Content Management Software – Drupal : Open Source Software to create library website

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Abstract: In this digital era, all the needed information could be extracted from the World Wide Web. Most of the web sites are driven by content management software's that manages the multimedia content and textual. The function of content management system is to organize and store the files and provide version controlled access to the data. Drupal is an open source software. It is a hammer that strikes many mails in the content management system. Drupal as a system moves the developer away from the level of HTML documents and assists in the general maintenance problem of ensuring consistency of content, reference and presentation. This paper also discusses about the definition of content management system - Drupal, open source options, concepts, features, requirements, characteristics and steps involved in installation of website. Further we describe the steps involved in developing the library website and the benefits of using DRUPAL. [Abstract 146 words]

Keyword : Drupal, Library website, Content management software, Open Source Software

1. Introduction

We are in the information age and it is vital to store and retrieve information in the most convenient way. Information can be organized by hosting the website. The problem faced by libraries is to keep their website content up to date. The internet offers a range of options for presenting information. Documents are available in different forms such as XML, HTML and text documents. Multimedia data such as audio data mp3 and image such as jpg, gif and video data MPEG also plays a role. Lot of documents is in different formats and is published online by different group of people. Content management systems were created to precisely help support this complex task. Without much of technical knowledge Content Management systems like Drupal, allows in creating and managing website easily.

2. Definition of content management system (CMS)

According to Wikipedia, a content management system (CMS) is a computer application that allows publishing, editing and modifying content, organizing, deleting as well as maintenance from a central interface. "The features of a CMS system vary, but mostly include web-based publishing, format management revision control as well as indexing, searching and retrieving.

3. Drupal

Drupal is the most frequently discussed open source CMS developed by Dries buytaert during 1999. Drupal is a free software that allows an individual or a user community to easily publish, manage and organize a great variety of content with an endless variety of customization on a website. Drupal.org website has been developed and distributed as an open source web platform.

Drupal features module enables the content management systems, collaborative authoring environments, forums, newsletters, file uploads and many more utilities.

Open source options

Software is open source, and it could be initiated with the open source initiative license. In general, open source is the free access to the design, development and redistribution of the source code of particular software. There are several CMS used in the industry today, by individual, government, community, social networks depending on the nature or purpose of the website. Web developer Glen stansberry cited Wordpress, Drupal as one of the more frequent usable content management systems and it was mainly cited for its flexibility and extensibility.

4. Concepts of Drupal

4.1 Module

A module is software that extends Drupal features and or functionality. Core modules are those included with the main download of Drupal, and one can turn on their functionality without installing additional software. Contributed modules are downloaded from the Modules download section of "drupal.org" and installed within Drupal installation.

4.2 Node

A node in drupal is the generic term for a piece of content on a web site. For examples page, forum, storey, blog entry, comment etc. Each node on the site has a content type. It also has a node ID, a title, a creation date, an author, a body and other properties. By using modules such as the contributed content construction Kit module, the core taxonomy module, and the contributed location module, one can add fields and other properties to the nodes.

4.3 Taxonomy

Drupal has a system for classifying content, which is known as taxonomy in which is provided by the core taxonomy module. One can define one's own vocabularies and add terms to each vocabulary. Vocabularies can be flat or hierarchical, can allow for a single or multiple selections, and can also be used for free tagging.

4.4 Path

On visiting a URL within a Drupal site, the part of the URL after the base site address is known as the path. When one visits the path in the Drupal site, Drupal figures out what information should be sent to the browser, via one or more database queries. Generally, Drupal allows each module when enabled the site to define the paths that the module will be responsible for and when one can choose to visit a particular path, Drupal queries the module what should be displayed on the page.
For example, the page one is viewing is http://drupal.org/node/19828, and the path is "node/19828". The module that is responsible for this path is the core Node module, so when one visits this page, Drupal lets the Node module determine what to display.

4.5 User, permission

Every visitor to the site, whether they have an account for log in or visit the site anonymously, is considered as a user to Drupal. Each user has a numeric user ID, and non-anonymous users have a user name, password and an email address.

5. **Features**
   - Content Management Systems
   - Blogs : Podcasting : Picture galleries
   - Collaborative authoring environments
   - Peer to Peer networking
   - Comments
   - RSS feeds
   - File uploads and downloads
   - Newsletter

6. **Characteristics**
   - Data presented in Inverse tree fashion
   - Clear objectives : organized theme and content
   - Library sections and their functions to be present in the web site.
   - Email, chats, comments, blogs, RSS feed, Feedback
   - Enforce site wise consistency
   - Publish and expire dates
   - Types of search facilities like web OPAC search, e-Resource
   - Thumbnails to minimize photos download time and enlarge by clicking on the thumbnails

7. **Requirements for Drupal 7.x**

The primary requirements for the developing a website is :

Disk space

A minimum installation requires 15 Megabytes. 60 MB is needed for a website with many contributed modules and themes installed.

Web server

Apache, Nginx, or Microsoft IIS

Database

MySQL 5.0.15 or higher with PDO, PostgreSQL 8.3 or higher with PDO, SQLite 3.3.7 or higher

PHP

PHP 5.2.5 or higher (5.3 recommended).

Hardware : clients – desktop computers

Software : operating system software – UNIX, LINUX, BDSD and windows.

Database : MYSQL 4.1 or MYSQL 5.0

Web server : Apache and Microsoft IIS

PHP – PHP is a programming language that allows web developers to create dynamic content that interacts with databases, PHP can talk across networks using IMAP, SNMP, NNTP

8. Steps involved in installation :

Drupal installation is automatic by running a script which automatically populates database tables and sets the correct settings in settings.php file.

Download latest Drupal release from http://drupal.org/

Copy and rename default.settings. php to settings.php. Both the default.settings.php and settings.php file needs to be copied in sites/default directory

Create the database : Drupal requires access to a database in order to be installed. First one has to create a new database for the Drupal site.

Browse the URL in web browser http://localhost/phpMyAdmin. It will ask for user name and password. Type the user name and password.

Run the web installer script. To run install script type the URL of the Drupal on the browser address bar. The installation URL is http://127.0.0.1/drupal-7.22

9. Home page development

Using Drupal, the home page is being developed.

> **Blog** : Users can input their thoughts here, which will be published by the administrator after reading the content.
> **Site search** : It helps to search the website content.
> **External** links like Dspace, GSDL server link are also provided here in the website.
> **Poll** : Users will be able to cast their vote on any questions, the IP address of the user is stored in the database as and when they cast their vote.

10. Steps in site building

> **Content menu** : Option defines how to create a content page. Addition of content will add web page to one's site.

> **Structure menu** : Option creates the structure of the website that includes the header / footer blocks creating menus and web page.

Appearance menu : It shows different themes and enables to create various types of design for the web site.

Modules menu : This menus incorporates all different modules for the website, for example polling module, feedback module, RSS feed, Search engine.

Configuration menu : It helps to configure the web site drupal engine. Like clearing the cache memory, indexing the taxonomy so that the search engine can work more easily and faster.

11. Conclusion

Drupal basic features can be used to create simple sites, single or multi user blogs, brochureware, forums, community websites and more. Hence librarians can easily work on the content management system. Content management system allows librarians to create resource page for their liaison groups without any prior knowledge of web development technologies. Drupal can do wonders. With little efforts, it would be prestigious to develop and design library website using Drupal. However there are certain limitations like not much user friendly, sometimes not compatible with other softwares and little slow loading because of its breath of tools and capabilities.

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