

The importance of CMS as an administrative tool

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Abstract

Throughout history the race to generate more information, process it and publish it has led to the use of various media and tools. Resorting to the use of information technologies to allow web platforms to support the generation of these, managing and exchanging much of the information; which represents a breakthrough in the continuous evolution.

Currently the most predominant CMS that dominate information traffic worldwide and represent a fundamental part of large technology corporations such as Facebook, Wikipedia, Bing, Duck Duck Go Google. In Mexico, SMEs, which represent more than 90%, take advantage of these web technologies for their operation, therefore, it is required to know more about the potential that these technological tools can offer.

The work shows the content managers in greatest demand today and their technical characteristics, content and how their tools are applied administratively to carry out the routing of information. Concepts and elements that mark its beginnings and its significance in evolution are shown. of content management systems and their role as an administrative tool in information, communication and, technology systems.

Keywords: Content management systems, Information management system, Information technologies

1. INTRODUCTION

Information Technology is a relatively new branch, having its beginnings in the early 70s. It was from there the starting point of the digital era, which today converges keeping us communicated and informed at all times and that day after day has been removing the barriers of information, and that in turn these generated a revolution in the ways of managing information that thus generated a lack in the control of information. The question of how to administer and manage large flows of information... (Barreto, 1998). It was in the 80's when the information started to have an important place within the organizations,

A CMS stands for Content Management System, it is an online application that provides the necessary tools such as: text editors, file manager to add images, videos or audio and configurations that allow easy updating of website content, it has been developed so that any user can administer and effectively manage the contents of a website easily and with minimal knowledge of web programming. One of the advantages of CMS is that not all web pages are the same, and for this we have as many CMS as types of pages. There are for blogs, corporate pages, real estate, news or magazines, advertising agencies, newspapers, among others. Some CMS have been created with free licenses and others with paid licenses either monthly, yearly or permanent.

The three that stand out among the CMSs that have a free license are: WordPress, Joomla! and Drupal. They are three independently developed CMSs and the product of long years of evolution, backed by an extensive community of users who work selflessly to launch new and improved versions of each CMS (Cuerda, 2004).

The use of a content manager for the administration of a web page or system is a viable and effective way to manage a web and intuitive with administrators and users, since it is only necessary to have basic knowledge of web programming and / or design at the time of creating modules as they are required according to the needs of the end user.

Since it is from that moment, that the user deletes, adds or modifies the content of your web portal, thus saving high development and programming. In addition to all these advantages, developing a good CMS does not mean that our website is going to develop autonomously, it is something that could get a little complicated, especially if we need "custom" functions such as online stores or forms (Barreto, 1998).

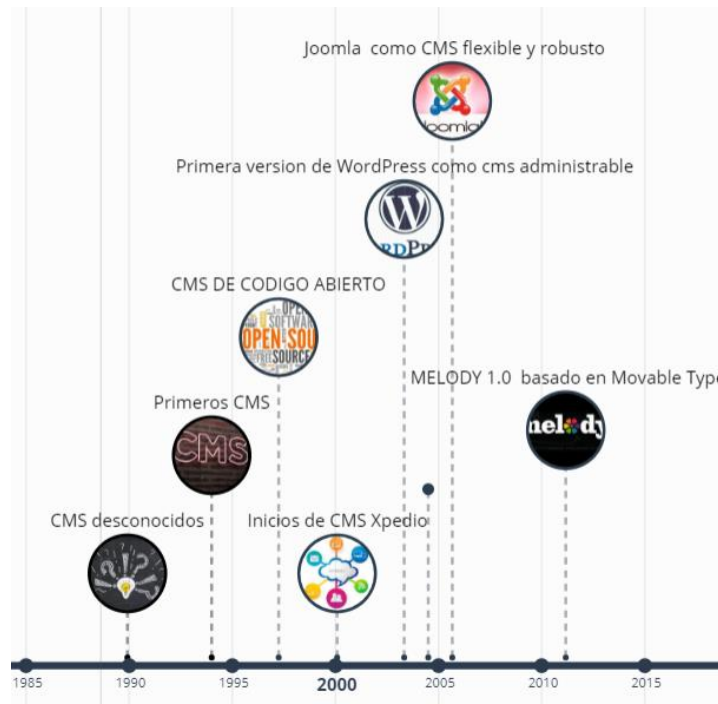


Figure 1. Evolution of CMS

2. EVOLUTION OF CMS

HISTORY

we're growing at the same speed as the Internet, they were still in a development stage so it was difficult for any professional to have the necessary tools for the construction of a site.

Information began to be taken in a more conscious way in the 1990s. Information began to be centralized as a fundamental resource capable of accelerating the process in all necessary areas such as: political, economic and social. This led to the need to manage and administer large flows of information as it was the way in which any company could organize all its information more efficiently.

With the emergence of new technologies, although still limited for the time, new tools were available to store information and make it available, in those years the concept of content management systems (CMS) was not yet defined as such.

The functions were performed by multiple stand-alone applications such as text editors that allowed only modifying text in plain digital files known as plain text. Databases were made by modules and many modules were created as needed, which was a laborious job that only qualified personnel could perform. One of the first open source CMS was Typo3 made by a Danish developer named Kasper Skårhøj in order to meet the demand of his customers to have an updated website without the need to modify the design structure.

But the main impediment to the development of a website was the lack of technologies that would facilitate the construction of the website. On the other hand, the development of tools for website design was not growing at the same speed of the Internet, they were still in a development stage so it was difficult for any professional to have the necessary tools for the construction of a site (León, 2011).

The great evolution of the Internet led to the creation of web portals with more content and high participation by the community was what has made content management systems an indispensable tool on the Internet for any company or institution that requires control over their information (Cuerda, 2004). Nowadays there are several CMS of free or licensed software which have to be configured according to the desired functionalities.

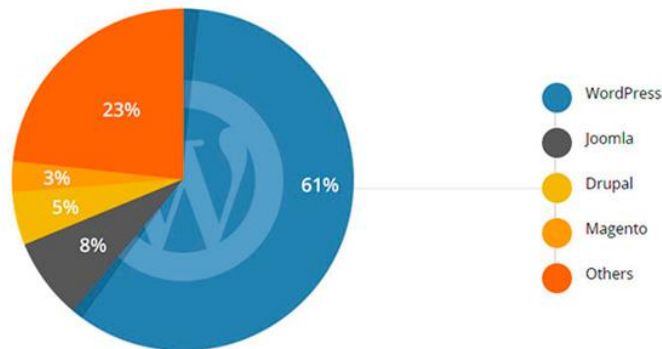


Table 1. Main CMS at present

3. TYPES OF CONTENT MANAGERS



Figure 2. Types of current content managers

Currently, there are several types of content management systems that facilitate the creation of web pages, but each content management system responds to the specific needs of users who are increasingly demanding that these pages be free and easy to manage (Los CMS más populares del 2020, 2020).

Content managers can be classified according to the criteria by:

- For its functionality:
 - Forums: to share information
 - Blogs: personal or public opinion

- E-commerce: online shopping and payment platforms
- Teaching: online teaching sharing platform
 - For its characteristics:
- By license: proprietary or open source software
- According to the programming language used

3.1 Classification of CMS

CMS are classified according to the following points:

- E-commerce managers: These allow you to generate web portals for e-commerce.
- Forum managers: These allow opinion groups for interaction between users on specific topics.
- Priority and non-priority systems: These are tools designed to keep a web page up to date.
- E-learning managers: The teaching process has been innovating, leading to the development of different types of LMS (Learning Management Systems) platforms.

3.2 The CMS from its architecture

Structurally, a CMS is composed of two parts:

1. Public Web

It is the public interface from which anyone can interact with the system from a browser.

2. Private Web

It is the interface, either local or public, in which users can access an internal section identifying themselves with a username and password, depending on the level or permissions we have.

The CMS administrator has a control panel with which you can make modifications to the website, change its design and manage their roles, users and permissions depending on the area of its users.

A CMS at the structure level is divided into 3 layers:

1. The database

It is the one that stores all the content of your variables written in your portal, as well as configuration parameters, organization, users and passwords. The most common database systems are usually MySQL or Mariadb.

2. The programming modules or backend

This layer contains all the modules that make up the web system. What these files do when executed is to request information that users request from the browser and present it to the user and insert it in the assigned places within the web design.

3. The design layer or "frontend"

It shows the design of the web, on which the content that the programming layers will manage in the database will be inserted. Depending on the case, CMSs have a basic or structured design.



Figure 3. Functioning of a CMS

CMSs are defined as structured IT tools that, at the request of their users, have inputs and outputs that allow the creation, storage, updating and visualization of content at different management levels. The correct implementation of a CMS will allow intuitive and pleasant customization for the assigned environment (Braojos, 2019).

The function of an open source CMS or the creation of a customized one will depend on the needs of your requirements.

The advantages of using an open-source CMS are:

- **Simplicity:** for the ease of its basic interface for content management
- **Affordable:** because you don't have to start from scratch, the cost is lower than a custom-made website
- **Customization:** there are a large number of free plugins that can be installed in just a few steps.

Disadvantages of using an open-source CMS:

- **Lower security:** in an open-source system there are more possibilities of finding vulnerabilities in it since it is available to the public.
- **Lower speed:** being platforms with generic databases, the requests will be high, therefore, the more information stored, the slower the system will be.

4. CONCLUSION

The CMS facilitates access to content management to a wider range of users, which leads to a control in the administration in a condescending way according to the permissions assigned to the type of users. In addition, a properly implemented content management system can reduce information management costs by reducing the number of operating personnel for information management. The process carried out by the CMS makes the databases to be managed for the hierarchization of the different levels and types of contents in an agile, optimal way and enhancing the development in the media or other fields in which they are applied. Information management costs are much lower since a link in the publication chain is eliminated (Cuerda, 2004).

It is important to highlight that the role of web systems allows the collaboration of several users in the same work, the interaction through communication tools for the continuous creation of digital products

and information flows to be managed since as such CMS are software tools that can facilitate the process or worsen it by omitting certain scopes in the process.

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