

CIS 320-01

Dr. Robert Barker

Assignment 2

Fine Equine:

Vin Lam, Madeline Cowgill, Henry Wang,
Shivani Patel, Abdulaziz Arrak and Diana Durig

Content Management Systems

1. **What is CMS?**

A content management system (CMS) is a software application or set of related programs that are used to create and manage digital content. CMS is used to create, customize, and manage information. Most CMS can be used alone or in conjunction with other applications. They can be set up directly on a network, the Internet, or even to run "locally" on your own computer. The most widespread use of CMS today involves the quick creation of powerful websites that do not require a high level of programming knowledge to set up, customize, and maintain.

2. **What types of capabilities does it typically provide?**

Content management systems are generally used for enterprise content management (ECM) and web content management (WCM). Enterprise content management enables collaboration in the workplace by incorporating document management, digital asset management and records maintenance functionalities, and providing end users with role-based admission to the organization's digital assets. Web content management facilitates collaborative authoring for websites. ECM software often includes a WCM publishing functionality, but ECM webpages typically remain behind the establishment's firewall.

3. **Identify five open source CMS tools (of differing degrees of power). What are the strengths and weaknesses of each of these products?**

I. MURA:

- **Advantages:** Responsive pages, content collections, categories and Bootstrap integration allow for easy maintenance and customization. Cloud integration is already set for use with the Amazon S3 bucket. If another cloud is preferred, this can be achieved easily by deploying in the cloud of choice.
- **Disadvantages:** Mura is cross-platform friendly and uses ColdFusion CFML and the Java bytecode compiler. While ColdFusion is a very simple and powerful language, not many programmers know how to use it. Open source code is vulnerable and the dire need to update will cause added stress.

II . DRUPAL:

- **Advantages:** Drupal has over 2,500 themes, automated tasks and an API that make it very easy to customize and maintain. Drupal also has an extensive community for support. Installation and administration is simple, allowing for HOOOF to maintain their site with minimal help. Drupal can run on any computing platform that

supports a server running PHP and a database. This puts constraints on our options for the system.

- **Disadvantages:** Drupal is not as user friendly and is considered an advanced version of CMS. This could require training or a dedicated developer staffed.

III. WORDPRESS:

- **Advantages:** Wordpress has the most available free themes, templates and plugins available today. Ideal for small websites and those with minimal technical skills. SEO optimization is better than other open-source CMS tools on the market.
- **Disadvantages:** Limited permissions can be given, so it would be hard to regulate access and editing abilities in the HOOF organization. Also, there are many security flaws which could lead to sensitive data exposure.

IV. JOOMLA:

- **Advantages:** Considered easier to use than other CMS tools such as Drupal. Is written in PHP and uses SQL. It is very flexible and can maintain growth well.
- **Disadvantages:** Takes more time to set-up than the average CMS tool and is considered slightly more advanced. This could lead to the need of a developer on staff which would increase the budget.

V. DOTCMS:

- **Advantages:** With dotCMS it's easy to deliver compelling and dynamic user experiences on the web, no matter the device, platform, or channel. Best of all, you can build, manage, and maintain it all in one easy-to-use system. Ready with APIs REST, JSON, XML, Spring MVC, OSGI, Javascript, and even CMS.
- **Disadvantages:** Written in Java, DotCMS is the developer-friendly CMS. HOOF does not staff any developers. They should not use a developer friendly tool and aim for ease of use.

4. **Identify five proprietary CMS tools (of differing degrees of power). What are the strengths and weaknesses of each of these products?**

"Proprietary" generally means someone owns the rights to the CMS application and you need permission or a license to use it. Even with a license, in most cases, license holders may still be prohibited from duplicating the CMS or making alterations to the application unless they purchase a more expensive "developers" license.

I. SITEFINITY:

- **Advantages:** Allows for responsive design and easy to use drag and drop editing. No long training is required, which allows for

inexperienced users to maintain the site. Analytics are easily tracked and permissions can be easily set.

- **Disadvantages:** Sitefinity isn't made for blogging or e-commerce sites. These are both limitations to the blog and store we suggest they maintain on their site. Plus, the cost of licensing will be an addition to the budget.

II. KENTICO:

- **Advantages:** Kentico is the only CMS tool on the market to fully integrate ASP.NET. It is not only a CMS tool, but an online marketing platform and e-commerce tool. It is a "headless" CMS, which allows for the full use of a cloud, which could minimize costs.
- **Disadvantages:** Kentico does use Microsoft SQL Server and Visual Studio, which would be a large addition to the budget to acquire.

III. LIGHTCMS:

- **Advantages:** LightCMS not only has the ability to manage an online store, there is no software to install and there are no servers to manage. The ability to add a login for user profiles is simple and built into the CMS. Built in responsiveness and analytics are included as well.
- **Disadvantages:** Plans range from \$20-\$100 a month, increasing HOOF's budget. It is not as user friendly as other CMS tools and its blogging functions aren't what they should be for the price charged.

IV. XENFORO:

- **Advantages:** Xenforo is written in PHP and uses the Zend framework. It is known for its strong SEO and social media capabilities,
- **Disadvantages:** Xenforo is lacking in features that would allow for easy maintenance as other CMS tools do and requires a cost addition to the budget.

V. ADOBE CQ:

- **Advantages:** Adobe Communicate 5 is a CMS tool with all of the basic capabilities of a good CMS such as: templates, components, drag and drop features and inheritance. With substantial development knowledge there are many options to customize and maintain.
- **Disadvantages:** The licensing costs are high. Unless you have a large amount of resources, Adobe CQ will be a challenge to maintain and deploy.

5. Which one of the ten tools would you recommend for our client and why?

Out of the ten CMS tools researched we recommend use of WordPress to HOOF. Since WordPress is open-source, there will be no cost to acquire or maintain. The advanced SEO settings will allow HOOF to have a stronger online presence. This should result in more traffic to the website and more

donations and volunteers. WordPress is extremely user friendly and is specifically designed for users with minimal technical skills. It will not require extensive training for members of HOOF. An easily integrated blog, more themes than any other open-source CMS and advanced SEO capabilities will allow for HOOF to control the site on their own and expand their reach.

Payment Management Systems

1. What are payment management systems?

A payment management system facilitates the transfers of funds between organizations whether via bank accounts or credit cards. A company that specializes in payment management systems may offer hardware and software products designed to securely transfer funds from consumers or donors, collect data, and report it. They offer secure methods for organizations to accept payments directly from a webpage, mobile device, kiosk, credit card readers, and other innovative ways.

There are typically different service levels and therefore different fee structures for the use of these systems. They offer support and guidance so that integrating a system into a business environment is less daunting.

2. What are the capabilities / limitations of these systems?

A payment management system provides different means for the transfer of monies. It makes it possible for a business to accept credit or debit card payments by providing the security, service, hardware, and software needed to move money electronically. Considerations when comparing payment management systems may include:

- Security options/features
- User-Friendliness
- Ability to set up recurring payments
- Cross border/currency transactions
- Technical Support
- Billing options
- Processing rates
- Contractual agreements
- Data storage
- System package options
- PCI Compliance services
- Industry specialization

A drawback of a payment management system is that there are fees involved and possible contractual agreements with penalties for early termination. Some fee structures can greatly soak up the benefits of low dollar amount transactions. There are also compliance concerns when a business decides to accept credit card transactions as governed by Payment Card Industry (PCI) standards. This adds another level of complexity to running an organization.

3. Identify seven payment systems. What are the strengths and weaknesses of each of these systems? What are their cost structures?

I. iATS

- **Strengths:** Has expertise in working with nonprofits as their niche market. Prioritizes security:
 - i. Fraud protection
 - ii. Encryption
 - iii. Address verification system
 - iv. Private data blocking
 - v. Card Verification Code Requirement Capability (CVV2) verification
- **Weaknesses:** Complicated to set-up
- If the organization has a bank account in the U.S. or Canada, one can only accept ACH transfers from donors who also have banks in the same country.
- **Costs:** 2.49% for VISA, Mastercard and Disc, 3.2% for AMEX, ACH .26 per transaction

II. Fundly

- **Strengths:** One of Fundly's strengths is its mobile optimization. Fundly has a strong mobile platform and provides good support for first-time campaigners via email and fundraising idea lists.
- **Weakness:** The lack of statistical reporting. It could benefit larger organizations to see where donations come from.
- **Costs:** 4.9% per donation with the possibility of additional fees

III. Stripe

- **Strengths:** It works with more than 100 currencies and all major credit cards. You can also integrate it into your website, which is convenient if that's how clients originally discovered your services.
- **Weaknesses:** Does not allow nonprofits to choose their own merchant account. You have to have basic coding knowledge and a WordPress plugin to get it started.
- **Costs:** 2.9% + .30 per transaction but discount possible for nonprofits

IV. Paypal

- **Strengths:** Most popular and widely known. One of the biggest benefits of using PayPal is that most people already have an account, so paying you is as easy as logging in and accepting the payment.
- There are no monthly fees.
- **Weaknesses:** Too many disputes can jeopardize your PayPal standing, and PayPal gives you no warning when they limit the account.
- They also can limit the account and freeze your funds for 180 days; so if you have thousands of dollars in your account, you don't have access to it until the account is unfrozen.
- **Costs:** 2.2% + .30 per transactions

V. Braintree

- **Strengths:** Keeps all donors personal information private on and their servers they are PCI compliant.
- Easy to use and accepted by many different retailers. Can easily and quickly add bank accounts and move money around.
- **Weaknesses:** Their customer support do not work over the weekends
- Needs a developer to get set up.
- **Costs:** 2.9% + .30 per transaction

VI. Bluepay

- **Strengths:** It shows the settlement batches that go into your bank account. This helps to make deposits into QuickBooks easier.
- Increase online sales by accepting credit cards, debit cards and ACH payments on your website
- Choose from a wide variety of shopping carts and e-commerce platforms into which BluePay seamlessly integrates for fast, secure transactions
- **Weaknesses:** No pricing disclosed online
- Early termination fee
- Expensive for low-volume merchants
- Not good for high-risk merchants
- **Costs:** 1.59% + .10 per transaction fee. +Monthly fee and contractual obligations

VII. Amazon Pay

- **Strengths:** Two options, plus Checkout by Amazon Mobile. Amazon is trusted and familiar, and the payment method eliminates friction in buying process.
- No monthly fee
- **Weaknesses:** It does not use PayPal or ACH transactions.
- Amazon no longer offers in-person credit card processing.
- **Costs:** 2.9% + .30 per transaction, Cross borders 3.9%

4. Address some basic security issues associated with these systems.

- Securing donor payment information
- PCI compliance ensures that controls are in place by all business parties involved in the payment process.
- A threat of piggybacking programs taking of a website and the donor link.
- Lack of encryption of confidential information during transmission of data.
- Intentional misuse/abuse of confidential donor information could result in identity theft.
- Possible fraudulent bank activities or chargebacks with false transactions.

- Address verification system, card number tumbling with a number generator to go through possible card numbers.
- Linking bank account or debit card to a PayPal account might be dangerous because large amounts of money might get withdrawn from it if it gets hijacked along with personal information.

5. Make a recommendation to the client for which system you feel best meets their needs.

The payment system we recommend for the client is iATS because it was developed with nonprofits in mind. They have a flat fee structure with no extra setup or gateway fees. There's a good emphasis on security such as fraud protection, tokenization/encryption, address verification systems, CVV2 verification and the like. Having that data security is essential because donors need to be secured when making a donation without the fear of having their financial information compromised. Most of the security features offered are free and we believe that iATS would be great because they've worked with over 10k clients worldwide and specializes with nonprofits. This means that their service will match HOOF's needs because they are familiar with working organizations like theirs through setting up an onsite payment system and executing the transaction.