Content Management System (CMS)[1]

A content management system (CMS) is a software application that individuals and organizations use in creating, managing, and distributing content. If you use the Internet, a corporate intranet, or an app on a mobile phone, some of the content you have viewed resides in a CMS. There are many forms of content that can be administered by a CMS: web pages, XML code, documents or text files created in word processing or other authoring software, database records, images, and digital audio or video files, to name a few. [1]

Structure of a Content Management System

The overall structure of a CMS consists of the following two components:

- A content management application (CMA) is a graphical user interface (GUI). From this interface, authors, editors, and other non-technical roles can create, delete, modify, and publish content without prior knowledge of coding languages or programming skills that are otherwise necessary when creating websites, knowledge banks, or other similar systems.
- A content delivery application (CDA) manages the back-end services, such as databases, that store and serve up content after it is framed in the CMA. [2]

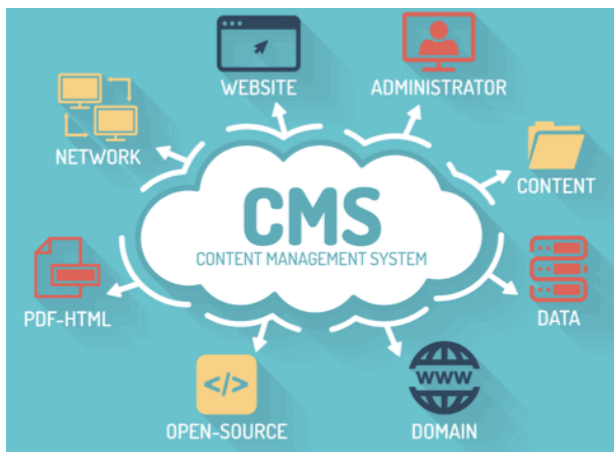The following illustration is a high-level depiction of a content management system:

Figure 1. High-Level Conceptual Drawing of a Content Management System [3]

Types of Content Management Systems

While there are many types of CMSs, The Art of Service's "Enterprise Content Management" course describes four commonly used types:

Web Content Management System (WCMS). WCMSs are designed to empower non-technical users with the ability to create, change, and publish web pages with little to no technical experience. WCMSs support processing in a staging area before content is made available through the Internet, enables contributors to add content after publication (for example, in blogs or wikis), or provides a combination of both functions in a type of hybridized system. WCMSs are not only for non-technical or beginner users. Large companies or governments have employees in a wide variety of non-technical and technical roles that are tasked with creating, managing, and publishing content.

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[1] The audience for this extended definition is a mixture of non-technical and entry-level technical individuals who need to create, manage, publish, or view digital content and require a basic understanding of how Content Management Systems function.

Enterprise Content Management System (ECMS). ECMSs consist of a combination of workflow processes, tools, and other strategies designed to manage large amounts of a corporate or government entity's content, assets, and records. Through a combination of tools and workflow processes, ECMSs can increase the speed with which employees can preserve, share, and locate information across departmental lines and physical locations. It reduces dependency on disparate storage systems, which is beneficial when managing vast quantities of confidential and proprietary information. Many ECMSs include functionality that allows for the tracking of content through various phases of the document life cycle, to include recording approvals and managing versions.

Component Content Management System (CCMS). CCMSs are a type of CMS that have been developed to manage content from a detailed level; that is, a CCMS can manage content as small as a single word, image, Uniform Resource Locator (URL), phrase, or paragraph. This precise control over content is required in structured authoring environments where reuse of content is a priority. Reuse is a method by which the same content can be included in many files, output to multiple formats, or even translated and output to different languages for international audiences. Additionally, a CCMS enables the separation of branding and formatting from the management of the content. A CCMS provides cost and time-saving benefits to the entities that use it.

Mobile Content Management System (MCMS). MCMSs are used for the management of content accessible from mobile devices. Content can include items such as ring tones, text messaging, news, and games. This type of CMS includes a set of templates to match all phones and devices. MCMSs can contain content that targets users based on their current location. Global positioning system (GPS) navigation, news and weather, and advertisements are all examples of targeted content. [4]

Functional Systems of a Content Management System

At its broadest definition, a CMS is used to collect, manage, and publish information. Bob Boiko indicates in the *Content Management Bible* that from a process perspective, the functions of collection, management, and publication can be considered as separate systems that, when working together, fully comprise the entire CMS.

Collection System. The CMS collection system contains all the functionality that allows users to author new content and locate, reuse, and edit existing content. The collection system is further used to aggregate content, a process through which the content undergoes a series of processes to correct style, segment information, and define or enhance metadata (data that describes the content). This system also contains services that aid in the collection process, such as providing Web-based forms for users to leverage when entering content into the system.

Management System. The management system functions as a content repository and houses the CMS's workflows and administrative services. In addition to the content databases and files, the repository contains control and configuration files that contain items other than actual content; for example, templates and workflows, rule and log files, and programs that manage maintenance routines for the CMS.

Publishing System. The publishing system is that part of the CMS that pulls content out of the repository to create publications. It contains templates and tools that control publishing. Further, it connects to any outside tools or methods to obtain information from sources independent of the CMS. It provides the mechanism by which publications for the Web, print, and electronic types of publications are published. [5]

References

[1] Sitecore. "What is a CMS (Content Management System)" 2021 [accessed May 10, 2021] https://www.sitecore.com/knowledge-center/digital-marketing-resources/what-is-a-cms#:~:text=A%20content%20management%20system%20is,pages%2C%20blog%20posts%2C%20etc.

[2] Goodrich, Ryan. "CMS: Content Management Systems & Software" September 20, 2013 [accessed May 12, 2021] https://www.businessnewsdaily.com/5148-content-management-systems.html

[3] Arntz, Pieter. "How to secure your content management system" September 18, 2018 [accessed May 12, 2021] https://blog.malwarebytes.com/security-world/technology/2018/08/secure-content-management-system/

[4] The Art of Service. "Enterprise Content Management" April, 2014 [accessed May 10, 2021] https://www.udemy.com/course/enterprise-content-management/learn/lecture/896108?components=buy_button%2Cdiscount_expiration%2Cgift_this_course%2Cpurchase%2Cdeal_badge%2Credeem_coupon#overview

[5] Boiko, Bob. *Content Management Bible, 2nd Edition.* Wiley Publishing, Inc., 2005.