The Drupal Content Management System: Choice and implementation plans for a UCAR-wide web Content Management System

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Background

UCAR/NCAR/UOP relies more and more heavily on the web as a means of both communicating our organization’s value and as a tool for conducting science and business via web applications. Around 2006, web developers across the organization became aware that the old methods of web development would not serve us in the future. The ability of a group’s sole web developer to be responsible for both the creation and management of a rapidly increasing number of sites, applications and their content was proving ever more inefficient.

Additionally, there was a need to share related content and applications among websites but no ready method to do so. Many other organizations like ours were finding the solution was to move to a new method of managing web content via a Content Management System (CMS). Using a CMS would allow non-web developers to take ownership of and responsibility for the creation and management of their own web content, via the use of simple web interfaces. This in turn would free web developers to meet the growing organization-wide demand for new sites and applications.

Brief CMS Benefits Overview

So, what exactly are the benefits expected of a web Content Management System?

- **Content creation:** A CMS allows web content creation and editing, via a simple browser interface (no need to learn web programming or design skills to create content).
- **Content management:** A CMS allows archival storage, categorization, search and retrieval of digital information.
- **Content display:** A CMS separates content from any final display or interactive behavior, allowing for multiple display options and ease of updating the presentation or behavior layers without affecting the content.
- **Consistency of interface design:** A CMS enforces greater consistency in the navigation and presentation layers of websites, providing a better user experience.

And finally, a huge benefit of using a CMS is the ease of sharing created content and applications with more than one website (or group), producing a potential leap in efficiency by reducing the “reinventing the wheel” syndrome. This was a strong reason for the goal of selecting a single CMS recommendation to be centrally supported by CISL’s Web Engineering Group. There is nothing preventing any group from using a different Content Management System, but responsibility would then fall to the group’s own system administrators to support and maintain the product. Content and application sharing between products is also more limited.
The Process of Selecting the Drupal CMS

The Web Advisory Group (WAG) is an organization-wide, representative group of web professionals and systems administrators from UCAR, NCAR and UOP who meet monthly and report to the Information Technology committee (ITC). The ITC reports directly to the President’s Council. Through this group, a subcommittee was formed in early 2008 called the “WAG CMS Working Group*”, and all web professionals across the organization were invited to participate in defining our organization’s CMS requirements and selecting and testing candidate content management systems, with the goal of selecting a single best system for organization-wide recommendation.

The WAG CMS Working Group

Thirteen WAG members volunteered to join the CMS Working Group and participate in the eight-month process. They included: Markus Stobbs (CISL/NCAR, Lead), Joel Daves (CISL/NCAR), Gary Studwell (CISL/NCAR), Kristin Conrad (DIR/NCAR), Miles France (Web Contractor), Lara Ziady (RAL/NCAR), Jeff Alipit (CISL/NCAR), Gary Studwell (CISL/NCAR), Jun Akiyama (ESSL/NCAR), Zhenya Gallon (Comm/UCAR), Alex Chaux (Comm/UCAR), Davide DelVento (CISL/NCAR), Julia Genyuk (EO/UCAR), Michelle Flores (UCAR/Gov), Bruce Muller (UOP/COMET), Carl Drews (NCAR/ESSL), Mark Bradford (NCAR/EOL), Chrystina Tasset (UOP/JOSS). Other interested parties regularly attended demonstration meetings and offered feedback. A detailed requirements matrix** was developed, which allowed fine-grained ratings for each CMS product.

The matrix required that each application:

- Be PHP/MySQL/Apache compatible (work in our web development environment)
- Possess a convenient and flexible design workflow
- Possess a user-friendly and full-featured content creation and management interface
- Allow for complete and integrated web application programming and customization
- Allow rich tagging of content with metadata and keywords to facilitate sharing across groups
- Include a ready set of plugins (a.k.a. “modules” or “tools”), that were easy to implement, to extend its functionality
- Be well-supported by either a respected company (if commercial), or an active and engaged user community (if open source)
- Permit deployment in a secure manner on our web servers

Eleven CMS products were evaluated, first, by comparing documentation and user reviews to our detailed requirements. This process eliminated all but 3 CMS candidates (Drupal, Expression Engine, and Plone). These three candidates were then tested in various use-case development scenarios to learn more about their capabilities. Finally, “demonstration” meetings were lead by various CMS Working Group members, and opened to any interested UCAR staff to show each of the three candidate CMS’s
capabilities. Feedback and questions were solicited, explored and responded to.

Via the rigorous process described above, the WAG CMS Working Group arrived at the unanimous recommendation in June 2008 that Drupal, an open source CMS, was the single best choice to recommend for UCAR/NCAR/UOP use.

Since June of 2008, a tiger team of web developers and systems administrators has been testing Drupal on our development testbed server, in order to fully understand the strengths and implementation issues of moving web development in this very new and exciting direction. The goal is to open testing websites to all interested web developers by late September. This will allow all developers to begin learning the new development techniques for designing and deploying CMS-based websites.

**Drupal Training Committee**

The move from current development practices to a CMS-based system is a major technological change. To help facilitate the learning of this new technology, another subcommittee has been working to define training requirements and identify options to meet training needs. This Drupal Training Committee consists of: Kristin Conrad (Dir/NCAR, Lead), Markus Stobbs (CISL/NCAR), Alex Chaux (Comm/UCAR), Jeff Alipit (CISL/NCAR), Michelle Flores (Gov/UCAR), Scott Briggs (ASP/NCAR), Erika Marcum (CGD/NCAR), and Gina Starr (HAO/NCAR). This committee plans to have identified and communicated training options, resources and recommendations by the end of September 2008.

**Staying Informed**

Please check with your WAG representative to stay informed of progress and implementation issues, and to have him or her take your comments and questions back to the WAG committee for discussion. Our goal is to have a smooth release and ready adoption of this powerful new tool in order to more efficiently use the web to meet our communication and application needs.

**Notes**

* WIKI website for the WAG CMS Working Group: https://wiki.ucar.edu/display/wag/WAG+Content+Management+System+Working+Group

** CMS Requirements matrix: https://wiki.ucar.edu/display/wag/CMS+Evaluation+Matrix

*** Drupal website: http://www.drupal.org

**** List of WAG representatives: https://wiki.ucar.edu/display/wag/Membership