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Feature Article

Postnuke Portal Software: Community, Content, and Collaborative Management System

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Introduction

Postnuke, a web software application toolkit, is a community, content, and collaborative management system (C3MS). A Content Management System (CMS) is an efficient tool for setting up and managing the content of a website. Simple usage may include adding a static web page or updating a calendar; an advanced application may involve maintaining a complex network of community-based forums.

Postnuke provides extensive tools for generating dynamic web pages and enables a community of users to effectively collaborate on posting web content. With a simple user interface and straightforward navigation, Postnuke creates project portals. It provides viewers with convenience, security, and stability for retrieving and posting data.

Architecture and Modules

Postnuke, an Open Source Project written in PHP, is a server-side scripting language that is integrated with Apache and MySQL database (http://Postnuke.com). This software suite may be launched within a Linux, UNIX, or Windows environment. The software is released under the Gnu General Public License (GPL); it is free to download and alter. All pages generated with Postnuke can be configured via a web browser, allowing web managers to work remotely on a site. Further, any user with a registered account may post content in sections of the site, depending on the established permissions.

Postnuke emerged as a program fork from PHPNuke, which itself was released in June 2000. It is under active development as users around the world contribute

modules to the developing community. An Application Programming Interface (API) exists which means users have access to system capabilities for design of contributed modules.

Postnuke has three primary components: modules, blocks and themes. The modules are applications that allow users to do something. Postnuke modules include:

Calendar - displays previous and upcoming events
Content Express - adds static content (docs, minutes, etc.)
Discussion Board - provides user mechanism for continuous forum-based discussions
Gallery - organizes collections of photos
Login - provides user registration and login accounts
RSS/Syndicate - syndicates site content as an RSS feed

Blocks allow information to be presented in various locations (i.e. left, right, and center). Themes control how the pages look and feel. In combination with the MySQL database backend, there is a separation of content from presentation and business logic.

The growing list of Postnuke modules provides functionality and interactive layers for a website. Some modules may create simple blocks or sections on a webpage while other modules may present an entire new page for the site. A few examples of modules are summarized in the box. Additional functionalities include forums, mailing lists, searches and survey capabilities.

Emergent Software Capabilities and Use

Postnuke's growing user community includes use at several LTER sites. John Porter (VCR) is an early prototyper who makes use of the user upload capabilities and the project description aspect (see http://www.mareo.org using the ATXP template). Marshall White (NET) who has provided design and implementation support over the years to multiple sites, sees the package as a potential method to provide a 'web-in-a-box': "One of the goals of using Postnuke is to ease the burden on the data manager at a site". Kristen Vanderbilt (SEV), in collaboration with the Network Office staff, created a Postnuke web site (http://sev.lternet.edu) incorporating the calendar module. Nicole Kaplan (SGS), Ken Ramsey (JRN), and Kristin Vanderbilt (SEV) have discussed cross-site efforts while Palmer site is prototyping the package because of the availability of collaborative software tools such as blogs and wikkis that enable community participation.

User experience leads to the to the suggestion that a mixed approach to web sites be taken, making use of CMS in conjunction with other web tools. In addition, the RSS module provides a potentially powerful mechanism to share information across sites using a simple webservice. As new information gets posted to a site, the information can automatically trigger generation of an XML news feed that can be aggregated at other sites or the LTER home page. This provides a new distribution mechanism for LTER community information that can be explored and prototyped.

Portal management is an emerging technology. A number of C3MS type software

options exist or are under development with features and functionality similar to that of Postnuke. For instance, there is EZPublish with an object like framework and Zope which is Phython-based. Additional web management systems include PHPNuke and Drupal. Drupal is both modular and has design templates for ease of administration via the web. In the planning is a more XML based approach by the Apache software foundation that is in the process of planning to vote on a CM package.

With web site management packages today, there is the typical quandary of choosing from a group of options and then working with a product under active development. The open source community constitution of Postnuke combines with its ease of installation and toolkit approach to make it an interesting candidate to consider.