Web Content Management with Open Source Software

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Outline

- Web Content Management Systems (CMS)
- Proprietary / Custom-built / Open Source
- Benefits of Open Source CMSes
- The LAMP Platform
- Open Source CMSes
- Tips
- Resources
Types of Websites

• “Static” websites: pre-built HTML pages
  – Vending machine: packaged, limited personalization

• “Dynamic” websites - pages built on demand
  – Fine restaurant: Served fresh with a personal touch

• Growing expectations:
  – Online collaboration, knowledge management
  – E-commerce, e-government, e-learning
Content Management Systems (CMS)

- Software system to facilitate management of website content
- Data is generally stored in a database
- Separation of content and visual display
- Includes tools for managing users and workflow
CMS Benefits

- Enables non-technical staff to add, edit, and manage website content
- Maintains a consistent look-and-feel across a website and makes it easy to change design
- Facilitates gathering, organizing, and archiving information
- Search tools facilitate information retrieval
- Can supplement or replace email-based collaboration
Proprietary CMSes: Benefits

- Quick and complete solution
- Technical support available
Proprietary CMSes: Drawbacks

- Are you buying more than you need?
- Beware of “vendor lock-in”
- Expensive licensing costs
- Closed source may hinder customization
- Restrictive license may prevent redistribution
Custom Built CMSes: Benefits

- Built to your specifications
- Not dependent on a commercial vendor
- Can be customized
- Can be redistributed or sold
- Build in-house technical expertise
Custom Built CMSes: Drawbacks

- Need in-house technical expertise
- Can be complex and time-consuming to build
- Can be expensive to build and maintain
- Can you sustain in-house technical support?
Build It Yourself With Open Source

Why you should consider using Open Source components to build your own custom CMS:

- Freedom from licensing costs
- Freedom to modify and redistribute
- Libraries, examples, & code snippets available
- Strong community to provide support
- Expertise and experience is transferable
Open Source LAMP Platform

- Web Server
  - Apache
- Programming Language
  - PHP, Perl, Python
- Database
  - MySQL, PostgreSQL
    - (Oracle, etc.)
- Operating System
  - GNU/Linux, FreeBSD, NetBSD, OpenBSD
    - (Mac OS X, Solaris, MS Windows)
Planetizen

- Custom-built CMS using open source
- Community website for urban planners
Planetizen – 2

- Built with GNU/Linux, Apache, PHP, MySQL
- Started development in early 2000
- Low hardware costs
- No software costs
- Development tools: Emacs, VIM, CVS.
- Launched in June 2000
• Easily customized
• “Look-n-feel” different from pre-built CMSes
• Great learning opportunity
• Slow to introduce new features as they required extra development effort and time
• Migrating to an established pre-built open source CMS.
• www.planetizen.com
UIPublish

- Custom CMS using open source components
- Released under GNU General Public License
UIPublish – 2

- Publishing articles, announcements, events, etc.
- Integration with a static website
- Started in 2000
- First GPL release in 2001
Benefits of GPL release:

- Encouraged code cleanup and maintenance
- Improved documentation
- Users submitted bugs and suggestions
- Used other GPL code for enhancements
- Clients considered GPL license as a strength

uipublish.sourceforge.net
Benefits of Open Source CMSes - 1

- Open source CMSes: pre-built but customizable
- Source code is available
- Can be customized
- Can be redistributed
- No licensing costs
Benefits of Open Source CMSes - 2

- Numerous alternatives to match different requirements and platforms
- Community technical support can be strong
- Commercial technical support may be available
- Control your own data and CMS strategy
- Faster & less expensive than building it yourself
Examples of Open Source CMSes

- Review pre-built open source CMSes
- Innovative approaches to content management
- All examples licensed under the GNU General Public License (GPL)
- Most examples use LAMP
Mambo

- CMS for conventional websites
- MySQL, PHP [www.mamboserver.org](http://www.mamboserver.org)
Community Website / Portal

Information “hub”: Distribute & collect information
- Discussions: Create a community
- Personalization: Customized view
- Syndication: Distribute content to other sites
- Aggregation: Pull in content from other sites
- Metadata: Categorize information
- Retrieval: Indexing and search
- Workflow: Author, preview, edit, publish
Drupal

www.drupal.org Apache/IIS, MySQL/PostgreSQL, PHP
Weblog / Blog - 1

- Periodic “posts” by single or multiple authors
- Links, summaries, commentary, comments
- Not just for “bloggers” writing online journals
Weblog / Blog - 2

- Effective single-purpose CMS
- Simple and familiar interface
- Format benefits authors as well readers
- Friendlier face to a complex collection
- “Personal voice” serves as a guided tour
- Can be adapted for multiple uses
- Blog, project log, documentation, simple websites, anything else you can fit into the blog format
WordPress

www.wordpress.org  MySQL, PHP
Learning Management System

- Conduct online education
- Supplement face-to-face instruction
- Uses:
  - Internal staff training
  - Virtual teamwork
  - Build institutional knowledge
- Open source LMSes provide affordable alternatives to high-cost proprietary LMSes
Moodle

- Multiple courses
- WYSIWYG Editor
- Chat
- Glossaries
- Multimedia delivery
- Email integration
- MySQL, PHP
- www.moodle.org
Wikis

- Collaborative hyperlinked writing
- “Quick” - no need to know HTML
- Flexible structure - meant to evolve over time
- Combination of system and social rules
- Version control: “Roll back changes”
- Knowledge bases, internal documentation
- Intra-agency collaborative writing, brainstorming
TikiWiki

www.tikiwiki.org MySQL, PHP
Intranet

- Need most features discussed in previous examples
- Customizable workflow
- Flexible task delegation
Plone

- Complete cross-platform solution
- Can be used as public website, intranet, or both
- No need to install web server or database
- Can use Apache, other databases
- Based on Zope web application server
Plone

www.plone.org Zope web application server

Welcome to plone.org
This is the development and community site for Plone, a user friendly and powerful Content Management System.

What is Plone?
Zope

- Open source application server
- Used to build CMSes and web applications
- Primarily written in Python
- Hundreds of companies and thousands of developers contribute to its development
- www.zope.org
Tips

- Choose stable open source CMSes
- Commercial technical support may be available for certain CMSes
- Check CMS for web accessibility (Section 508)
- Test CMSes: Open Source CMS http://www.opensourcecms.com
- Compare CMSes: The CMS Matrix http://www.cmsmatrix.org
Resources

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