Lab 1 – MonarchPress Product Description

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Lab 1 – MonarchPress Description

1. Introduction

News publications have long used paper as the traditional medium for readers to consume the daily news (Viner, 2013). The growing trend of readers getting their news from online publications makes it necessary that news organizations establish an online presence. To compete in an industry where consumers are increasingly utilizing the Internet to get the news, it is imperative that today’s journalists are equipped with technology-oriented skills to create and maintain high-quality content to capture consumer interest and grow readership.

Budding journalists coming out of college rarely had to do any work that involved website design and development. Northwestern University’s Medill School of Journalism, ranked number two in the United States by USA Today (Stockwell, 2015), only offers two courses related to digital journalism in their current undergraduate curriculum. Since many journalists are classically trained in print journalism, which focuses more on investigating and reporting events in printed form, they often lack the knowledge necessary to present stories in an interactive way online. Many students are not prepared for the digital world that they will eventually be working in because colleges and universities have been slow to modifying the curricula (Schmitz & Royal, 2013).

One reason universities have been slow to add digital journalism programs is because of how expensive it is. Many university news organizations are given shockingly small budgets. The Mace & Crown, Old Dominion University’s news organization, received just $32,380 last year (Mayfield, 2014). Jugal Patel, Digital Editor for the Mace & Crown, stated that less than six percent of the budget is allocated towards digital journalism.

MonarchPress is an open-source solution with the goal of providing university news organizations, as well as other small news publications with tight budgets, the ability to produce high-
quality news content without needing in-depth programming knowledge and experience to meet the increasing demand for captivating online content.

2. Product Description

MonarchPress is a suite of WordPress plugins that provide simple and easy-to-use tools for adding dynamic social media content, aggregated news feeds, and layout editing. MonarchPress helps news organizations by providing journalists the ability to create news stories on the Internet without having to have significant technical knowledge. The product also allows ways of integrating social media into a story using existing APIs.

2.1 Key Product Features and Capabilities

MonarchPress empowers journalists who are not proficient in the use of technology, especially computers, to easily create and customize new online stories. The drag-and-drop feature lets the writer edit how the story is presented by dragging and dropping different elements on the screen that represent the desired layout of the page. The software suite also allows the adding of social media comments on the story. In addition to similar issues on social media, a journalist can attach aggregated news articles about the same issue, creating a living document dedicated to the subject.

Since many universities do not have the budgets for buying and maintaining expensive software/hardware suites to support the university news organization, MonarchPress runs on WordPress which is free and open for any organization to use. In fact, WordPress is the most used Content Management System (CMS) on the Internet, with many news leaders using it for their own CMS.

Students majoring in journalism at universities all over the world are not taught how to build and design web pages. Most college curricula in journalism have little to no classes in online journalism. Northwestern University, considered by many to be one of the top 10 universities for journalism in the United States, has only two classes dedicated to online journalism. MonarchPress helps solve students'
lack of technical knowledge by empowering students to design and develop a webpage for a story without having to know the technical details of how actual web content is created.

2.2 Major Components (Hardware/Software)

The Mace & Crown’s Digital Editor, Jugal Patel, recently said the current site sees twenty-five thousand monthly visitors, and out of that, approximately eight thousand seven hundred are unique. Since the current volume is so low, the hardware requirements are minimal and do not require any additional resources. The current Mace & Crown plan, which uses GoDaddy’s economy plan, is more than sufficient and allows more than three times more of the unique visitors than what they currently see. GoDaddy’s economy plan includes unlimited bandwidth, one hundred gigabytes (GB) of disk space, with support for MySQL, PHP, and Apache.

Figure 1 represents the major functional components of MonarchPress. The diagram depicts three functional parts that are refined further down into specifics. First is the presentation component with which users interact. Users with elevated permissions can create and edit a content, administrator(s) can manage user roles and control user access, and visitors can read articles and interact with social media content.

The second functional piece is the logic component, where all the decision making occurs on the server. When the users of MonarchPress interact with the presentation component, calls to the server are made to get more data for presentation or data is stored to the next component. All PHP back-end code in this component is run through Apache.

The last functional piece is the data component. This component is where the database stores user accounts, cached twitter feeds, user comments, and design templates.

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Figure 1: Major Functional Component Diagram
The software being developed will be built on a Linux, Apache, MySQL, and PHP (LAMP) stack with Javascript, HTML and CSS for the front-end user interface. The drag-and-drop feature will be developed using Javascript and CSS. The logic and connections to the database will be developed using PHP. All of the LAMP components will be hosted on an Ubuntu Linux server.

3. Identification of Case Study

MonarchPress is being developed for Old Dominion University’s school newspaper, the Mace and Crown. The Mace & Crown is competing with other news organizations by increasing their digital footprint. Digital news organizations incur costs that the Mace & Crown currently does not have allocated in the budget. MonarchPress allows the Mace and Crown to contend by giving journalists the power to create digital content without needing the knowledge of developing and designing web pages. Since MonarchPress leverages WordPress, a free open-source product which the Mace and Crown is already using, it allows for a solution that does not differ too much from what they are already familiar. In the future, other university student news publications or local news organizations with limited budgets can make use of MonarchPress.

4. Product Prototype Description

The prototype of MonarchPress demonstrates how its key features work in the “real world”. The environment will also allow for testing use cases. Features in the prototype will contain a subset of the full product. Some features and functionality will have to be eliminated in order to meet time requirements.

4.1 Prototype Architecture (Hardware/Software)

The prototype will contain mock user accounts, static content and data visualizations to test data presentation. Social media will be tested on simulated topics to make sure connections can be made and verify Twitter’s APIs work as expected. The LAMP stack will be running on an Ubuntu virtual machine (VM). The VM will be hosted by Old Dominion University’s computer science department.
Apache will be running on the VM to serve up the front-end HTML, JavaScript and CSS. PHP 5.6 or greater will be installed on the VM in order to meet WordPress compatibility requirements and will be used for the back-end of the product to send and retrieve data from the database. The database will be MySQL 5.5 or greater to meet WordPress compatibility requirements and is where mock data will reside for testing purposes. Figure 2 is how MonarchPress will be developed and configured.

Figure 2: Prototype Major Functional Component Diagram
4.2 Prototype Features and Capabilities

The prototype will demonstrate how a user can drag-and-drop elements within a grid structure to design and develop content as well as standard content presentation. The prototype will also showcase how content submission is reviewed for newly created or edited content. The prototype will also show how some users have elevated permissions over others. Some partial demonstrable features include user login, data visualization elements, twitter feed aggregation, administrator controls, and page editing. Figure 3 explains the differences between the prototype and the production and shows what features will be available when the prototype is delivered.

<table>
<thead>
<tr>
<th>Features</th>
<th>Real World Product</th>
<th>Prototype</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard content view page</td>
<td>Fully functional</td>
<td>Fully functional</td>
</tr>
<tr>
<td>Favorite/like/notification widget</td>
<td>Fully functional</td>
<td>Fully functional</td>
</tr>
<tr>
<td>Content editing</td>
<td>Fully functional</td>
<td>Fully functional</td>
</tr>
<tr>
<td>Submissions review</td>
<td>Fully functional</td>
<td>Fully functional</td>
</tr>
<tr>
<td>Edit templates</td>
<td>Fully functional</td>
<td>Fully functional</td>
</tr>
<tr>
<td>Publish alerts from mobile device</td>
<td>Fully functional</td>
<td>Fully functional</td>
</tr>
<tr>
<td>User login</td>
<td>Fully functional</td>
<td>Partially functional</td>
</tr>
<tr>
<td>Interactive content framework</td>
<td>Fully functional</td>
<td>Partially functional</td>
</tr>
<tr>
<td>Feed Aggregation</td>
<td>Fully functional</td>
<td>Partially functional</td>
</tr>
<tr>
<td>User access control</td>
<td>Fully functional</td>
<td>Partially functional</td>
</tr>
<tr>
<td>Page editor</td>
<td>Fully functional</td>
<td>Partially functional</td>
</tr>
<tr>
<td>Save contact information</td>
<td>Fully functional</td>
<td>Partially functional</td>
</tr>
<tr>
<td>Twitter feed integration</td>
<td>Fully functional</td>
<td>Partially functional</td>
</tr>
<tr>
<td>Interactive elements on mobile</td>
<td>Fully functional</td>
<td>Partially functional</td>
</tr>
<tr>
<td>Social media sharing widget</td>
<td>Fully functional</td>
<td>Eliminated</td>
</tr>
<tr>
<td>View other’s contact information</td>
<td>Fully functional</td>
<td>Eliminated</td>
</tr>
<tr>
<td>Upload content from mobile devices</td>
<td>Fully functional</td>
<td>Eliminated</td>
</tr>
<tr>
<td>Collaboration tools</td>
<td>Fully functional</td>
<td>Eliminated</td>
</tr>
<tr>
<td>Access control/permissions for viewing other’s contact information</td>
<td>Fully functional</td>
<td>Eliminated</td>
</tr>
</tbody>
</table>

*Figure 3: Real World – Prototype Comparison*
4.3 Prototype Development Challenges

Challenges exist that could prevent the MonarchPress prototype from being delivered on time. The team’s lack of experience in WordPress, PHP, MySQL, CSS and JavaScript could stop features being finished on time. Open-source documentation and community support should alleviate our team’s inexperience with WordPress. The makeup of our team has changed as well as roles. These changes should not prevent a successful delivery because the team committed to helping each other whenever necessary.

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5. Glossary

Admin: a person that has the rights to do anything to the software or database.

Application Program Interface (API): a set of routines, protocols, and tools for building software applications. An API expresses a software component in terms of its operations, inputs, outputs, and underlying types.

Content Aggregation: bringing together specific types of information from multiple online sources.

Content Management System (CMS): allows publishing, editing and modifying content, organizing, deleting as well as maintenance from a central interface often used to run websites containing blogs, news, and shopping.

Contributor: a person who sends in material to be published, whether through twitter or a researcher. Not someone that is part of the news organization.

Cascading Style Sheets (CSS): a simple mechanism for adding style to Web documents.

Digital Journalism: a contemporary form of journalism where editorial content is distributed via the Internet as opposed to publishing via print or broadcast.

Disqus: is a blog comment hosting service for web sites and online communities that uses a networked platform.

Editor: a person who is in charge of and determines the final content of a text, particularly a newspaper or magazine.

Javascript: an object-oriented computer programming language commonly used to create interactive effects within web browsers.

Journalist: a person who writes for newspapers or magazines or prepares news to be broadcast on radio or television.

HTML: Hypertext Markup Language, a standardized system for tagging text files to achieve font, color, graphic, and hyperlink effects on World Wide Web pages.
Living Document: a dynamic document that is continually edited and updated.

Mace & Crown: a university news organization that is under a tight budget and looking for a cheaper alternative to their current CMS with more customization and tools.

MySQL: Most widely used open-source RDBMS.

Open Source: denoting software for which the original source code is made freely available and may be redistributed and modified.

PHP: is a server-side scripting language designed for web development.

Reader: a person that reads and interacts with the articles posted by the news organization.

RDBMS: relational database management system.

UI/UX: the process of enhancing user satisfaction by improving the usability, ease of use, and pleasure provided in the interaction between the user and the product.

Plugin: a software component that adds a specific feature to an existing software application.

Whitelisted: a list of people or products viewed with approval.

WordPress: Most popular open source CMS based on PHP and MySQL.
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