. Passwords should be promptly changed if they are suspected of being, or have been, compromised or if they have been given to vendors for maintenance and support. Password management practices such as enforcing strong passwords, and regular changes of passwords should be followed.
4. Automatic protection features, such as a password protected screen saver, should be activated if there has been no activity for a predefined period to prevent any attempt at illegal system access.
5. When a member of a content editing and updating group ceases to provide services in that group or organisation, his or her WCMS user-IDs and access privileges should be terminated as soon as possible.
6. Software patches and updates should be applied to user machines regularly, including web browsers, Java runtime environments and so on, on a regular basis.

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