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Content Management System (CMS)

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Abstract: Content Management System (CMS) is a computer program that allows publishing, editing and modifying content as well as maintenance from a central interface. CMSs typically aim to avoid the need for hand coding but may support it for specific elements or entire pages. The core function and use of content management systems is to store and organize files, and provide version-controlled access to their data. A CMS may serve as a central repository containing documents, movies, pictures, phone numbers, and scientific data. CMSs can be used for storing, controlling, revising, semantically enriching and publishing documentation.

I.   INTRODUCTION

A Content Management System (CMS) is a computer program that allows publishing, editing and modifying content as well as maintenance from a central interface. Such systems of content management provide procedures to manage workflow in a collaborative environment. These procedures can be manual steps or an automated cascade. CMSs have been available since the late 1990s. CMSs are often used to run websites containing blogs, news, and shopping. Many corporate and marketing websites use CMS. CMS typically aim to avoid the need for hand coding but may support it for specific elements or entire pages. The core function and use of content management systems is to store and organize files, and provide version-controlled access to their data. CMS features vary widely. Simple systems showcase a handful of features, while other releases, notably enterprise systems, offer more complex and powerful functions. Most CMS include Web-based publishing, format management, revision control (version control), indexing, search, and retrieval. The CMS increments the version number when new updates are added to an already-existing file. A CMS may serve as a central repository containing documents, movies, pictures, phone numbers, and scientific data. CMSs can be used for storing, controlling, revising, semantically enriching and publishing documentation. Distinguishing between the basic concepts of user and content, the content management system (CMS) has two elements:

Content Management Application (CMA) is the front-end user interface that allows a user, even with limited expertise, to add, modify and remove content from a Web site without the intervention of a Webmaster.
Content Delivery Application (CDA) compiles that information and updates the Web site

A.   Web Content Management System
A web content management system (web CMS) is a bundled or stand-alone application to create, manage, store and deploy content on Web pages. Web content includes text and embedded graphics, photos, video, audio, and code (e.g., for applications) that displays content or interacts with the user. A web CMS may catalog and index content, select or assemble content at runtime, or deliver content to specific visitors in a requested way, such as other languages. Web CMSs usually allow client control over HTML-based content, files, documents, and web hosting plans based on the system depth and the niche it serves.

B.   Component Content Management System
 A CCMS specializes in the creation of documents from component parts. For example, a CCMS that uses DITA XML enables users to assemble individual component topics into a map (document) structure. These components can be reused (rather than copied and pasted) within another document or across multiple documents. This ensures that content is consistent across the entire documentation set.

C.   Enterprise Content Management System
An enterprise content management system (ECM) organizes documents, contacts and records related to the processes of a commercial organization. It structures the enterprise's information content and file formats, manages locations, streamlines access by eliminating bottlenecks and optimizes security and integrity.

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The Web-based publishing feature allows individuals to use a template or a set of templates approved by the organization, as well as wizards and other tools to create or modify Web content. The format management feature allows documents including legacy electronic documents and scanned paper documents to be formatted into HTML or Portable Document Format (PDF) for the Web site. The revision control feature allows content to be updated to a newer version or restored to a previous version. Revision control also tracks any changes made to files by individuals. An additional feature is indexing, search, and retrieval.

II. PROBLEM BEFORE CMS

A. Content is scattered throughout the organization, resulting in contributors creating similar or duplicate content in many different format.

B. Numerous versions of documentation reside in separate files. Each file must be updated individually through a manual process, leading to errors and inaccuracies.

C. Anyone can access the content in documents, posing a security threat.

D. The editorial and review process is inefficient. Responsibilities and deadlines are not well-defined and monitored.

E. Content is rewritten for new publications because previously written content cannot be found. 6. Separate files exist for print, Web, and PDF versions of the content, increasing the time it takes to update and publish the content.

F. Documentation published in many languages is confusing and costly to update and translate.

III. SOLUTIONS

A. Content is consolidated into one powerful repository, facilitating content sharing among co-workers.

B. Because each piece of content is only stored one time in a CMS, it can be reused throughout one or multiple documents. The CMS tracks every instance of content reuse and flags all instances when a change is made to ensure all appropriate instances are updated and consistent.

C. User privileges are assigned, so only authorized people can access content with unique IDs.

D. Users are alerted to their pending tasks and due dates. Additionally, daily editorial tasks can be automated to save time.

E. Content can be searched, retrieved, and reused to create new products within minutes.

F. Single-source content is updated once and repurposed for multiple media channels as often as daily or weekly.

G. A CMS with full Unicode support allows small chunks of updated content to be translated instead of entire documents, saving thousands of dollars.

IV. FUNCTIONS OF CMS

 Management System works by storing pictures and text into a database. When a webpage is requested, the CMS system accesses the database and renders the webpage. Because the data is separated from the code, changes to the data can be made using a web interface that requires no knowledge of HTML.

There are some functions of CMS show in above figure. Create function create content. After createting content it measure size of content. Then it Develops, Optimize, Deliver, and Manage content. Most important function of CMS is Modify it modifies the content. With the help of modify function we can modify our content at any time. This enables you to keep your site's content fresh so that visitors – and search engines – see that your site is constantly kept up-to-date without any developers help.

V. TYPES OF CMS

The most widespread use of CMS today involves the quick creation of powerful websites that do not require a high level of programming knowledge to set up, customize and maintain. CMS can be broken down into two main types: Proprietary CMS and Open Source CMS.

A. *Proprietary CMS*

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Many companies sell licenses to use their own proprietary CMS. "Proprietary" generally means someone owns the rights to the CMS application and you need permission or a license to use it. Even with a license, in most cases, license holders may still be prohibited from duplicating the CMS or making alterations to the application unless they purchase a more expensive "developers" license.

Some proprietary CSM can, and are designed to work outside the environment of the creator but it is important that you understand where the CMS you choose will run properly because many types of proprietary CMS will only work when the site you build with them is hosted with the CMS owner. For example, most online "build it yourself" website services use some form of proprietary CMS. If you build a website "live" through their tools the site will only work as long as you keep it with that company's CMS. If you try to move your domain somewhere else, the website you created in their proprietary environment may no longer work or may be converted to another format. Two of the biggest downsides of using a proprietary CMS are the cost of licenses and, because many web host companies do not support proprietary CMS, you may be limited as to where you can host your website. This lack of "portability" is probably the major reason most small business owners choose to use Open Source CMS.

B.   Open Source CMS
The most popular Open Source CMS run on PHP (a scripting language well-suit for web development that can be imbedded into HTML): WordPress, Joomla, and Drupal (the White House website is a Drupal site.) Open source (OS) programs can be used by anyone for any purpose and do not require you to purchase a license. You may also customize OS CMS without special permission. A few of the significant benefits in using an OS CMS:

They are cheaper; no license fees, no fees for upgrades, no contracts to sign and no long-term commitments.
Because anyone can develop OS applications there are already countless free modules, plugins, and complimentary tools so yo won't need to hire a developer.
Search engines love OS CMS and WordPress, in particular, is simple to optimize for search engines using simple plug in tools.

Which CMS Is Best For You?
Unless you have money to burn, start by considering playing around with one of the three most popular Open Source applications: WordPress, Joomla, and Drupal (and play with them in that order.) Just because they are free does not mean they lack power. However, some CMSs have a slight edge over the rest of the competition because of the usability of the software. Some are just easier to install, use and extend, thanks to some thoughtful planning by the lead developer.

1)   *WordPress:* What is there left to say about WordPress that hasn't already been said? The PHP blogging platform is far and away the most popular CMS for blogging, and probably the most popular CMS overall. It's a great platform for beginners. Five minutes to a running CMS is pretty good. Not to mention the fact that the newest versions auto-update the core and plugins from within the backend, withouthaving to download a single file.

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For those users not familiar with HTML or other markup language, a WYSIWYG editor is provided straight out of the box. The backend layout is streamlined and intuitive, and a new user should be able to easily find their way around the administration section. Wordpres also comes with built-in image and multimedia uploading support. For developers, the theming language is fairly simple and straightforward, as well thePluginAPI.TheWordPress Community is a faithful and zealous bunch. Wordpress probably has the widest base of plugins and themes to choose from. A great part about the Wordpress community is the amount of help and documentation online you can find on nearly every aspect of customizing WordPress. If you can dream it, chances are it's already been done with WordPress and documented somewhere.

2) *Joomla*

Figure6.2: Snapshot of Joomla

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Joomla is a very advanced CMS in terms of functionality. That said, getting started with Joomla is fairly easy, thanks to Joomla's installer. Joomla's installer is meant to work on common shared hosting packages, and is a very straightforward considering how configurable the software is. Joomla is very similar to Drupal in that it's a complete CMS, and might be a bit much for a simple portfolio site. It comes with an attractive administration interface, complete with intuitive drop-down menus and other features. The CMS also has great support for access control protocols like LDAP, OpenID and even Gmail.com. The Joomla site hosts more than 3,200 extensions, so you know the developer community behind the popular CMS is alive and kicking. Like Wordpress, you can add just about any needed functionality with an extension. However, the Joomla theme and extension community relies more on paid plugins and themes, so if you're looking for customizations, be ready to pay.

3) *Drupal:* Above fig. shows snapshot of Drupal.Drupal is another CMS that has a very large, active community. Instead of focusing on blogging as a platform, Drupal is more of a pure CMS. A plain installation comes with a ton of optional modules that can add lots of interesting features like forums, user blogs, OpenID, profiles and more. It's trivial to create a site with social features with a simple install of Drupal. In fact, with a few 3rd party modules you can create some interesting site clones with little effort. One of Drupal's most popular features is the Taxonomy module, a feature that allows for multiple levels and types of categories for content types.

Figure6.3: Snapshot of Drupal

VI.   ADVANTAGES

There are various benefits or advantages of using content management system for designing or creating your websites which are as follows:

A.   A CMS makes it easier for people to create, edit and publish content on a website. Website publishing has required significant technical skills (HTML, programming). A good CMS allows non-technical authors and editors to easily and quickly publish their content with relative ease.

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B. By using content management system websites structure can be easily changed because content management system uses templates. Once the template is changed to update the colors, design, or navigational structure, all of the site's pages will be updated.

C. Security is an important issue, particularly for intranets. A CMS can facilitate better content security. It can control who is allowed to publish to the website, and who is allowed to see what content.

D. Content Management system reduces time-to-publish, allowing you to get content published faster. This is an important issue for the modern organization. The quicker you get key content published, the more value it creates.

E. Content Management system also included very useful feature RSS Feed. RSS feeds let your website's visitors receive daily feeds of the content you publish. Likewise, you can use RSS feeds form other sites in combination with content spinning applications to keep fresh relevant content published on your site daily.

F. Content management software helps to develop SEO friendly websites. The website created using CMS loads quickly and is fast in functionality.

G. The use of content management system lowers the operating costs and thus elevating the profit percentage. Also CMS is its portable nature and as such, the CMS can be scaled down and then replicated on a number of different platforms including PDF, web browser, WPA and other digital devices.

H. Content management system also reduces the web maintenance cost. Also web content management system makes the working smoother within the organization as well as with the customers.

I. No one knows your business better than you do, and no one knows what you want to say, or how you want things to look, more than you. A CMS gives you direct control over the content on your web site.

VII. LIMITATIONS

A. It does not create site structure – needs planning.
B. CMS does not write content.
C. CMS does not create images.
D. It does not automatically link pages in to a site and make them visible.
E. The added complication of resource hungry content management systems and the need to have qualified technicians maintain and upgrade software and hardware, means that hosting for content management systems is expensive.

VIII. CONCLUSION

If you are updating your website regularly; on a daily or weekly basis, then a content management system is a logical choice.A good CMS allows non-technical authors and editors to easily and quickly publish their content with relative ease.The core function and use of content management systems is to store and organize files, and provide version-controlled access to their data.The use of content management system lowers the operating costs and thus elevating the profit percentage.Content Management System is easy to handle.

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